SUFU 2017 Winter Meeting
February 28 – March 4, 2017
Hyatt Regency Scottsdale Resort & Spa at Gainey Ranch
Scottsdale, Arizona

PROGRAM COMMITTEE:
Kathleen C. Kobashi, MD, FACS, Chair
Jennifer T. Anger, MD, MPH, FPMRS
Adam P. Klausner, MD, Basic Science Committee Chair
Lori A. Birder, PhD, Basic Science Committee Co-Chair

JOINTLY PROVIDED BY:
Creighton University Health Sciences Continuing Education and the
Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction

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It is a privilege to welcome you to the 14th Annual Winter Meeting of the Society of Urodynamics, Female Pelvic Medicine, and Urogenital Reconstruction (SUFU), in beautiful Scottsdale, Arizona. While our meeting has evolved and grown every year, our primary aspirations have remained constant: 1) to highlight not only the importance of basic and clinical science, but the bond between them, 2) to focus on the sharing of information from both of these avenues amongst our colleagues, trainees, and allied health professional associates, and 3) to foster constructive and collaborative relationships between the basic science team, the clinical team, and our industry partners.

This year, we have the luxury of holding our meeting at the splendid Hyatt Regency at Gainey Ranch that will allow us to enjoy sunshine and outdoor social activities in a beautiful setting while sharing knowledge and cultivating new collaborations with friends and colleagues. An exciting and fun new addition to this year’s program will be a live and silent auction, the proceeds of which will support several wonderful programs that the SUFU Foundation is proud to sponsor, including the Rodney Appell traveling preceptorship for residents, the annual resident preceptorship course in Chicago, and a new program launching in the fall of 2016, the SUFU visiting professorship, which will fund several visiting professorships to institutions around the country each year.

With regard to the scientific agenda, the basic science program has once again been meticulously constructed by my co-chairs, Adam Klausner, MD and Lori Birder, PhD, to whom I owe a debt of gratitude for their amazing work. This year’s program includes a variety of intriguing topics, such as novel methods of urodynamics, the effects of stress on bladder function, leaky urothelium, and the factors underlying the entity of interstitial cystitis/painful bladder syndrome as well as advanced keynote presentations about urinary urgency and the role of Hedgehog signaling in bladder repair.

The clinical program is designed to include robust discussion around clinical dilemmas in point-counterpoint and panel formats to facilitate lively interaction between the faculty members focused on useful topics. The program will focus on interesting diagnostic and management questions regarding topics such as male lower urinary tract symptoms (LUTS) in the face of equivocal obstruction, bowel dysfunction, the utility of urodynamics in various clinical scenarios, management of uterine prolapse, and refractory neurogenic detrusor overactivity. There will also be several short informational lectures covering issues that all Female Pelvic Medicine and Reconstructive Surgery (FPMRS) and functional clinicians frequently encounter but with which many may not be as familiar as we would all like to be. Topics to be covered include female sexual dysfunction (FSD), female urologic dermatology, hormone replacement therapy, and preoperative evaluation of the lower urinary tract in the transplant recipient.

Finally, I would like to thank my co-chair, Jennifer T. Anger, MD, MPH, FPMRS who oversaw the abstract review process, which is no small feat. Without her, we would not have the outstanding poster and podium sessions that we all look forward to this year.

Suffice it to say that this year’s program is packed full of exciting and thought-provoking sessions as well as a meaningful review of foundational material. We hope this meeting will provide a springboard from which to bring basic and clinical science together and to allow us to interact closely with each other, our trainees, and our industry partners.

We look forward to learning from each other, sharing innovative ideas, and fostering new and lasting friendships. On behalf of my co-chairs and the SUFU Executive Committee, welcome to Scottsdale!

Best Regards,
Kathleen C. Kobashi, MD, FACS
SUFU Vice President/Program Committee Chair
Due to the large number of abstracts submitted this year, the selection process was done anonymously.
We thank each reviewer for the timely review of the abstracts and for conforming to the scoring grid.
We gratefully acknowledge the participation of:

Michael E. Albo, MD
Karl-Erik Andersson, MD, PhD
Lori A. Birder, PhD
Jerry G. Blaivas, MD
Maude Carmel, MD, FRCSC
Toby C. Chai, MD
Lindsey Cox, MD
Vivian Cristofaro, PhD
Benjamin E. Dillon, MD
Sang Don Koh, MD, PhD
Karyn Eilber, MD, FPMRS
Daniel S. Elliot, MD
Matthew O. Fraser, PhD
David A. Ginsberg, MD
Alexander Gomelsky, MD
Tomas Griebling, MD
Adonis K. Hijaz, MD
Melissa R. Kaufman, MD, PhD
Richard T. Kershon, MD
Jason Kim, MD
Adam P. Klausner, MD
H. Henry Lai, MD
John P. Lavelle, MB, FRCISI

Ngoc-Bich “Nikke” P. Le, MD
Una J. Lee, MD
Sara Lenherr, MD, MS
Deborah J. Lightner, MD
Alvaro Lucioni, MD
Ayman Mahdy, MD, PhD
Kurt McCammon, MD
Arthur P. Mourtzinos, MD, MBA
Priya Padmanabhan, MD, MPH
Christopher K. Payne, MD
Andrew C. Peterson, MD, FACS
Georgi V. Petkov, PhD
Michael A. Pontari, MD
CR Powell, MD
Leslie M. Rickey, MD, MPH
Larissa V. Rodriguez, MD
Matthew P. Rutman, MD
Jaspreet S. Sandhu, MD
Steven W. Siegel, MD
John T. Stoffel, MD
Maryrose P. Sullivan, PhD
Jack M. Zuckerman, MD

We would also like to thank the 2017 SUFU Video Award Review Committee:

**2017 SUFU Video Award Review Committee**

David A. Ginsberg, MD, Chair
Anne P. Cameron, MD
Mathew P. Rutman, MD
Kamran P. Sajadi, MD
Steven J. Weissbart, MD

Lastly, we would also like to thank the 2017 SUFU Essay Competition Reviewers:

**2017 SUFU Essay Competition Reviewers**

**Basic Science Essay Reviewers**

Adam P. Klausner, MD, Chair
Lori A. Birder, PhD
H. Henry Lai, MD
Georgi V. Petkov, PhD

**Clinical Essay Reviewers**

Nirit Rosenblum, MD, Chair
Karyn S. Eilber, MD, FPMRS
Una J. Lee, MD, FPMRS
All sessions will be located in **Vaquero Ballroom A – D**, unless otherwise noted.

### TUESDAY, FEBRUARY 28, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:00 a.m. – 5:30 p.m.</td>
<td>Registration/Information Desk - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>11:00 a.m. – 5:00 p.m.</td>
<td>Speaker Ready Room - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Panel 1: Novel Methods of Urodynamic Diagnosis</td>
</tr>
<tr>
<td>2:30 p.m.</td>
<td>Keynote Speaker: The Role of Hedgehog Signaling in Bladder Repair</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Break</td>
</tr>
<tr>
<td>3:45 p.m.</td>
<td>Panel 2: The Effects of Stress on Bladder Function</td>
</tr>
<tr>
<td>5:10 p.m.</td>
<td>Break</td>
</tr>
<tr>
<td>5:25 p.m.</td>
<td>*Basic Science Poster Session I</td>
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### WEDNESDAY, MARCH 1, 2017

<table>
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<th>Event</th>
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<tr>
<td>7:00 a.m. - 6:30 p.m.</td>
<td>Registration/Information Desk - Vaquero Ballroom Foyer</td>
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<tr>
<td>7:00 a.m. - 5:30 p.m.</td>
<td>Speaker Ready Room - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>7:30 a.m. - 8:30 a.m.</td>
<td>Breakfast - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>7:00 p.m. - 8:30 p.m.</td>
<td>Welcome Reception with Industry Partners - Arizona Ballroom V - VIII</td>
</tr>
</tbody>
</table>
| 1:30 p.m. - 5:45 p.m. | *Fellows Forum - Arroyos D & E  
(Participating Fellows Only)                                                                                                               |
| 5:45 p.m. - 6:45 p.m. | Fellowship Program Director’s Meeting - Arroyos C                                                                                       |
| 6:30 a.m. - 6:45 p.m. | Welcome                                                                                                                                  |
| 8:45 a.m.     | Basic Science Top Podium Selection                                                                                                       |
| 10:45 a.m.   | Break                                                                                                                                  |
| 11:00 a.m.   | Keynote Speaker: A New Understanding of Urinary Urgency                                                                              |
| 12:00 p.m.   | 2017 Basic Science Prize Essay Award Presentation and Top Podium Selection                                                                |
| 12:15 p.m.   | Lunch                                                                                                                                   |
| 1:30 p.m.    | Panel 3: The Leaky Urothelium Hypothesis                                                                                                |
| 3:05 p.m.    | Break                                                                                                                                  |
| 3:15 p.m.    | Panel 4: Is IC/BPS - A Bladder Disease, Systemic Illness, or Psychosocial Condition?                                                    |
| 4:45 p.m.    | Break                                                                                                                                  |
| 5:00 p.m.    | *Basic Science Poster Session II                                                                                                         |

### THURSDAY, MARCH 2, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>6:30 a.m. - 5:30 p.m.</td>
<td>Registration/Information Desk - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>6:30 a.m. - 5:30 p.m.</td>
<td>Speaker Ready Room - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>7:00 a.m. - 7:45 a.m.</td>
<td>Breakfast in the Exhibit Hall - Arizona Ballroom V – VIII</td>
</tr>
<tr>
<td>7:00 a.m. - 4:00 p.m.</td>
<td>Exhibit Hall Open - Arizona Ballroom V – VIII</td>
</tr>
<tr>
<td>7:00 a.m. - 8:00 a.m.</td>
<td>Residents and Fellows Breakfast - Arizona Ballroom IV</td>
</tr>
<tr>
<td>7:55 a.m.</td>
<td>Introduction</td>
</tr>
</tbody>
</table>
### 2017 Winter Meeting

#### Schedule-at-a-Glance

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>8:00 a.m.</td>
<td>SUFU Awards Presentation</td>
</tr>
<tr>
<td>8:10 a.m.</td>
<td>Point-Counterpoint: Urodynamics Should Be Performed Before Treatment of MUI</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>Point-Counterpoint: Urodynamics Should Be Performed Before Treatment of Refractory OAB</td>
</tr>
<tr>
<td>8:50 a.m.</td>
<td>Point-Counterpoint: Urodynamics Should Be Performed Before TURP</td>
</tr>
<tr>
<td>9:10 a.m.</td>
<td>Incomplete Bladder Emptying and Equivocal Obstruction: Complex Clinical Scenarios</td>
</tr>
<tr>
<td>9:35 a.m.</td>
<td>SOA: Considerations in Hormone Replacement Therapy</td>
</tr>
<tr>
<td>9:50 a.m.</td>
<td>Break - Visit with Exhibitors</td>
</tr>
<tr>
<td>10:20 a.m.</td>
<td>SOA: Female Sexual Dysfunction</td>
</tr>
<tr>
<td>10:40 a.m.</td>
<td>Panel: Bowel Dysfunction</td>
</tr>
<tr>
<td>11:20 a.m.</td>
<td>SUFU Best Practice Policy Statement on Urodynamic Antibiotic Prophylaxis in the Non-Index Patient</td>
</tr>
<tr>
<td>11:35 a.m.</td>
<td>*Continence Care Champion Award</td>
</tr>
<tr>
<td>11:45 a.m.</td>
<td>Industry Satellites Symposium Lunch</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>IC/Pelvic Pain/Geriatrics/BPH Podium Session</td>
</tr>
<tr>
<td></td>
<td>LUTS/ Voiding Dysfunction/Neurogenic Bladder Moderated Poster Session</td>
</tr>
<tr>
<td></td>
<td>Arizona Ballroom E - G</td>
</tr>
<tr>
<td>2:20 p.m.</td>
<td>Blaivas Lectureship: Lifetime Achievement Award Recipient</td>
</tr>
<tr>
<td>2:45 p.m.</td>
<td>Break - Visit with Exhibitors</td>
</tr>
<tr>
<td>3:15 p.m.</td>
<td>Proper Evaluation Prior to Hysterectomy</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Panel: Uterine Prolapse</td>
</tr>
<tr>
<td>3:55 p.m.</td>
<td>MIPS Lecture: The Actual Position of Mediterranean Countries After FDA Warning on Transvaginal Mesh Repair</td>
</tr>
<tr>
<td>4:10 p.m.</td>
<td>BREAKOUT SESSION</td>
</tr>
<tr>
<td></td>
<td>1. Advanced Urodynamics</td>
</tr>
<tr>
<td>5:15 p.m.</td>
<td>Male Incontinence/Urodynamics Moderated Podium Session</td>
</tr>
<tr>
<td>5:15 p.m.</td>
<td>Female Urology/Incontinence Moderated Poster Session</td>
</tr>
<tr>
<td></td>
<td>Arizona Ballroom E - G</td>
</tr>
<tr>
<td>5:50 p.m.</td>
<td>Break - Visit with Exhibitors</td>
</tr>
<tr>
<td>6:00 p.m.</td>
<td>Drink Up - Visit with Exhibitors</td>
</tr>
<tr>
<td>6:30 p.m.</td>
<td>Break - Visit with Exhibitors</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Breakfast in the Exhibit Hall</td>
</tr>
<tr>
<td>7:30 a.m.</td>
<td>Breakfast in the Exhibit Hall</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>Annual Business Meeting</td>
</tr>
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### FRIDAY, MARCH 3, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>5:45 a.m.</td>
<td>Zumba - Dunes, 2nd Floor</td>
</tr>
<tr>
<td>6:30 a.m.</td>
<td>Registration/Information Desk - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Speaker Ready Room - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Breakfast in the Exhibit Hall - Arizona Ballroom V – VIII</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Exhibit Hall Open - Arizona Ballroom V – VIII</td>
</tr>
<tr>
<td>6:00 p.m.</td>
<td>Cocktail Hour - Award Recognition &amp; SUFU Foundation Auction in Exhibit Hall - Arizona Ballroom V – VIII</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>*Biostatistics Course - Arizona Ballroom II &amp; III (Participating Fellows &amp; Attendees Pre-Registered for Course Only)</td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>*The Journal of Urology and Urodynamics: Peer Review Course- Learn How to Effectively Review Manuscripts Arizona Ballroom IV (Participating Fellows Only)</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>*Video Session 1</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>Annual Business Meeting</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
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</tr>
<tr>
<td>8:30 a.m.</td>
<td>Pelvic Organ Prolapse/ Reconstruction Podium Session</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Break - Visit with Exhibitors</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>Announcements</td>
</tr>
<tr>
<td>10:35 a.m.</td>
<td>Use of Allied Health Professionals (APP) in FPMRS Practice</td>
</tr>
<tr>
<td>11:00 a.m.</td>
<td>Panel: Management of Refractory Neurogenic Detrusor Overactivity</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>SUFU Foundation Grant Presentations</td>
</tr>
<tr>
<td>11:45 a.m.</td>
<td>Industry Satellite Symposium Lunch</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>SOA: Female Genitourinary Dermatology: A Review</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Panel: OAB Following a Sling</td>
</tr>
<tr>
<td>1:50 p.m.</td>
<td>Panel: Mixed Incontinence Post-Prostatectomy</td>
</tr>
<tr>
<td>2:15 p.m.</td>
<td>SUFU OAB Clinical Care Pathway</td>
</tr>
<tr>
<td>2:30 p.m.</td>
<td>Break - Visit with Exhibitors</td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>Zimskind Lecture</td>
</tr>
<tr>
<td>3:15 p.m.</td>
<td>Update from the LURN Network</td>
</tr>
<tr>
<td>3:25 p.m.</td>
<td>Lower Urinary Tract Evaluation Prior to Renal Transplantation</td>
</tr>
<tr>
<td>3:40 p.m.</td>
<td>SUFU Foundation Grant Presentations</td>
</tr>
<tr>
<td>3:50 p.m.</td>
<td>Distinguished Service Award Lecture</td>
</tr>
<tr>
<td>4:00 p.m.</td>
<td>Neuromodulation/OAB Moderated Podium Session</td>
</tr>
<tr>
<td>5:00 p.m.</td>
<td>BREAKOUT SESSION</td>
</tr>
<tr>
<td>6:00 a.m. - 12:00 p.m.</td>
<td>Registration/Information Desk - Vaquero Ballroom Foyer</td>
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<tr>
<td>6:00 a.m. - 12:00 p.m.</td>
<td>Speaker Ready Room - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>6:00 a.m. - 7:00 a.m.</td>
<td>Breakfast - Vaquero Ballroom Foyer</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>*Video Session II</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>Female Urology/Incontinence Moderated Podium Session</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>Basic Science Talk on Bladder Sensory Mechanisms</td>
</tr>
<tr>
<td>9:55 a.m.</td>
<td>Proper Coding in FPMRS</td>
</tr>
<tr>
<td>10:40 a.m.</td>
<td>Debate: Do We Need to Repair ASX Moderate Anterior Prolapse at the Time of SUI Surgery?</td>
</tr>
<tr>
<td>11:00 a.m.</td>
<td>Critical Analysis of the Rossetta Trial</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>Panel: Management of Recurrent SUI</td>
</tr>
<tr>
<td>12:00 p.m.</td>
<td>Meeting Adjourns</td>
</tr>
</tbody>
</table>
President
Gary E. Lemack, MD
UT Southwestern Medical Center
Dallas, TX

Vice President
Kathleen C. Kobashi, MD, FACS
Virginia Mason Medical Center
Seattle, WA

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New Haven, CT

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Shreveport, LA

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Women’s Center for Pelvic Health
Charlotte, NC

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San Antonio, TX

Nirit Rosenblum, MD
NYU Urology Associates
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Memorial Hospital Miramar
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Virginia Commonwealth University
Richmond, VA

Basic Science Committee Co-Chair
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Pittsburgh, PA

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Charlotte, NC

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New Haven, CT

W. Stuart Reynolds, MD, MPH (Secondary)
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Nashville, TN

Overactive Bladder Committee
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University of Texas/HSC at San Antonio
San Antonio, TX

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Seattle, WA

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Cedars-Sinai Medical Center
Manhattan Beach, CA

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Richmond, VA

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Pittsburgh, PA

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Nashville, TN

Overactive Bladder Committee
Stephen R. Kraus, MD (Chair)
University of Texas/HSC at San Antonio
San Antonio, TX
### Young SUFU Member Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>W. Stuart Reynolds, MD, MPH</td>
<td>Vanderbilt University Medical Center</td>
<td>Nashville, TN</td>
</tr>
<tr>
<td>Jennifer T. Anger, MD, MPH, FPMRS</td>
<td>Cedars-Sinai Medical Center</td>
<td>Manhattan Beach, CA</td>
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### Award Committee

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<th>Name</th>
<th>Affiliation</th>
<th>Location</th>
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<tbody>
<tr>
<td>J. Christian Winters, MD, FACS</td>
<td>Louisiana State University</td>
<td>New Orleans, LA</td>
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<td>Anne K. Pelletier – Cameron, MD, FPMRS</td>
<td>University of Michigan</td>
<td>Ann Arbor, MI</td>
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<td>W. Stuart Reynolds, MD, MPH</td>
<td>Vanderbilt University Medical Center</td>
<td>Nashville, TN</td>
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<tr>
<td>Tracey S. Wilson, MD, FACS</td>
<td>University of Alabama</td>
<td>Birmingham, AL</td>
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### Nominating Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Location</th>
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<tbody>
<tr>
<td>Kathleen C. Kobashi, MD, FACS</td>
<td>Virginia Mason Medical Center</td>
<td>Seattle, WA</td>
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<tr>
<td>Jennifer T. Anger, MD, MPH, FPMRS</td>
<td>Cedars-Sinai Medical Center</td>
<td>Manhattan Beach, CA</td>
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</tbody>
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### Executive Office

<table>
<thead>
<tr>
<th>Address</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>Two Woodfield Lake</td>
<td>(847) 517-7225</td>
</tr>
<tr>
<td>1100 E. Woodfield Road, Suite 350</td>
<td></td>
</tr>
<tr>
<td>Schaumburg, IL 60173</td>
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### Executive Director

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<thead>
<tr>
<th>Name</th>
<th>Contact Information</th>
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<tr>
<td>Heather Swanson</td>
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### Special Thank You to 2017 Program Committee

#### Program Committee

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#### Basic Science Program Committee

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<tr>
<th>Name</th>
<th>Affiliation</th>
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<tr>
<td>Adam P. Klausner, MD (Chair)</td>
<td>Virginia Commonwealth University</td>
<td>Richmond, VA</td>
</tr>
<tr>
<td>Lori A. Birder, PhD (Co-Chair)</td>
<td>University of Pittsburgh School of Medicine</td>
<td>Pittsburgh, PA</td>
</tr>
</tbody>
</table>
2016 Chemodenervation Grant Recipients

**QUANTITATIVE MAPPING OF THE HYPERTONICITY OF THE PELVIC FLOOR MUSCLES USING HIGH-DENSITY SURFACE EMG**
Yingchun Zhang, PhD
University of Houston
Houston, TX

**A PROSPECTIVE COHORT TRIAL OF PELVIC FLOOR CHEMODENERVATION IN PATIENTS UNDERGOING PHYSICAL THERAPY FOR HIGH TONE PELVIC FLOOR DYSFUNCTION**
Jessica C. Lloyd, MD
Cleveland Clinic
Cleveland, OH

**THE MICROBIOME AS A PREDICTOR OF OUTCOMES OF INTRAVESICAL BOTULINUM TOXIN INJECTION**
A. Lenore Ackerman, MD, PhD
Cedars-Sinai Medical Center
Beverly Hills, CA

2016 Chemodenervation Grant Review Committee
Stephen R. Kraus, MD (Chair)
Angelo E. Gousse, MD
Priya Padmanabhan, MPH, MD

2016 OAB Cogentix Grant Recipient

**DEVELOPMENT OF BLADDER WALL MICROMOTION DETECTION ALGORITHMS USING ULTRASOUND**
Anna S. Nagle, PhD
Virginia Commonwealth University
Richmond, VA

2016 OAB Cogentix Grant Review Committee
Alexander Gomelsky, MD (Chair)
Jason P. Gilleran, MD
H. Henry Lai, MD

2016 Neuromodulation - Medtronic Grant Recipients

**AUTOMATED CLOSED-LOOP STIMULATION TO INHIBIT NEUROGENIC BLADDER OVERACTIVILTY**
Dennis Bourbeau, PhD
MetroHealth
Cleveland, OH

**ELECTROPHYSIOLOGIC MAPPING OF THE URINARY BLADDER**
Robert Kelley, DO, MBA
Emory University
Atlanta, GA

**EFFECT OF PERCUTANEOUS TIBIAL NEUROMODULATION WITH THE NURO SYSTEM ON BRAIN ACTIVITY**
Justina Tam, MD
Stony Brook Medicine
Stony Brook, NY

2016 Neuromodulation - Medtronic Grant Review Committee
Jennifer T. Anger, MD, MPH, FPMRS (Chair)
Cindy L. Amundson, MD
Kevin D. Benson, MD
Toby C. Chai, MD
Leslie M. Rickey, MD, MPH
Educational Needs

The current basic and translational science meeting at SUFU will include panel topics, keynote addresses and presented research abstracts on disease processes that affect the bladder and lower urinary tract. These panel topics, keynote addresses, and presented abstracts will provide state-of-the-art knowledge in some of the most active areas in benign urologic research. Dissemination of knowledge from these research presentations will have the potential to vastly change the way we understand and treat disorders of the bladder and lower urinary tract. Attendees of the SUFU program need to be aware of the latest updates and controversies in these areas.

The educational needs for the clinical science portion of the meeting include topics of indications for and utility of urodynamics, treatment of the bladder versus the outlet in interesting situations such as equivocal outlet obstruction in the face of overactive bladder and post-sling overactive bladder, hormone replacement therapy, female sexual dysfunction, urologic dermatology, bowel dysfunction, evaluation and management of refractory neurogenic bladder, gynecological considerations in a FPMRS practice, optimal treatment of apical prolapse, pelvic pain, post-prostatectomy mixed urinary incontinence, the role of advanced practice providers in an FPMRS practice, the role of the microbiome in urologic disease, proper coding in FPMRS, pelvic floor physical therapy, lower urinary tract evaluation prior to renal transplantation, management of prolapse in the face of stress incontinence, management of recurrent stress incontinence. Attendees of the SUFU program need to be aware of the latest updates and controversies in these common, clinical areas.

This meeting will facilitate interactions between clinicians, investigators and basic scientists regarding these topics. Attendees will benefit from the ongoing review of these topics, which will assist them in assessing and providing optimal patient care.
Educational Objectives

At the conclusion of the SUFU 2017 Annual Winter Meeting, participants should be able to:

1. Describe the latest advances in technology for urodynamics including the use of bladder vibrometry, dynamic elasticity, and near infrared spectrometry. They will also be able to describe new EMG reflexes that can be identified and analyzed in disorders of voiding.
2. Describe new understanding of urinary urgency including a discussion of new metrics to measure bladder sensation.
3. Describe how stress and anxiety can affect bladder function through discussion of several animal models of stress-induced bladder dysfunction and through discussion of central nervous system changes.
4. Describe how the Hedgehog signaling pathway can play a role in disorders of bladder inflammation.
5. Describe the latest understanding of molecular factors that lead to urothelial permeability including the role of tight junctions and visceral organ cross-talk.
6. Explain the various views regarding the origins of Interstitial Cystitis/Bladder Pain Syndrome (IC/BPS) including concepts that IC/BPS is a local, systemic, or pain condition.
7. Describe some of the latest and most cutting-edge advances in benign urologic research.
8. Explain the utility of urodynamics, with specific attention to the usefulness in situations such as mixed incontinence, refractory overactive bladder, transurethral resection of the prostate.
9. Describe how to perform advanced urodynamics studies and how to best interpret and utilize the information provided in a properly performed study.
10. Identify the treatment of incomplete bladder emptying in the face of equivocal bladder outlet obstruction.
11. Explain how to optimally counsel our patients about hormone replacement therapy, both systemic and local (vaginal).
12. Describe the evaluation and treatment of women with sexual dysfunction.
13. Formulate a proper diagnostic and therapeutic plan for patients with bowel dysfunction, including fecal incontinence and constipation.
15. Evaluate techniques in pelvic floor physical therapy, particularly in the setting of incontinence and/or low stage pelvic organ prolapse.
16. Assess how to best partner with our allied health provider colleagues to optimize the delivery of FPMRS care to our patients.
17. Describe the controversies regarding the optimal evaluation of patients with neurogenic bladder conditions, and identify the specific risks of urological surgeries in patients with these conditions.
18. Discuss proper evaluation and treatment of dermatologic conditions encountered in the FPMRS practice.
19. Discuss treatment management of overactive bladder or recurrent/persistent stress incontinence following a sling.
20. Formulate the approach to post-prostatectomy mixed urinary incontinence.
21. Describe the indications for lower urinary tract evaluation prior to renal transplantation.
22. Explain the gynecological evaluation required prior to prolapse surgeries, as well as the optimal management of the uterus, Fallopian tubes and ovaries in the face of prolapse.
23. Describe the considerations of repair of asymptomatic moderate anterior compartment prolapse at the time of sling placement for stress incontinence.
24. Discuss approaches to male urethral reconstruction.
25. Explain thorough evaluation and treatment of pelvic pain.
26. Integrate coding appropriate to your practice, documentation, and the services you provide for your patients.
CME Accreditation

Category 1
Creighton University Health Sciences Continuing Education designates this live activity for a maximum of 31.50 AMA PRA Category 1 Credit(s)™. Physicians should claim only credit commensurate with the extent of their participation in this activity.

AAPA accepts AMA category 1 credit for the PRA from organizations accredited by ACCME.

Accreditation Statement
This activity has been planned and implemented by Creighton University Health Sciences Continuing Education (HSCE) and the Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU) for the advancement of patient care. Creighton University Health Sciences Continuing Education is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing education for the healthcare team.

Nurses and other healthcare professionals will receive a Certificate of Attendance. For information on the applicability and acceptance of Certificates of Attendance for educational activities certified for AMA PRA Category 1 Credit™ from organizations accredited by the ACCME, please consult your professional licensing board.

General Disclaimer
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Special Assistance
We encourage participation by all individuals. If you have a disability, advance notification of any special needs will help us better serve you. Call (847) 517 - 7229 if you require special assistance to fully participate in the meeting.
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(Hon)
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Daniel E Yanko, MD
*Philippe E. Zimmer, MD

*These individuals have contributed to the SUFU Annual Fundraiser for two years.
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Sciton
Solace Therapeutics, Inc.
The Prometheus Group
Thermi
Verathon
### THURSDAY, MARCH 2, 2017

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<th>Event Description</th>
<th>Location</th>
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<td>11:45 a.m. – 1:00 p.m.</td>
<td><strong>Industry Satellite Symposium Lunch</strong>&lt;br&gt;<code>Location: Arizona IV</code>&lt;br&gt;“The BOTOX for OAB Conversation: Enhancing patient understanding and encouraging appropriate treatment acceptance”</td>
<td><strong>Speaker:</strong> Benjamin M. Brucker, MD&lt;br&gt;NYU Langone Medical Center&lt;br&gt;New York, NY</td>
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### FRIDAY, MARCH 3, 2017

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<td><strong>Industry Satellite Symposium Lunch</strong>&lt;br&gt;<code>Location: Arizona IV</code>&lt;br&gt;“How Impressive is Your InterStim Practice? 3 strategies to jumpstart your practice on Monday”</td>
<td><strong>Speaker:</strong> Karen L. Noblett, MD, MAS&lt;br&gt;Chair, Department of OB/GYN&lt;br&gt;University of California, Riverside, CA&lt;br&gt;Howard B. Goldman, MD&lt;br&gt;Cleveland Clinic&lt;br&gt;Professor, Lerner College of Medicine&lt;br&gt;Cleveland, OH&lt;br&gt;Colin M. Goudelocke, MD&lt;br&gt;Academic Urologists at Erlanger&lt;br&gt;Chattanooga, TN</td>
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## Registration/Information Desk Hours
*Location: Vaquero Ballroom Foyer*

<table>
<thead>
<tr>
<th>Day</th>
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<tbody>
<tr>
<td>Tuesday, February 28, 2017</td>
<td>11:00 a.m. – 5:30 p.m.</td>
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<tr>
<td>Wednesday, March 1, 2017</td>
<td>7:00 a.m. – 6:30 p.m.</td>
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<tr>
<td>Thursday, March 2, 2017</td>
<td>6:30 a.m. – 5:30 p.m.</td>
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<tr>
<td>Friday, March 3, 2017</td>
<td>6:30 a.m. – 5:00 p.m.</td>
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<tr>
<td>Saturday, March 4, 2017</td>
<td>6:00 a.m. – 12:00 p.m.</td>
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## Exhibit Hall Hours
*Location: Arizona Ballroom V – VIII*

<table>
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<tr>
<td>Wednesday, March 1, 2017</td>
<td>7:00 p.m. – 8:30 p.m.</td>
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<tr>
<td>Thursday, March 2, 2017</td>
<td>7:00 a.m. – 4:00 p.m.</td>
</tr>
<tr>
<td>Friday, March 3, 2017</td>
<td>7:00 a.m. – 7:30 p.m.</td>
</tr>
<tr>
<td>Welcome Reception with Industry Partners</td>
<td>6:00 p.m. – 7:30 p.m.</td>
</tr>
<tr>
<td>Cocktail Hour – Award Recognition &amp; SUFU Foundation Auction in Exhibit Hall</td>
<td>6:00 p.m. – 7:30 p.m.</td>
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## Speaker Ready Room Hours
*Location: Vaquero Ballroom Foyer*

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</tr>
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</table>

## Registration Fee Includes:
- One ticket to Welcome Reception with Industry Partners
- One ticket to Cocktail Hour – Award Recognition & SUFU Foundation Auction in Exhibit Hall
- Entry to Scientific Sessions
- Program Materials

*SUFU has a green initiative, so instead of cutting down trees to make paper program books, we are cutting down on the use of paper and going electronic, which also cuts costs for the society as a whole.*

## Spouse/Guest Registration Fee Includes:
- One ticket to Welcome Reception with Industry Partners
- One ticket to Cocktail Hour – Award Recognition & SUFU Foundation Auction in Exhibit Hall

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One ticket to each evening function is included in attendee and spouse registration fees.

Welcome Reception with Industry Partners

Date: Wednesday, March 1, 2017  
Time: 7:00 p.m. – 8:30 p.m.  
Location: Arizona Ballroom V – VIII  
Attire: Business  
Description: Enjoy a beverage and light hors d’oeuvres as you meet with industry partners in the Exhibit Hall.

Cocktail Hour – Award Recognition & SUFU Foundation Auction in Exhibit Hall

Date: Friday, March 3, 2017  
Time: 6:00 p.m. – 7:30 p.m.  
*Award Ceremony to start promptly at 6:00 p.m.  
Location: Arizona Ballroom V – VIII  
Attire: Business  
Description: Finish off the Winter Meeting with an evening of cocktails, mingling and award presentations and the SUFU Foundation Auction in the Exhibit Hall. The SUFU Foundation Auction has many great items up for bid! Vacation homes, one-of-a-kind jewelry, tickets to the Hollywood Bowl, and even a pair of skis are just a few items up for grab.

Zumba

Date: Friday, March 3, 2017  
Time: 5:45 a.m. – 6:30 a.m.  
Cost: $20.00 – tickets may be purchased at Registration/Information Desk beginning Tuesday, February 28, 2017  
Location: Dunes, 2nd Floor  
Description: Proceeds will go to the SUFU Foundation (medical students, residents & fellows are free). Whether you're interested in relieving some tension before a packed day of educational sessions or just have a strong desire to dance, sign up to join the SUFU Zumba class! Led by colleague, SUFU EC Member and certified Zumba instructor, Jennifer T. Anger, MD, MPH, FPMRS, you'll get a full body workout all while learning some new moves! Help support the SUFU Foundation while getting your workout in. Don't miss the fun!
SUFU at the AUA 2017
May 12, 2017
12:30 p.m. – 4:30 p.m.
Room 205BC
Boston Convention & Exhibition Center
Boston, Massachusetts

SUFU Research Foundation Resident Preceptorship 2017
August 3 – 5, 2017
Fairmont Chicago Millennium Park
Chicago, Illinois

SUFU 2018 Winter Meeting
February 27 – March 3, 2018
Hilton Austin
Austin, Texas
All sessions will be located in Vaquero Ballroom A – D, unless otherwise noted. Speakers and times are subject to change.

**TUESDAY, FEBRUARY 28, 2017**

**OVERVIEW**

11:00 a.m. - 5:30 p.m.  
Registration/Information Desk Open  
*Location: Vaquero Ballroom Foyer*

11:00 a.m. - 5:00 p.m.  
Speaker Ready Room Hours  
*Location: Vaquero Ballroom Foyer*

**GENERAL SESSION**

**SUFU Basic and Translational Science Meeting**

1:00 p.m. - 2:30 p.m.  
Panel 1: Novel Methods of Urodynamic Diagnosis  
Moderator: Vivian Cristofaro, PhD  
Ultrasound Vibrometry to Measure Bladder Compliance  
Panelist: Mostafa Fatemi, PhD  
Dynamic Elasticity of the Bladder  
Panelist: John Speich, PhD  
New Paradigms to Augment Standard UDS Assessment in Neurogenic Bladder: Findings from the International Collaboration on Repair Discovery (ICORD)  
Panelist: Lynn Stothers, MD  
Q & A

2:30 p.m. - 3:30 p.m.  
Keynote Speaker: The Role of Hedgehog Signaling in Bladder Repair  
Speaker: Philip A. Beachy, PhD  
Q & A

3:30 p.m. - 3:45 p.m.  
Break

3:45 p.m. - 5:10 p.m.  
Panel 2: The Effects of Stress on Bladder Function  
Moderator: Michel A. Pontari, MD  
Central Mechanisms of Context-Dependent Micturition  
Panelist: Helen Xun Hou, PhD  
The Forced Swim Test Model of Stress-Induced Bladder Dysfunction  
Panelist: Larissa V. Rodriguez, MD  
Maternal Separation as a Model of Stress-Induced Bladder Dysfunction  
Panelist: Julie A. Christianson, PhD  
Q & A

5:10 p.m. - 5:25 p.m.  
Break

5:25 p.m. - 7:40 p.m.  
*Basic Science Poster Session 1  
Judges: Sang Don Koh, MD, PhD  
John P. Lavelle, MB, FRCSI  
*Not CME Accredited*

Poster #BS1  
HYPERGLYCEMIA INCREASES DETRUSOR SMOOTH MUSCLE ACTIVITY THROUGH A CAVEOLAE DEPENDENT REGULATION OF RHO SIGNALING  
Presented By: Vivian Cristofaro, PhD

Poster #BS2  
MULTIPLE SCLEROSIS IS ASSOCIATED WITH INCREASED FUNCTIONAL CONNECTIVITY IN LEFT AMYGDALE  
Presented By: Aaron Kaviani

Poster #BS3  
SPINAL CORD INJURY AND DETRUSOR PDGFR?+ CELLS  
Presented By: Haeyeong Lee, PhD

Poster #BS4  
AGING EFFECTS ON THE CENTRAL MOTOR CONTROL OF THE EXTERNAL ANAL SPHINCTER IN WOMEN  
Presented By: Yingchun Zhang, PhD

Poster #BS5  
IDENTIFICATION OF SLOW WAVE PATTERN FROM ANORECTAL SMOOTH MUSCLES  
Presented By: Yingchun Zhang, PhD
Poster #BS6  OVARIECTOMIZED MICE PERSIST WITH OVERACTIVE VOIDING BEHAVIOR AFTER REPEATED INTRAVESICAL LIPOPOLYSACCHARIDE (LPS) EXPOSURE
Presented By: Marian Acevedo, MD

Poster #BS7  SHARED ALTERATIONS IN URINARY BACTERIAL COMMUNITIES IN PATIENTS WITH INTERSTITIAL CYSTITIS AND OVERACTIVE BLADDER
Presented By: A. Lenore Ackerman, MD, PhD

Poster #BS8  ALTERATIONS IN THE URINARY FUNGAL MYCOBIOME IN PATIENTS WITH BLADDER PAIN AND URINARY URGENCY
Presented By: A. Lenore Ackerman, MD, PhD

Poster #BS9  DECREASED URINARY FUNGAL BURDEN AND DIVERSITY IN OVERACTIVE BLADDER
Presented By: A. Lenore Ackerman, MD, PhD

Poster #BS10  OPTIMIZATION OF DNA EXTRACTION FROM HUMAN URINARY SAMPLES FOR MICROBIAL COMMUNITY PROFILING
Presented By: A. Lenore Ackerman, MD, PhD

Poster #BS11  PROPOSAL FOR STANDARDIZATION AND OPTIMIZATION OF AWAKE CYSTOMETRY IN A MOUSE
Presented By: Thomas M. Andersen, BSc

Poster #BS12  URINARY METHYLATION PATTERNS IN WOMEN WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME
Presented By: Megan Sara Bradley, MD

Poster #BS13  STANDARDIZATION OF RNA PROCESSING FROM URINE SEDIMENT IN A CLINICAL SETTING
Presented By: Megan Sara Bradley, MD

Poster #BS14  FEASIBILITY OF MEASURING BLADDER URINE OXYGEN TENSION
Presented By: Megan Brady, MD

Poster #BS15  PERFORMANCE ASSESSMENT AND VALIDATION OF AN ENHANCED 12-RAT METABOLIC CAGE EQUIPPED WITH A NOVEL 100-GRAM LOAD CELL SENSOR INTERFACE
Presented By: Amy D. Dobberfuhl, MD

Poster #BS16  AMBULATORY AND CYSTOMETRIC RESPONSE FOLLOWING SINGLE VERSUS MULTIPLE ONABOTULINUMTOXINA DETRUSOR INJECTIONS IN A RAT MODEL OF OVERACTIVE BLADDER INDUCED BY INTRAVESICAL ACETIC ACID
Presented By: Amy D. Dobberfuhl, MD

Poster #BS17  ABERRANT BLADDER REFLEXES CAN DRIVE HIND LIMB LOCOMOTOR ACTIVITY FOLLOWING COMPLETE SUPRASACRAL SPINAL CORD INJURY
Presented By: Matthew O. Fraser, PhD

Poster #BS18  THE EFFECTS OF MYRBETRIQ ON DETRUSOR OVERACTIVITY ASSOCIATED WITH SUPRASACRAL SPINAL CORD INJURY (SCI) IN RATS
Presented By: Matthew O. Fraser, PhD

Poster #BS19  AGING IS ASSOCIATED WITH LOWER URINARY TRACT DYSFUNCTION IN FEMALE RHESUS MACAQUES (MACACA MULATTA)
Presented By: Leif Havton, MD, PhD

WEDNESDAY, MARCH 1, 2017

OVERVIEW

7:00 a.m. - 6:30 p.m.  Registration/Information Desk Open
Location: Vaquero Ballroom Foyer

7:00 a.m. - 5:30 p.m.  Speaker Ready Room Hours
Location: Vaquero Ballroom Foyer

7:30 a.m. - 8:30 a.m.  Breakfast
Location: Vaquero Ballroom Foyer

12:15 p.m. - 1:30 p.m.  Lunch
*Lunch will be available for all attendees.

5:45 p.m. - 6:45 p.m.  Fellowship Program Directors Meeting
Location: Arroyos C

7:00 p.m. - 8:30 p.m.  Welcome Reception with Industry Partners
Location: Arizona Ballroom V - VIII
GENERAL SESSION

8:30 a.m. - 8:45 a.m. Welcome
President: Gary E. Lemack, MD
Program Chair: Kathleen C. Kobashi, MD, FACS
Committee Chair: Adam P. Klausner, MD
Co-Committee Chair: Lori A. Birder, PhD

8:45 a.m. - 10:45 a.m. Basic Science Top Podium Selections
Moderators: Christopher J. Chermansky, MD
Georgi V. Petkov, PhD

8:48 a.m. #1 QUANTIFICATION AND RECONSTRUCTION OF 3D MICROVESSEL ARCHITECTURE BETWEEN THE VAGINA AND BLADDER
Presented By: Snehal Salunke, BS

9:01 a.m. #2 THE ROLE OF THE MUCOSA IN MODULATION OF EVOKED RESPONSES IN THE SPINAL CORD INJURED RAT BLADDER
Presented By: Claire Doyle, PhD

9:14 a.m. #3 NON-INVASIVE ELECTROMYOGRAPHIC ESTIMATION OF MOTOR UNIT NUMBER IN THE EXTERNAL ANAL SPHINCTER OF THE RAT
Presented By: Yingchun Zhang, PhD

9:27 a.m. #4 QUANTIFICATION OF BLADDER WALL BIOMECHANICS DURING URODYNAMICS: A METHODOLOGIC INVESTIGATION USING ULTRASOUND
Presented By: Anna S. Nagle, PhD

#5 *BIG POTASSIUM CHANNEL (BK) ACTIVITY IN FEMALE MOUSE BLADDER UMBRELLA CELLS IS ENHANCED BY BACTERIAL LIPOPOLYSACCHARIDE: AN ACUTE HOST RESPONSE IN UTI PATHOGENESIS
*Will present at 12:00 p.m. – see 2017 Basic Science Prize Essay Award Presentation and Top Podium Selection

9:40 a.m. #6 TRPM4 CHANNEL CROSSTALK WITH SARCOPLASMIC RETICULUM IP3 RECEPTOR: NOVEL PHYSIOLOGICAL MECHANISM IN HUMAN DETRUSOR SMOOTH MUSCLE
Presented By: Georgi V. Petkov, PhD

9:53 a.m. #7 ALTERATIONS OF BRAIN FUNCTIONAL CONNECTIVITY IN STRESS INDUCED BLADDER HYPERALGESIA
Presented By: Melissa Talbert Sanford, MD

10:06 a.m. #8 MULTIPLE SCLEROSIS PATIENTS WITH BRAIN ATROPHY OR PONS LESIONS HAVE LOWEST FUNCTIONAL CONNECTIVITY BETWEEN RELATED BRAIN AREAS. A FINDING SHOWN BY CONCURRENT FUNCTIONAL MRI AND URODYNAMICS
Presented By: Aaron Kaviani, MD

10:19 a.m. #9 CYCLOPHOSPHAMIDE-INDUCED OVERACTIVE BLADDER VIA DOWNREGULATION OF RELAXATION FACTORS IN DETRUSOR PDGFR?+ CELLS
Presented By: Haeyoung Lee, PhD

10:32 a.m. #10 MOLECULAR AND FUNCTIONAL EVIDENCE OF P2X4 RECEPTOR IN DETRUSOR SMOOTH MUSCLE
Presented By: Vivian Cristofaro, PhD

10:45 a.m. - 11:00 a.m. Break

11:00 a.m. - 12:00 p.m. Keynote Speaker: A New Understanding of Urinary Urgency
Speaker: Stefan De Wachter, MD, PhD

Q & A

12:00 p.m. - 12:15 p.m. 2017 Basic Science Prize Essay Award Presentation and Top Podium Selection
Moderator: Matthew O. Fraser, PhD

“BIG POTASSIUM CHANNEL (BK) ACTIVITY IN FEMALE MOUSE BLADDER UMBRELLA CELLS IS ENHANCED BY BACTERIAL LIPOPOLYSACCHARIDE: AN ACUTE HOST RESPONSE IN UTI PATHOGENESIS”
Presented By: Toby C. Chai, MD
Recipient: Ming Lu, MD

12:15 p.m. - 1:30 p.m. Lunch
Location: Vaquero Ballroom Foyer

1:30 p.m. - 5:45 p.m. *Fellows Forum
Location: Arroyos D & E
(For Participating Fellows Only)/"Not CME Accredited

5:45 p.m. - 6:45 p.m. Fellowship Program Directors Meeting
Location: Arroyos C
1:30 p.m. - 3:05 p.m.  Panel 3: The Leaky Urothelium Hypothesis
Moderator: Maryrose P. Sullivan, PhD

Role of the Tight Junction in Urinary Bladder Permeability
Panelist: Gerard Apodaca, PhD

Factors and Conditions that Can Impact Bladder Permeability
Panelist: Lori A. Birder, PhD

Role of Altered Bladder Permeability in Visceral Organ Cross-Talk
Panelist: Beverley Greenwood-Van Meerveld, PhD, FACG, AGAF

Changes of Bladder Permeability in Health and Disease
Panelist: Toby C. Chai, MD

Q & A

3:05 p.m. - 3:15 p.m.  Break

3:15 p.m. - 4:45 p.m.  Panel 4: Is IC/BPS - A Bladder Disease, Systemic Illness, or Psychosocial Condition?
Moderator: Una J. Lee, MD, FPMRS

Is IC/BPS a Bladder/Pelvic Pain Condition?
Panelist: H. Henry Lai, MD

Is IC/BPS a Psychosocial Pain Condition?
Panelist: David A. Williams, PhD

Is IC/BPS a Neuro-Biological Pain Condition?
Panelist: Steven Harte, PhD

Q & A

4:45 p.m. - 5:00 p.m.  Break

5:00 p.m. - 7:00 p.m.  *Basic Science Poster Session II
Judges: Karl-Erik Andersson, MD, PhD
         Adonis K. Hijaz, MD

*Not CME Accredited

Poster #BS20  MOLECULAR BIOLOGIC STUDY ABOUT THE CIRCADIAN RHYTHMIC CONTROL OF MICTURATION FUNCTION
Presented By: Su Jin Kim

Poster #BS21  PREVENTIVE EFFECT OF PLANT COMBINATION ON DETRUSOR UNDERACTIVITY INDUCED BY BLADDER OUTLET OBSTRUCTION
Presented By: Woong Jin Bae

Poster #BS22  EFFECT OF PLANT COMBINATION ON DETRUSOR OVERACTIVITY INDUCED BY BLADDER OUTLET OBSTRUCTION MEDIATED BY RHO KINASE PATHWAY
Presented By: Woong Jin Bae

Poster #BS23  GLYCINE TRANSPORTER TYPE 2 (GLYT2) INHIBITOR AMELIORATES AUTONOMIC DYSREFLEXIA AND DETRUSOR OVERACTIVITY IN INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME (IC/BPS) RAT MODEL
Presented By: Jang-Hwan Kim, MD

Poster #BS24  QUANTITATIVE ELECTROMYOGRAPHY OF THE EXTERNAL ANAL SPHINCTER IN A PRIMATE MODEL OF AGING
Presented By: Evgeniy I. Kreydin, MD

Poster #BS25  ANTI-VEGF TREATMENT DECREASES BLADDER PAIN IN CYCLOPHOSPHAMIDE CYSTITIS IN MICE
Presented By: H. Henry Lai, MD

Poster #BS26  ASSOCIATION OF POST-PROCEDURE ACUTE KIDNEY INJURY FOLLOWING PERIOPERATIVE ADMINISTRATION OF SODIUM FLUORESCEIN
Presented By: Emmanuel J. Mitsinikos, MD

Poster #BS27  REGULATORY ROLE OF UROTHELIAL P2X3R FOR CONTRACTILE RESPONSES IN PORCINE BLADDER STRIPS
Presented By: Alvaro Munoz, PhD

Poster #BS28  BIOMECHANICAL TESTING OF COLLAGEN-BASED GELATION VERSUS PLANAR ELECTROCHEMICAL ALIGNMENT GRAFT FABRICATIONS OF BIOTEXTILES FOR PELVIC RECONSTRUCTIVE SURGERY
Presented By: Raymond R. Rackley, MD
Poster #BS29  AGEING OF THE FEMALE PELVIC FLOOR: THE EXPERIMETAL EVIDENCE.
Presented By: Diaa E. Rizk, MSc, FRCOG, FRCS, MD

Poster #BS30  CYTOKINE EXPRESSION ANALYSIS OF HUMAN MSC AND INJURED RAT TISSUE IN A MODEL OF STRESS URINARY INCONTINENCE INDUCED BY VAGINAL BIRTH TRAUMA
Presented By: Zhina Sadeghi, MD

Poster #BS31  CORRELATION BETWEEN SPINAL CORD INJURY FORCE AND ELECTROMYOGRAPHIC CHARACTERISTICS OF THE LOWER URINARY TRACT IN FEMALE RATS: EFFECTS OF INTRAVESICAL P2X3R INHIBITION
Presented By: Betsy Salazar, PhD

Poster #BS32  ELECTRICAL SIGNALS IN THE LOWER URINARY TRACT DURING ISOVOLUMETRIC CYSTOMETRY: EFFECTS OF INTRAVESICAL INHIBITION OF MUSCARINIC RECEPTORS
Presented By: Betsy Salazar, PhD

Poster #BS33  HCN1-INTERSTITIAL CELL INTERACTIONS CONTRIBUTE TO SYMPATHETIC RELAXATION OF MOUSE DETRUSOR
Presented By: Phillip P. Smith, MD

Poster #BS34  FLOW CHARACTERISTICS OF URETHRAL CATHETERS OF THE SAME CALIBER VARY BETWEEN MANUFACTURERS
Presented By: Carrie A. Stewart, MD

Poster #BS35  FIBROTIC RESPONSE TO SYNTHETIC MIDURETHRAL SLING MESH IN WOMEN WITH COMPLICATIONS
Presented By: Lauren E. Tennyson, MD

Poster #BS36  A NOVEL MECHANISM FOR DETRUSOR UNDER-ACTIVITY MEDIATED BY MYOSIN LIGHT CHAIN PHOSPHORYLATION AND AMP-DEPENDENT KINASE
Presented By: Randy Vince, MD

Poster #BS37  THE CHARACTERISTICS AND PROGRESSION OF BACTERIAL BIOFILMS ON URINARY CATHETERS
Presented By: Glenn T. Werneburg, PhD

THURSDAY, MARCH 2, 2017

OVERVIEW

6:30 a.m. - 5:30 p.m.  Registration/Information Desk Open
Location: Vaquero Ballroom Foyer

6:30 a.m. - 5:30 p.m.  Speaker Ready Room Hours
Location: Vaquero Ballroom Foyer

7:00 a.m. - 7:45 a.m.  Breakfast in Exhibit Hall
Location: Arizona Ballroom V – VIII

7:00 a.m. - 8:00 a.m.  Residents and Fellows Breakfast
Location: Arizona Ballroom IV

7:00 a.m. - 4:00 p.m.  Exhibit Hall Open
Location: Arizona Ballroom V – VIII

11:45 a.m. - 1:00 p.m.  Lunch
*Lunch will be available for all attendees.

GENERAL SESSION

7:55 a.m. - 8:00 a.m.  Introduction
Speaker: Kathleen C. Kobashi, MD, FACS

8:00 a.m. - 8:10 a.m.  SUFU Awards Presentation
Speaker: Gary E. Lemack, MD

8:10 a.m. - 8:30 a.m.  Point-Counterpoint: Urodynamics Should Be Performed Before Treatment of MUI
Moderator: Priya Padmanabhan, MD, MPH

Pro
Panelist: Benjamin M. Brucker, MD

Con
Panelist: Sandip P. Vasavada, MD
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td><strong>Point-Counterpoint: Urodynamics Should Be Performed Before Treatment of Refractory OAB</strong>&lt;br&gt;<strong>Moderator:</strong> E. Ann Gormley, MD&lt;br&gt;<strong>Pro</strong>&lt;br&gt;Panelist: Angelo E. Gousse, MD&lt;br&gt;<strong>Con</strong>&lt;br&gt;Panelist: Jason M. Kim, MD</td>
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<td>8:50 a.m.</td>
<td><strong>Point-Counterpoint: Urodynamics Should Be Performed Before TURP</strong>&lt;br&gt;<strong>Moderator:</strong> Roger R. Dmochowski, MD, MMHC, FACS&lt;br&gt;<strong>Pro</strong>&lt;br&gt;Panelist: Richard Lee, MD, MBA&lt;br&gt;<strong>Con</strong>&lt;br&gt;Panelist: Kurt A. McCammon, MD</td>
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<td>9:10 a.m.</td>
<td><strong>Incomplete Bladder Emptying and Equivocal Obstruction: Complex Clinical Scenarios</strong>&lt;br&gt;<strong>Moderator:</strong> Victor W. Nitti, MD&lt;br&gt;<strong>Address the Outlet</strong>&lt;br&gt;Panelist: Alan J. Wein, MD, PhD (hon)&lt;br&gt;<strong>Address the Bladder</strong>&lt;br&gt;Panelist: Eric S. Rovner, MD</td>
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<td>9:35 a.m.</td>
<td><strong>SOA: Considerations in Hormone Replacement Therapy</strong>&lt;br&gt;<strong>Speaker:</strong> Nirit Rosenblum, MD</td>
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<td>9:50 a.m.</td>
<td>Break - Visit with Exhibitors</td>
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<td>10:20 a.m.</td>
<td><strong>SOA: Female Sexual Dysfunction</strong>&lt;br&gt;<strong>Speaker:</strong> Raymond A. Costabile, MD</td>
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<td>10:40 a.m.</td>
<td><strong>Panel: Bowel Dysfunction</strong>&lt;br&gt;<strong>Moderator:</strong> Karen L. Noblett, MD, MAS&lt;br&gt;<strong>Evaluation</strong>&lt;br&gt;Panelist: Karen L. Noblett, MD, MAS&lt;br&gt;<strong>Management of Constipation</strong>&lt;br&gt;Panelist: Kelly A. Garrett, MD&lt;br&gt;<strong>Management of Fecal Incontinence</strong>&lt;br&gt;Panelist: Tracy L. Hull, MD</td>
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<td>11:20 a.m.</td>
<td><strong>SUFU Best Practice Policy Statement on Urodynamic Antibiotic Prophylaxis in the Non-Index Patient</strong>&lt;br&gt;<strong>Speaker:</strong> Anne K. Pelletier-Cameron, MD</td>
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<td>11:35 a.m.</td>
<td><strong>Continence Care Champion Award</strong>&lt;br&gt;<strong>Presenter:</strong> Eric S. Rovner, MD&lt;br&gt;<strong>Not CME Accredited</strong></td>
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<td>11:45 a.m.</td>
<td><strong>Industry Satellite Symposium Lunch</strong>&lt;br&gt;<strong>Location:</strong> Arizona Ballroom IV</td>
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<td>1:00 p.m.</td>
<td><strong>CONCURRENT POSTER/PODIUM SESSION</strong></td>
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<td>1:00 p.m. - 2:20 p.m.</td>
<td><strong>IC/Pelvic Pain/Geriatrics/BPH Podium Session</strong>&lt;br&gt;<strong>Moderators:</strong> Ja-Hong Kim, MD, Jennifer G. Rothschild, MD, MPH&lt;br&gt;<strong>1:00 p.m. #1</strong>&lt;br&gt;<strong>Clinical Assessment of a Novel Oligonucleotide Probe-Based Rapid Diagnostic Tool to Detect, Identify and Assess Antibiotic Susceptibility of Uropathogens</strong>&lt;br&gt;Presented By: Seth A. Cohen, MD&lt;br&gt;<strong>1:10 p.m. #2</strong>&lt;br&gt;<strong>Use of a Body Pain Map to Characterize Urologic Chronic Pelvic Pain Syndrome – A MAPP Research Network Study</strong>&lt;br&gt;Presented By: H. Henry Lai, MD&lt;br&gt;<strong>1:20 p.m. #3</strong>&lt;br&gt;<strong>Long-Term Efficacy of Endoscopic Ablation of the Hunner's Lesion in Patients with Interstitial Cystitis/Bladder Pain Syndrome</strong>&lt;br&gt;Presented By: Kyu-Sung Lee, MD, PhD</td>
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### 2017 Scientific Program

#### 1:30 p.m.  
**#4**  
**FRAILTY AND THE ROLE OF OBLITERATIVE VERSUS RECONSTRUCTIVE SURGERY FOR PELVIC ORGAN PROLAPSE; A NATIONAL STUDY**  
Presented By: Anne M. Suskind, MD, MS

#### 1:40 p.m.  
**#5**  
**HEALTH LITERACY, COGNITION AND URINARY INCONTINENCE AMONG GERIATRIC INPATIENTS DISCHARGED TO SKILLED NURSING FACILITIES**  
Presented By: Joshua Aaron Cohn, MD

#### 1:50 p.m.  
**#6**  
**THE RISK OF SUICIDALITY AND DEPRESSION FROM 5-ALPHA REDUCTASE INHIBITORS: A POPULATION BASED COHORT STUDY**  
Presented By: Blayne Welk, MD MSc

#### 2:00 p.m.  
**#7**  
**THE IMPACT OF DETRUSOR UNDERACTIVITY ON PATIENT SATISFACTION AFTER HOLEP: A PROSPECTIVE STUDY**  
Presented By: Young Ju Lee

#### 2:10 p.m.  
**#8**  
**MINIMALLY INVASIVE PROSTATIC URETHRAL LIFT (PUL) EFFICACIOUS IN A LARGE PERCENTAGE OF TURP CANDIDATES: A MULTICENTER GERMAN STUDY AFTER TWO YEARS**  
Presented By: Karl-Dietrich Sievert, MD, PhD, FACS, FRCS

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<tr>
<td>1:00 p.m. - 2:20 p.m.</td>
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<td><strong>LUTS/Voiding Dysfunction/Neurogenic Bladder Moderated Poster Session</strong></td>
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<td>Location: Vaquero Ballroom E - G</td>
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<td>Moderators: David A. Ginsberg, MD W. Stuart Reynolds, MD, MPH</td>
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<tr>
<td>Poster #M1</td>
<td></td>
<td>IS INITIAL RETENTION AFTER MACROPLASTIQUE® INJECTION A PREDICTOR OF SUCCESS?</td>
<td>Himanshu Aggarwal, MD</td>
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<td>Poster #M2</td>
<td></td>
<td>FACTORS ASSOCIATED WITH DURABILITY OF THERAPEUTIC BOTULINUM TOXIN A INJECTION FOR OVERACTIVE BLADDER</td>
<td>Jay Vance</td>
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<td>Poster #M3</td>
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<td>NON-SURGICAL MANAGEMENT OF DETRUSOR LEAK POINT Pressures ABOVE 40 CM H2O IN ADULTS WITH CONGENITAL NEUROGENIC BLADDER</td>
<td>Giulia I. Lane, MD</td>
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<tr>
<td>Poster #M4</td>
<td></td>
<td>THE NEUROGENIC BLADDER SYMPTOM SCORE (NBSS): AN ASSESSMENT OF ITS EXTERNAL VALIDITY AND ABILITY TO DETECT CHANGE</td>
<td>Blayne Welk, MD MSc</td>
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<tr>
<td>Poster #M5</td>
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<td>URODYNAMIC FINDINGS IN PATIENTS WITH BRAIN TUMOR CLASSIFIED BY LOCATION OF AFFECTED AREA</td>
<td>Hee Seo Son, MD, PhD</td>
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<tr>
<td>Poster #M6</td>
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<td>INTRA-DETRUSOR AND INTRA-AUGMENT INJECTION OF ONABOTULINUM TOXIN A IMPROVES REFRACTORY STORAGE SYMPTOMS AFTER AUGMENTATION CYSTOPLASTY</td>
<td>Laura M. Martinez, MD</td>
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<td><strong>LUTS/Voiding Dysfunction/Neurogenic Bladder Non-Moderated Poster Session</strong></td>
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<td>Location: Arizona Ballroom South Foyer</td>
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<td>*Not CME Accredited</td>
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<tr>
<td>Poster #NM1</td>
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<td>DOES UREAPLASMA UREALYTICUM HAVE AN ACTIVE ROLE IN FEMALE LOWER URINARY TRACT SYMPTOMS?</td>
<td>Daniel T. Pucheril, MD, MBA</td>
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<td>Poster #NM2</td>
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<td>LOW INCIDENCE OF CLEAN INTERMITTENT CATHETERIZATION WITH ONABOTULINUMTOXINA IN DIVERSE AGE GROUPS OF OVERACTIVE BLADDER PATIENTS WITH SUBSTANTIAL IMPROVEMENTS IN TREATMENT RESPONSE</td>
<td>Victor W. Nitti, MD</td>
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<tr>
<td>Poster #NM3</td>
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<td>STAGED APPROACH TO SLING REMOVAL IN WOMEN PRESENTING WITH PAIN ONLY</td>
<td>Carlos Finsterbusch, MD</td>
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<tr>
<td>Poster #NM4</td>
<td>WHAT’S WRONG WITH UAB PATIENTS?</td>
<td>Presented By: Phillip P. Smith, MD</td>
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<td>Poster #NM5</td>
<td>INFLUENCE OF LOWER URINARY TRACT SYMPTOMS ON PROFICIENCY OF URINARY INCONTINENCE KNOWLEDGE</td>
<td>Presented By: Sophia D. Delpe, MD</td>
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<tr>
<td>Poster #NM6</td>
<td>ARE THERE ANY MODIFIABLE RISK FACTORS FOR URINARY TRACT INFECTION FOLLOWING ONABOTULINUMTOXINA INJECTION FOR OVERACTIVE BLADDER?</td>
<td>Presented By: Rachel Sosland, MD</td>
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<tr>
<td>Poster #NM7</td>
<td>ADVERSE EVENTS AFTER INTRADETRUSOR ONABOTULINUMTOXINA INJECTION IN IDIOPATHIC DETRUSOR OVERACTIVITY</td>
<td>Presented By: Jason P. Gilleran, MD</td>
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<tr>
<td>Poster #NM8</td>
<td>COST-EFFECTIVENESS OF BEST SUPPORTIVE CARE VS. ONABOTULINUMTOXINA, ORAL THERAPIES, PERCUTANEOUS TIBIAL NERVE STIMULATION, AND SACRAL NERVE STIMULATION FOR TREATING OVERACTIVE BLADDER–CLINICAL ASPECTS</td>
<td>Presented By: Roger R. Dmochowski, MD, MMHC, FACS</td>
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<td>Poster #NM9</td>
<td>USE OF ELECTRONIC QUESTIONNAIRES TO PROVIDE PATIENT-CENTRIC HEALTHCARE IN OVERACTIVE BLADDER</td>
<td>Presented By: Cristina J. Palmer, DO</td>
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<tr>
<td>Poster #NM10</td>
<td>INCREASED PULSE-WAVE VELOCITY AS A RISK FACTOR FOR LOWER URINARY TRACT SYMPTOMS IN MEN</td>
<td>Presented By: Ji-Yeon Han, MD, PHD</td>
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<tr>
<td>Poster #NM11</td>
<td>IMPACT OF GENDER ON TREATMENT JOURNEY FOR PATIENTS WITH OVERACTIVE BLADDER</td>
<td>Presented By: Amanda S.J. Chung, BSc, MBBS, MS, FRACS</td>
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<tr>
<td>Poster #NM12</td>
<td>CORRELATION BETWEEN SYMPTOM SEVERITY, BOther AND SEVERITY OF THE UNDERLYING CONDITION IN PATIENTS WITH LOWER URINARY TRACT SYMPTOMS</td>
<td>Presented By: Jerry G. Blaivas, MD</td>
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<tr>
<td>Poster #NM13</td>
<td>THE EFFICACY OF SACRAL NEUROMODULATION FOR TREATMENT OF MALE VOIDING DYSFUNCTION</td>
<td>Presented By: Rachel Barratt, BMBS, MRCS</td>
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<tr>
<td>Poster #NM14</td>
<td>A CROSS SECTIONAL STUDY OF THE CATHETER MANAGEMENT OF NEUROGENIC BLADDER AFTER TRAUMATIC SPINAL CORD INJURY</td>
<td>Presented By: Giulia I. Lane, MD</td>
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<tr>
<td>Poster #NM15</td>
<td>IMPROVEMENT IN PATIENT-REPORTED TREATMENT BENEFIT AND HEALTH-RELATED QUALITY OF LIFE FOLLOWING TREATMENT WITH SER120 AMONG PATIENTS WITH NOCTURIA</td>
<td>Presented By: Eric S. Rovner, MD</td>
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<tr>
<td>Poster #NM16</td>
<td>HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN ADULT PATIENTS WITH NOCTURIA – USE OF A NEW NOCTURIA-SPECIFIC PATIENT-REPORTED OUTCOME (PRO) MEASURE</td>
<td>Presented By: Benjamin M. Brucker, MD</td>
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<tr>
<td>Poster #NM17</td>
<td>INTRAVESICAL INJECTION OF HIGHLY PURIFIED BOTULINUM TOXIN [INCOBOTULINUMTOXIN A (XEOMIN)] FOR NEUROGENIC BLADDER</td>
<td>Presented By: Denise Asafu-Adjei, MD</td>
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<tr>
<td>Poster #NM18</td>
<td>THE ADULT SPINA BIFIDA PATIENT: DOES A DELAY IN REFERRAL IMPACT UDRODYNAMIC FINDINGS AND CLINICAL OUTCOMES? RECOMMENDATIONS FOR TRANSITION OF CARE</td>
<td>Presented By: Catherine J. Harris, MD</td>
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<tr>
<td>Poster #NM19</td>
<td>DIFFERENCES IN BLADDER-RELATED QUALITY OF LIFE AFTER SPINAL CORD INJURY</td>
<td>Presented By: Sara M. Lenherr, MD, MS</td>
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<tr>
<td>Poster #NM20</td>
<td>PERMANENT CUTANEOUS VESICOSTOMY URINARY DIVERSION IN ADULTS WITH MYELOMENINGOCOELE</td>
<td>Presented By: Whitney R. Smith, MD</td>
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<tr>
<td>Poster #NM21</td>
<td>ADULT MYELOMENINGOCOELE PATIENTS WITH CHILDHOOD AUGMENTATION CYSTOPLASTY ARE AT HIGH RISK FOR RENAL ABNORMALITIES AND REQUIRE CLOSE UROLOGIC SURVEILLANCE</td>
<td>Presented By: Catherine J. Harris, MD</td>
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### Poster #NM22

**SELF REPORTED ANCILLARY BENEFITS FROM BLADDER CHEMODENERVATION IN SPINAL CORD INJURY (SCI) PATIENTS**  
Presented By: Brandon Haynes, MD

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<th>Time</th>
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<th>Speaker/Recipient</th>
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<tr>
<td>2:20 p.m. - 2:45 p.m.</td>
<td>Blaivas Lectureship: Lifetime Achievement Award Recipient</td>
<td>Gary E. Lemack, MD</td>
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<td></td>
<td>“This is My Journey; What’s Yours?”</td>
<td>Gamal M. Ghoniem, MD, FACS</td>
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<tr>
<td>2:45 p.m. - 3:15 p.m.</td>
<td>Break - Visit with Exhibitors</td>
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<tr>
<td>3:15 p.m. - 3:30 p.m.</td>
<td>Proper Evaluation Prior to Hysterectomy</td>
<td>Leslie M. Rickey, MD, MPH</td>
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<td>3:30 p.m. - 3:55 p.m.</td>
<td>Panel: Uterine Prolapse</td>
<td>Larissa V. Rodríguez, MD</td>
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<td>Uterine Sparing: Hysteropexy</td>
<td>Jennifer T. Anger, MD, MPH</td>
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<td>Hysterectomy</td>
<td>Una J. Lee, MD, FPMRS</td>
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<td>Colpocleisis</td>
<td>Howard B. Goldman, MD</td>
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<tr>
<td>3:55 p.m. - 4:10 p.m.</td>
<td>MIPS Lecture: The Actual Position of Mediterranean Countries After FDA Warning on Transvaginal Mesh Repair</td>
<td>Mauro Cervigni, MD</td>
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<td>4:10 p.m. - 5:10 p.m.</td>
<td><strong>BREAKOUT SESSIONS</strong></td>
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<tr>
<td>4:10 p.m. - 5:10 p.m.</td>
<td>1. Advanced Urodynamics</td>
<td>Victor W. Nitti, MD</td>
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<td>Director:</td>
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<td>Speakers: Benjamin M. Brucker, MD</td>
<td>John C. Hairston, MD</td>
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<td>4:10 p.m. - 5:10 p.m.</td>
<td>2. Pelvic Floor Physical Therapy: Downtraining/Uptraining and Beyond</td>
<td>Elise J. De, MD</td>
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<td>Location: Arizona Ballroom I - III</td>
<td>Rhonda K. Kotarinos, DPT, MS</td>
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<td>Director:</td>
<td>John P. Lavelle, MB, FRCSI</td>
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<td>Speakers:</td>
<td>Courtenay K. Moore, MD</td>
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<tr>
<td>4:10 p.m. - 5:10 p.m.</td>
<td>3. Recurrent UTI: Evaluation and Management</td>
<td>Melissa R. Kaufman, MD, PhD</td>
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<td>Location: Arroyos C - E</td>
<td>Ryan M. Krölín, MD</td>
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<td>Director:</td>
<td>Suzette E. Sutherland, MD, MS, FPMRS</td>
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<td>Speakers:</td>
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<td>5:15 p.m. - 6:45 p.m.</td>
<td><strong>CONCURRENT POSTER/PODIUM SESSION</strong></td>
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<td>5:15 p.m. - 6:45 p.m.</td>
<td>Male Incontinence/Urodynamics Moderated Podium Session</td>
<td>Jaspreet S. Sandhu, MD, O. Lenaïne Westney, MD</td>
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<td>5:15 p.m.</td>
<td>#9 ASSOCIATION BETWEEN EARLY POSTOPERATIVE URINARY RETENTION AND OUTCOMES AFTER ADVANCE SLING INSERTION</td>
<td>Amanda S.J. Chung, BSc, MBBS, MS, MS, FRACS</td>
</tr>
<tr>
<td>5:25 p.m.</td>
<td>#10 ARTIFICIAL URINARY SPHINCTER REVISION WITH QUICK-CONNECTORS VERSUS SUTURE-TIE CONNECTORS: DO THE DIFFERENT TECHNIQUES MAKE A DIFFERENCE?</td>
<td>Joseph Scales, MD</td>
</tr>
<tr>
<td>5:35 p.m.</td>
<td>#11 COMPARATIVE URINARY FUNCTION AND INTERVENTIONS FOR VOIDING DYSFUNCTION AFTER RADICAL PERINEAL PROSTATECTOMY VERSUS ROBOTIC-ASSISTED LAPAROSCOPIC PROSTATECTOMY</td>
<td>Alyssa K. Greiman, MD</td>
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<td>5:45 p.m.</td>
<td>#12</td>
<td>VVALSALVA LEAK-POINT PRESSURE (VLPP) GREATER THAN 70 CM H2O IS AN INDICATOR FOR SLING SUCCESS: A SUCCESS PREDICTION MODEL FOR THE MALE TRANSObTURATOR SLING</td>
</tr>
<tr>
<td>5:55 p.m.</td>
<td>#13</td>
<td>OUTCOMES WITH LIMITED ANTIBIOTIC USE FOLLOWING ARTIFICIAL URINARY SPHINCER PLACEMENT ACCORDING TO AUA BEST PRACTICE POLICY</td>
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<td>6:05 p.m.</td>
<td>#14</td>
<td>URODYNAMICS PARAMETERS AND OUTCOMES IN WOMEN VOIDING BY VALSALVA UNDERGOING SLING PLACEMENT</td>
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<td>6:15 p.m.</td>
<td>#15</td>
<td>CAN URODYNAMIC PARAMETERS PREDICT SLING REVISION FOR VOIDING DYSFUNCTION IN WOMEN UNDERGOING SYNTHETIC MIDURETHRAL SLING PLACEMENT?</td>
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<tr>
<td>6:25 p.m.</td>
<td>#16</td>
<td>TRENDS IN URODYNAMIC TESTING PRIOR TO MIDURETHRAL SLING PLACEMENT - WHAT WAS THE VALUE OF THE VALUE TRIAL?</td>
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<td>6:35 p.m.</td>
<td>#17</td>
<td>PHYSIOLOGIC FACTORS THAT DETERMINE VOLUNTARY DETRUSOR CONTRACTION DURATION IN MALES</td>
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<tr>
<td>5:15 p.m.</td>
<td>Female Urology/Incontinence Moderated Poster Session</td>
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<td><strong>Location:</strong> Vaquero Ballroom E - G</td>
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<td><strong>Moderators:</strong> Michael E. Albo, MD</td>
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<td>Alvaro Lucioni, MD</td>
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<tr>
<td>Poster #M7</td>
<td>PSYCHOSOCIAL FACTORS, SLEEP, AND PHYSICAL FUNCTION IN WOMEN WITH LOWER URINARY TRACT SYMPTOMS</td>
<td>Nazema Y. Siddiqui, MD</td>
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<tr>
<td>Poster #M8</td>
<td>LOW SERUM TESTOSTERONE IS ASSOCIATED WITH INCREASED STRESS AND MIXED INCONTINENCE IN WOMEN</td>
<td>Evgeniy I. Kreydin, MD</td>
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<td>Poster #M9</td>
<td>A RANDOMIZED, DOUBLE-BLIND, MULTICENTER, PLACEBO-CONTROLLED STUDY OF AUTOLOGOUS MUSCLE DERIVED CELLS FOR URINARY SPHINCER REPAIR (AMDC-USR)</td>
<td>Sender Herschorn, MD</td>
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<td>Poster #M10</td>
<td>CONCOMITANT TREATMENT OF STRESS URINARY INCONTINENCE AND GYNECOLOGIC ONCOLOGY SURGERY: ARE WE UNDERTREATING?</td>
<td>Dennis J. Thum</td>
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<td>Poster #M11</td>
<td>EFFECTS OF GROUP REHABILITATION UPON WOMEN UNDERGOING SURGERY FOR OBSTETRIC FISTULA</td>
<td>Pooja S. Parameshwar, BS</td>
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<td>Poster #M12</td>
<td>WHAT IS THE TRUE RATE OF URINARY RETENTION REQUIRING CATHETERIZATION AFTER BOTOX INJECTION?</td>
<td>Juzar Jamnagerwalla, MD</td>
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<tr>
<td>Poster #M13</td>
<td>WHERE DO WOMEN GO FOR URETHRAL SLING REVISIONS? GEOGRAPHIC MIGRATION PATTERNS IN CALIFORNIA</td>
<td>Kai B. Dallas, MD</td>
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<tr>
<td>Poster #M14</td>
<td>PREVENTATIVE CONCOMITANT SLING FOR DE-NOVO STRESS URINARY INCONTINENCE AFTER ROBOTIC SACRAL COLPOPEXY DOES NOT IMPROVE LONG TERM CONTINENCE OR SATISFACTION</td>
<td>Charles R. Powell, II, MD</td>
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<tr>
<td>Poster #M15</td>
<td>COMPLEX HORSESHOE MULTILOCULATED URETHRAL DIVERSITCULUM REPAIR</td>
<td>Philippe E. Zimmerman, MD, FACS, FPRMS</td>
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<td>M16</td>
<td>IMPROVED COMPLIANCE WITH PELVIC FLOOR THERAPY AMONG PATIENTS</td>
<td>Amy H. Lim, MD, PhD</td>
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<td>MEETING WITH A PHYSICAL THERAPIST AT TIME OF INITIAL UROGYNECOLOGIC</td>
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<td>EVALUATION</td>
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<td>M17</td>
<td>COMPARING THE VAGINAL WALL SLING WITH AUTOLOGOUS RECTUS FASCIA AND</td>
<td>Mohamed Kehelia, MD</td>
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<td>POLYPROPYLENE SLING ON OUTCOME AND PATIENT SATISFACTION</td>
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<tr>
<td>M18</td>
<td>UNPLANNED HOSPITAL VISITS IN THE FIRST 30 DAYS AFTER URETHRAL SLING</td>
<td>Kai B. Dallas, MD</td>
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<td>PROCEDURES - A STATEWIDE ANALYSIS OF CALIFORNIA.</td>
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<tr>
<td>M19</td>
<td>PATIENT KNOWLEDGE AND PERCEPTIONS OF PRIOR SURGERY FOR STRESS</td>
<td>Wai Lee, MD</td>
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<td>URINARY INCONTINENCE OR PELVIC ORGAN PROLAPSE</td>
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<td>M20</td>
<td>CAN URETHRAL BULKING AGENTS SALVAGE FAILED SLINGS?</td>
<td>Elizabeth Van Huffel Dray, MD</td>
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<td>M21</td>
<td>MANAGEMENT OF URODYNAMIC STRESS URINARY INCONTINENCE IN URETHRAL</td>
<td>Rachel Barratt, BMBS, MRCS</td>
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<td>DIVERTICULUM</td>
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<td>M22</td>
<td>MONOCYTE CHEMOTACTIC PROTEIN-1 (MCP-1) URINARY LEVEL IN PATIENT WITH</td>
<td>Bilal Farhan, MD</td>
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<td>OAB BEFORE AND AFTER TREATMENT</td>
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<td>M23</td>
<td>PREPARATION AND IN-VITRO EVALUATION OF ELECTROCHEMICAL ALIGNED</td>
<td>Raymond R. Rackley, MD</td>
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<td>COLLAGEN BIOTEXTILE DEVICE GRAFT FOR PELVIC RECONSTRUCTION</td>
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5:15 p.m. - 6:45 p.m.  
*Female Urology/Incontinence Non-Moderated Poster Session  
Location: Arizona Ballroom South Foyer  
*Not CME Accredited

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<td>M23</td>
<td>COMPLIANCE WITH PRESCRIBED PELVIC FLOOR PHYSICAL THERAPY IN A DIVERSE</td>
<td>Megan Brady, MD</td>
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<td>UROGYNECOLOGY POPULATION</td>
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<td>NM24</td>
<td>TITLE: PATIENTS HAVE POOR UNDERSTANDING OF COMMON FEMALE PELVIC</td>
<td>Olga Povcher, MD</td>
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<td>MEDICINE PROBLEMS: A PROSPECTIVE QUESTIONNAIRE OF UROLOGY AND</td>
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<td>GYNECOLOGY PATIENTS</td>
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<td>NM25</td>
<td>GENDER AND SUBSPECIALTY OF UROLOGY FACULTY IN DEPARTMENT-BASED</td>
<td>Julia Han, MD</td>
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<td>LEADERSHIP ROLES</td>
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<td>NM26</td>
<td>HOW DEEP SHOULD THE BLADDER BE DUG IN TRANSURETHRAL ENDOSCOPIC</td>
<td>Jeong Hwan Son</td>
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<td>EXCISION USING THE HOLMIUM LASER?</td>
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<td>SEAPI INCONTINENCE CLASSIFICATION SYSTEM: ONE-YEAR POST-OPERATIVE</td>
<td>Allison S. Glass, MD</td>
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<td>RESULTS FOLLOWING MIDURETHRAL SLING PLACEMENT</td>
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<td>NM28</td>
<td>STUDY DESIGN AND OUTCOMES MEASURES: THE INFLUENCE OF COMPOSITE</td>
<td>Roger R. Dmochowski, MD, MMHC, FACS</td>
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<td>ENDPOINTS AND OTHER DESIGN VARIABLES ON OUTCOMES IN A STUDY OF</td>
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<td>DEVICES FOR STRESS INCONTINENCE.</td>
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<td>NM29</td>
<td>THREE MONTH PRIMARY EFFICACY RESULTS FROM THE SUCCESS STUDY OF AN</td>
<td>Eric S. Rovner, MD</td>
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<td>INTRAVESICAL BALLOON TO TREAT STRESS URINARY INCONTINENCE (SUI)</td>
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<td>NM30</td>
<td>Practice Patterns for the Evaluation of Asymptomatic Microscopic Hematuria in Women in a Single Healthcare System: Room for Improvement?</td>
<td>A. Lenore Ackerman, MD, PhD</td>
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<td>NM31</td>
<td>Outcomes of Treatment of Stress Urinary Incontinence Associated with Female Urethral Diverticula: A Selective Approach</td>
<td>Alyssa K. Greiman, MD</td>
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<td>NM32</td>
<td>Urethra-Sphincter Complex Volumes Are Elevated in Female Patients with Proximal Urethral Diverticula.</td>
<td>Rachel Barratt, MB ChB, MRCS</td>
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<td>NM33</td>
<td>Initial Experience with Telemedicine Visits in Female Urology Patients</td>
<td>Whitney R. Smith, MD</td>
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<td>NM34</td>
<td>Obesity Does Not Worsen Urinary Incontinence Following Sacral Colpopexy</td>
<td>Charles R. Powell, II, MD</td>
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<td>NM35</td>
<td>Voiding Patterns in Women Undergoing Sling Surgery for Stress and Mixed Urinary Incontinence</td>
<td>Casey Kowalik, MD</td>
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<td>NM36</td>
<td>Predictors of a Failed Voiding Trial After Sling and Concomitant Pelvic Surgery</td>
<td>Jennifer M. Lovin, MD</td>
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<td>NM37</td>
<td>Randomized Trial of Urethral Length Measurement and Retropubic TVT Position</td>
<td>Elizabeth R. Mueller, MD, MSME</td>
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<td>NM38</td>
<td>Selective Retropubic Synthetic Sling Arms Removal</td>
<td>Carlos Finsterbusch, MD</td>
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<td>NM39</td>
<td>Transurethral Bladder Neck Incision for Female Primary Bladder Neck Obstruction: UCLA Experience and Outcomes</td>
<td>Janine L. Oliver, MD</td>
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<td>NM40</td>
<td>Comparison of Outcomes Between Simple and Complex Patients Undergoing Autologous Pubovaginal Sling Placement</td>
<td>Aleksandar C. Blubaum, BA</td>
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<td>NM41</td>
<td>Misinterpretation of Urethral Bulking Agents in Radiologic Imaging</td>
<td>Mary E. Hall</td>
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<td>NM42</td>
<td>Female Sexual Dysfunction and the Internet: A Lack of Patient-Oriented Information</td>
<td>Eliza Lamin, MD</td>
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<td>NM43</td>
<td>Urethrovaginal Fistula Repair – Long-Term Outcomes</td>
<td>Sender Herschom, BSc, MDCM, FRCSC</td>
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<td>NM44</td>
<td>Statewide Trends of INTERSTIM® Implantation Across Different Surgical Specialties in New York</td>
<td>Wai Lee, MD</td>
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<td>NM45</td>
<td>Correlation Between Michigan Incontinence Severity Index and American Urogical Society Symptom Index in Female Incontinence Patients</td>
<td>Solafa Elshatanoufy, PharmD, MD</td>
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<td>NM46</td>
<td>Effectiveness of Vaginal Wall Slings in Treating Overweight Patients with Stress Urinary Incontinence After One Year Follow Up</td>
<td>Matthew Pierce, MD</td>
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FRIDAY, MARCH 3, 2017

OVERVIEW

5:45 a.m. - 6:30 a.m.  
Zumba  
*Tickets available for purchase at Registration/Information Desk

6:30 a.m. - 5:00 p.m.  
Registration/Information Desk Open  
Location: Vaquero Ballroom Foyer

7:00 a.m. - 7:45 a.m.  
Breakfast in Exhibit Hall  
Location: Arizona Ballroom V – VIII

7:00 a.m. - 7:30 p.m.  
Exhibit Hall Open  
Location: Arizona Ballroom V – VIII

7:00 a.m. - 5:00 p.m.  
Speaker Ready Room Hours  
Location: Vaquero Ballroom Foyer

11:45 a.m. - 1:00 p.m.  
Lunch  
*Lunch will be available for all attendees.

6:00 p.m. - 7:30 p.m.  
Cocktail Hour – Award Recognition & SUFU Foundation Auction in Exhibit Hall  
Location: Arizona Ballroom V - VIII

GENERAL SESSION

7:00 a.m. - 8:00 a.m.  
Video Session I  
Moderators: Anne P. Cameron, MD  
Steven J. Weissbart, MD

Video #1  
SURGICAL TECHNIQUE: TOTAL COLPOCLEISIS  
Presented By: Rena D. Malik, MD

Video #2  
TOTAL AUTOLOGOUS FASCIA LATA ANTERIOR REPAIR AND VAGINAL VAULT SUSPENSION: A NEW TECHNIQUE  
Presented By: Christian O. Twiss, MD

Video #3  
HIGH UTEROSACRAL HYSTEROPEXY FOR THE MANAGEMENT OF PELVIC ORGAN PROLAPSE  
Presented By: Naveen Kachroo, MD, PhD

Video #4  
UTERINE SPARING PROLAPSE REPAIR: ROBOTIC-ASSISTED LAPAROSCOPIC SACROHYSTEROPEXY AND RECTOPEXY  
Presented By: Catherine Jamison Harris, MD

Video #5  
REPAIR OF A COMPLEX VAGINAL J-POUCH FISTULA UTILIZING A GRACILIS MUSCLE INTERPOSITION FLAP  
Presented By: Gillian F. Wolff, MD

Video #6  
COMPLETE REMOVAL OF SACRAL NEUROMODULATION LEAD USING LEAD EXTRACTING DEVICE: A NOVEL TECHNIQUE  
Presented By: Erin Dougher, DO

7:00 a.m. - 8:30 a.m.  
*Biostatistics Course  
Location: Arizona Ballroom II & III  
Speakers: April Slee, MS  
Jennifer M. Wu, MD, MPH  
*Not CME Accredited/For Participating Fellows & Attendees Pre-Registered for Course Only
8:00 a.m. - 8:30 a.m.  Annual Business Meeting
8:30 a.m. - 10:00 a.m.  CONCURRENT POSTER/PODIUM SESSION

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<td>8:30 a.m.</td>
<td>Pelvic Organ Prolapse/Reconstruction Podium Session</td>
<td>Sarah E. McAchran, MD</td>
<td>Lee A. Richter, MD</td>
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<td>Ariana L. Smith, MD</td>
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<td>8:30 a.m.</td>
<td>#18 DEVELOPMENT OF FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY</td>
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<td>FELLOWSHIP PROGRAMS FOLLOWING THE DEADLINE FOR SENIOR ACCREDITATION</td>
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<td>8:40 a.m.</td>
<td>#19 ADDITIONAL TREATMENTS, SATISFACTION, AND QUALITY OF LIFE IN WOMEN</td>
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<td>AFTER TRANSVAGINAL AND ABDOMINAL PELVIC ORGAN PROLAPSE REPAIR</td>
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<td>8:50 a.m.</td>
<td>#20 A COMPARATIVE ANALYSIS OF THE OVERALL COST AND RATE OF HEALTH CARE</td>
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<td>UTILIZATION AMONG SURGICAL PROCEDURES FOR APICAL PROLAPSE</td>
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<td>9:00 a.m.</td>
<td>#21 PENDING EVISCERATION PROLAPSE DUE TO LACK OF ANTERIOR VAGINAL WALL</td>
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<td>AFTER ROBOTIC-ASSISTED RADICAL CYSTECTOMY: CASE SERIES OF A</td>
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<td>PREVIOUSLY UNDESCRIBED COMPLICATION</td>
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<td>9:10 a.m.</td>
<td>#22 IS VAGINAL MESH A STIMULUS OF AUTOIMMUNE DISEASE?</td>
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<td>9:20 a.m.</td>
<td>#23 HOW INFORMED IS OUR CONSENT? PATIENT AWARENESS OF RADIATION AND</td>
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<td>RADICAL PROSTATECTOMY COMPLICATIONS</td>
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<td>9:30 a.m.</td>
<td>#24 POST-TURP URETHRAL STRICTURES CAN BE MANAGED SUCCESSFULLY WITH</td>
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<td>URETHROPLASTY</td>
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<td>9:40 a.m.</td>
<td>#25 TWENTY-YEAR EXPERIENCE WITH THE ANTERIOR VAGINAL WALL SUSPENSION</td>
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<td>PROCEDURE: A NATIVE TISSUE VAGINAL REPAIR FOR STRESS URINARY</td>
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<td>INCONTINENCE WITH EARLY STAGE ANTERIOR COMPARTMENT PROLAPSE</td>
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<tr>
<td>9:50 a.m.</td>
<td>#26 SMOKING STATUS AS A RISK FACTOR FOR VAGINAL MESH EXPOSURE</td>
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8:30 a.m. - 10:00 a.m.  Male Incontinence/Urodynamics/Neuromodulation Moderated Poster Session

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<tr>
<td>M24</td>
<td>OUTCOMES COMPARISON OF ARTIFICIAL URINARY SPHINCTER DEVICE SURVIVAL IN</td>
<td>Adam Miller, MD</td>
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<td>PATIENTS ON WARFARIN VERSUS PATIENTS NOT ON WARFARIN</td>
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<tr>
<td>M25</td>
<td>ARTIFICIAL URINARY SPHINCTER OUTCOMES BASED UPON ETIOLOGY OF INCONTINENCE IN A LARGE SINGLE CENTER COHORT</td>
<td>Adam Miller, MD</td>
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<td>M26</td>
<td>ARE PAD WEIGHT TESTING AND SURGICAL TUNNELING OF SLING ASSOCIATED WITH ADVANCE MALE SLING OUTCOMES?</td>
<td>Laura Nguyen, MD</td>
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<tr>
<td>M27</td>
<td>INTERVENTIONS FOR STRESS URINARY INCONTINENCE AFTER ADVANCE MALE SLING</td>
<td>Laura Nguyen, MD</td>
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<td>M28</td>
<td>ASSESSING THE RELATIONSHIP BETWEEN CNS DISEASE BURDEN, URINARY SYMPTOMS AND URO_DYNAMIC FINDINGS IN PATIENTS WITH MULTIPLE SCLEROSIS UTILIZING MRI SEGMENTATION POST-PROCESSING</td>
<td>Catherine J. Harris, MD</td>
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<td>M29</td>
<td>THE USE AND UTILITY OF URO_DYNAMIC PRIOR TO SACRAL NEUROMODULATION</td>
<td>Elodi Dielubanza, MD</td>
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Poster #M30
DEVELOPMENT OF BLADDER SENSATION DURING URODYNAMICS COMPARED TO DURING A NON-INVASIVE ACCELERATED HYDRATION PROTOCOL
Presented By: Randy Vince, MD

Poster #M31
DO URODYNAMICS PREDICT URINARY RETENTION AFTER SLING PLACEMENT IN THE COMPLEX PATIENT: VALUE OF REPRODUCING SYMPTOMS OF URODYNAMICS
Presented By: Alyssa K. Greiman, MD

Poster #M32
RACIAL DIFFERENCES IN BLADDER MANAGEMENT METHODS IN PATIENTS WITH SPINAL CORD INJURY & DISABILITY
Presented By: Jacqueline Morin, BA

Poster #M33
PROSPECTIVE RANDOMIZED BLINDED STUDY EVALUATING ULTRASOUND VERSUS FLUOROSCOPY GUIDED SACRAL INSTERSTEM® LEAD PLACEMENT
Presented By: Jaschar Shakuri-Rad, DO

Poster #M34
A CADAVER MODEL DEScribing A NOVEL RETROGRADE APPROACH FOR PERCUTANEOUS PLACEMENT OF AN IMPLANTABLE TIBIAL NERVE STIMULATION LEAD
Presented By: Larry T. Sirls, II, MD

Poster #M35
RESULTS OF A PROSPECTIVE, MULTICENTER STUDY EVALUATING THE EFFICACY AND SAFETY OF SACRAL NEUROMODULATION THROUGH 5 YEARS IN SUBJECTS WITH SYMPTOMS OF OVERACTIVE BLADDER
Presented By: Steven W. Siegel, MD

Poster #M36
CLINICIAN KNOWLEDGE AND COMFORT WITH SACRAL NERVE STIMULATION IMPROVES TEMPORARILY AFTER TARGETED EDUCATIONAL INTERVENTIONS
Presented By: Bradley C. Gill, MD, MS

Poster #M37
A REVIEW OF OVER 100 PATIENTS UNDERGOING PERCUTANEOUS TIBIAL NERVE STIMULATION IN AN OFFICE SETTING: REAL WORLD EXPERIENCE
Presented By: Kenneth M. Peters, MD

Poster #M38
SACRAL NEUROMODULATION IN CALIFORNIA FROM 2005 TO 2011: WHAT ARE THE REAL-WORLD SUCCESS RATES?
Presented By: Amy D. Dobberfuhl, MD

8:30 a.m. - 10:00 a.m.  
*Male Incontinence/Urodynamics/Neuromodulation Non-Moderated Poster Session
Location: Arizona Ballroom South Foyer
*Not CME Accredited

Poster #NM51
ADVANCE SLING USE IN THE U.S. DECREASING RELATIVE TO ARTIFICIAL URINARY SPHINCTERS
Presented By: Chad R. Pusateri, DO

Poster #NM52
CAN TIME TO FAILURE PREDICT ARTIFICIAL URINARY SPHINCTER COMPONENT FAILURE?
Presented By: David Y. Yang, MD

Poster #NM53
ADVANCE MALE SLING: ARE SURGICAL VOLUME AND EXPERIENCE ASSOCIATED WITH OUTCOME?
Presented By: Laura Nguyen, MD

Poster #NM54
AN ACCURACY STUDY COMPARING PATIENTS’ VESICAL PRESSURE MEASURED WITH THE PERITRON+ AND STANDARD URODYNAMIC SYSTEM
Presented By: Vladimir Ruzhynsky, MD, PhD

Poster #NM55
PHYSIOLOGIC FACTORS THAT IMPACT VOLUNTARY DETRUSOR CONTRACTION DURATION IN FEMALES
Presented By: Henry Hon Yee Tran, BASc, MD, FRCSC

Poster #NM56
CHARACTERIZATION OF BLADDER DYSFUNCTION IN WOMEN WITH CHRONIC PAIN
Presented By: Ramy S. Goueli, MD/MHS

Poster #NM57
VOIDING DYSFUNCTION IN SENIOR CITIZENS: IS IT DIFFERENT THAN IN YOUNGER PATIENTS?
Presented By: Carrie M. Mlynarczyk, MD

Poster #NM58
HOW DOES THE OBESITY EPIDEMIC CHANGE VOIDING DYSFUNCTION?
Presented By: Carrie M. Mlynarczyk, MD
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<td>NM59</td>
<td>CORRELATION OF VALSALVA LEAK POINT PRESSURE AND EXPANDED URETHRAL PRESSURE PROFILOMETRY IN THE DIAGNOSIS OF URODYNAMIC STRESS INCONTINENCE</td>
<td>Jessica N. Jackson, MD</td>
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<td>NM60</td>
<td>COMPARISON OF THREE ULTRASOUND METHODS TO MEASURES BLADDER VOLUME NON-INVASIVELY</td>
<td>Anna S. Nagle, PhD</td>
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<td>NM61</td>
<td>NEUROLOGICAL WOMEN OVER 80Y OLD, IS URODYNAMICS CONTRIBUTIVE FOR MANAGEMENT OF LOWER URINARY TRACT DYSFUNCTION?</td>
<td>Francoise A. Valentini, MD, PhD</td>
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<td>NM62</td>
<td>PATIENT REPORTED BOTHER CORRELATES WITH RATE OF SENSATION CHANGE DURING FILLING</td>
<td>Randy Vince, MD</td>
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<td>NM63</td>
<td>IDENTIFICATION OF REAL-TIME SENSATION PATTERNS DURING URODYNAMICS</td>
<td>Zachary Cullingsworth, BS</td>
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<td>NM64</td>
<td>SACRAL NEUROMODULATION AND PREGNANCY: A SYSTEMATIC REVIEW</td>
<td>Amr Mahran, MD, MSc</td>
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<td>NM65</td>
<td>PERIPHERAL NERVE EVALUATION CONVERSION RATES WITH AND WITHOUT THE USE OF FLUOROSCOPY</td>
<td>Dana Kivlin, DO</td>
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<td>NM66</td>
<td>REMOVAL OF SACRAL NERVE STIMULATION DEVICES FOR MAGNETIC RESONANCE IMAGING: WHAT HAPPENS NEXT?</td>
<td>Jessica C. Lloyd, MD</td>
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<td>NM67</td>
<td>SACRAL NERVE NEUROMODULATION IN PATIENTS WITH PARKINSON’S DISEASE</td>
<td>Iryna Crescenze, MD</td>
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<td>NM68</td>
<td>PREDICTORS OF NERVE STIMULATOR SUCCESS IN PATIENTS WITH OVERACTIVE BLADDER</td>
<td>Bennett Sluis, BA</td>
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<td>NM69</td>
<td>CLINICAL AND URODYNAMIC FACTORS ASSOCIATED WITH SUBSEQUENT BOTULINUM TOXIN A INJECTION AFTER NEUROMODULATION</td>
<td>Jason P. Gilleran, MD</td>
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<td>NM70</td>
<td>EVALUATION OF QUALITY OF LIFE IMPROVEMENTS AT 5 YEARS IN SUBJECTS WITH OVERACTIVE BLADDER TREATED WITH SACRAL NEUROMODULATION USING THE INTERSTIM® SYSTEM</td>
<td>Karen L, Noblett, MD, MAS</td>
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<td>NM71</td>
<td>THE ROLE OF THE NEUROMETER CPT/C IN SACRAL NEUROMODULATION OF THE BLADDER</td>
<td>Magdy M. Hassouna, MD, PhD</td>
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<td>NM72</td>
<td>EFFICACY AND LONGEVITY OF SACRAL NEURAL MODULATION AS A THERAPY FOR UROLOGICAL VOIDING DYSFUNCTION</td>
<td>Samantha M. Staley, MD</td>
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<td>NM73</td>
<td>SACRAL NEUROMODULATION IN MEN: DOES PRIOR TRANSURETHRAL PROSTATE SURGERY MATTER?</td>
<td>Bradley C. Gill, MD, MS</td>
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<td>NM74</td>
<td>LESSONS LEARNED TO LOWER THE INFECTION RATE FOLLOWING SACRAL NEUROMODULATION SURGERY: A REVIEW IN TWO ACADEMIC INSTITUTES</td>
<td>Ahmed Ahmed, MD</td>
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<td>NM75</td>
<td>EFFECTIVENESS OF SACRAL NEUROMODULATION IN THE TREATMENT OF NON-OBSTRUCTIVE URINARY RETENTION IN WOMEN WITH SUBACUTE LOWER LUMBAR INJURY</td>
<td>Naveen Kachroo, MD, PhD</td>
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<td>NM76</td>
<td>DO AMPLITUDES IN STAGE I SACRAL NERVE STIMULATION AFFECT STAGE II IMPLANTATION AND EARLY REVISION RATES?</td>
<td>Emily Zhang, BS</td>
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NEW NOVEL CHRONIC TIBIAL NEUROMODULATION (CTNM) TREATMENT OPTION FOR OAB SIGNIFICANTLY IMPROVES URGENCY (UI)/URGE URINARY INCONTINENCE (UUI) AND NORMALIZES SLEEP PATTERNS

Presented By: Karl-Dietrich Sievert, MD, PhD, FACS, FRCS

10:00 a.m. - 10:30 a.m. Break - Visit with Exhibitors

10:30 a.m. - 10:35 a.m. Announcements
Speaker: Kathleen C. Kobashi, MD, FACS

10:35 a.m. - 11:00 a.m. Use of Allied Health Professionals (APP) in FPMRS Practice
Moderator: Arthur P. Mourtzinos, MD, MBA

Physician’s Perspective
Speaker: Scott A. MacDiarmid, MD

AHP Perspective
Speaker: G. Brooke Zilinskas, MMS, PA-C

11:00 a.m. - 11:30 a.m. Panel: Management of Refractory Neurogenic Detrusor Overactivity
Moderator: Gary E. Lemack, MD

OnabotulinumtoxinA
Panelist: Christopher P. Smith, MD

Augmentation Cystoplasty
Panelist: David A. Ginsberg, MD

Diversion
Panelist: Emmanuel J. Chartier-Kastler, MD, PhD

11:30 a.m. - 11:45 a.m. SUFU Foundation Grant Presentations

“Modulation of the Rat Micturition Reflex with Transcutaneous Ultrasound”
Speaker: Daniel P. Casella, MD

“Changes in Brain fMRI in Women with Overactive Bladder Treated Sacral Neuromodulation”
Speaker: Steven J. Weissbart, MD

“Comparative Effectiveness of Sacral Neuromodulation and Percutaneous Tibial Nerve Stimulation”
Speaker: Yahir A. Santiago-Lastra, MD

“Double-Blind Randomized Controlled Trial of Extended Release Oxybutynin Versus Placebo in Women Receiving Posterior Tibial Nerve Stimulation for Treatment of Urgency Urinary Incontinence”
Speaker: Michael R. Polin, MD

11:45 a.m. - 1:00 p.m. Industry Satellite Symposium Lunch
Location: Arizona Ballroom IV

1:00 p.m. - 1:30 p.m. SOA: Female Genitourinary Dermatology: A Review
Speaker: Ksenija Stefanovic, MD, PhD

1:30 p.m. - 1:50 p.m. Panel: OAB Following a Sling
Moderator: Tamzin J. Greenwell, MBChB, MD

Address the Outlet
Panelist: Katie N. Ballert, MD

Treat the Bladder
Panelist: Harriette M. Scarpero, MD, FPMRS

1:50 p.m. - 2:15 p.m. Panel: Mixed Incontinence Post-Prostatectomy
Moderator: Victor W. Nitti, MD

Treat the Bladder
Panelist: Scott A. MacDiarmid, MD

Treat the Outlet
Panelist: Timothy B. Boone, MD, PhD

2:15 p.m. - 2:30 p.m. SUFU OAB Clinical Care Pathway
Speaker: Stephen R. Kraus, MD, FACS

2:30 p.m. - 3:00 p.m. Break - Visit with Exhibitors
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| 3:00 p.m. - 5:00 p.m. | "The Journal of Neurourology and Urodynamics: Peer Review Course - Learn How to Effectively Review Manuscripts | *Location:* Arizona Ballroom IV  
*Speakers:* David A. Ginsberg, MD  
Stephen R. Kraus, MD, FACS  
Eric S. Rovner, MD  
*Not CME Accredited/Space is limited - Participating Fellows Only* |

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| 3:00 p.m. - 3:15 p.m. | Zimskind Lecture                                                                                | *Presenter:* Gary E. Lemack, MD  
*"Oh, The Places You’ll Go"*  
*Recipient:* Melissa R. Kaufman, MD, PhD |
| 3:15 p.m. - 3:25 p.m. | Update from the LURN Network                                                                    | *Speaker:* J. Quentin Clemens, MD |
| 3:25 p.m. - 3:40 p.m. | Lower Urinary Tract Evaluation Prior to Renal Transplantation                                   | *Speaker:* Alvaro Lucioni, MD |
| 3:40 p.m. - 3:50 p.m. | SUFU Foundation Grant Presentations                                                            | *"Effects of Bladder Onabotulinum Toxin Injection and Sacral Neuromodulation on Central Sensitization in OAB Patients*  
*Speakers:* Elizabeth T. Brown, MD, MPH  
Jill M. Danford, MD |
| 3:50 p.m. - 4:00 p.m. | Distinguished Service Award Lecture                                                            | *Presenter:* Gary E. Lemack, MD  
*"The Road Not Taken Without a Five Year Plan"*  
*Recipient:* Tamara G. Bavendam, MD, MS |

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| 4:00 p.m. - 5:00 p.m. | Concurrent Poster/Podium Session                                                            | *Neuromodulation/OAB Moderated Podium Session*  
*Moderators:* Raul C. Ordorica, MD  
Steven W. Siegel, MD  
#27 SPECIFIC CHANGES IN BRAIN ACTIVITY IN WOMEN WITH OVERACTIVE BLADDER AFTER SUCCESSFUL SACRAL NEUROMODULATION WITH INTERSTIM®: AN FMRI STUDY  
*Presented By:* Steven J. Weissbart, MD  
#28 NEUROMODULATION FOR CHRONIC UROGENITAL PAIN: A COMPARISON OF PUDENDAL AND SACRAL NERVE STIMULATION  
*Presented By:* Kenneth M. Peters, MD  
#29 CHANGES IN BRAIN ACTIVITY ON FUNCTIONAL MAGNETIC RESONANCE IMAGING DURING SACRAL NERVE STIMULATION FOR OVERACTIVE BLADDER  
*Presented By:* Bradley C. Gill, MD, MS  
#30 CHARACTERISTICS ASSOCIATED WITH NEUROMODULATION DEVICE EXPLANTATION FOR DECLINING Efficacy  
*Presented By:* Jason P. Gilleran, MD  
#31 ELECTRICAL STIMULATION OF AFFERENT NERVES IN THE FOOT WITH TRANSCUTANEOUS ADHESIVE PAD ELECTRODES IN WOMEN WITH OAB: COMPARISON OF DIFFERENT STIMULATION DURATIONS  
*Presented By:* Christopher J. Chemiansky, MD  
#32 OPTIMIZING LEAD PLACEMENT DURING STAGED SACRAL NEUROMODULATION (SNM): A SUMMARY OF PREDICTIVE FACTORS FOR PROGRESSION TO STAGE 2 AND SHORT TERM OUTCOMES  
*Presented By:* Sarah A. Adelstein, MD |
| 4:00 p.m. - 5:00 p.m. | IC/Pelvic Pain/Geriatrics/BPH Moderated Poster Session                                     | *Poster #M39* SYMPTOMATIC OVERLAP IN OVERACTIVE BLADDER AND INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME  
*Presented By:* A. Lenore Ackerman, MD, PhD  
*Poster #M40* THE NATURE AND SEVERITY OF MENTAL COMORBIDITIES IN PATIENTS WITH INTERSTITIAL CYSTITIS AND IRRITABLE BOWEL SYNDROME: RESULTS FROM AN NIH TRIAL  
*Presented By:* Tova Above, MD |
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<td>M41</td>
<td>THE EFFECTS OF A STRESS AND EMOTION INTERVIEW FOR WOMEN WITH UROGENITAL PAIN: A RANDOMIZED TRIAL</td>
<td>Kenneth M. Peters, MD</td>
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<td>M42</td>
<td>HISTOPATHOLOGICAL CHARACTERISTICS OF INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME WITHOUT HUNNER LESION</td>
<td>Myung-So Choo, MD, PhD</td>
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<td>M43</td>
<td>***OVERACTIVE BLADDER IS MORE STRONGLY ASSOCIATED WITH FRAILTY THAN AGE IN OLDER INDIVIDUALS ***2017Clinical Science Prize Essay Award Recipient</td>
<td>Anne M. Suskind, MD, MS</td>
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<td>M44</td>
<td>A RANDOMIZED, DOUBLE BLIND, PLACEBO CONTROLLED TRIAL OF TOPICAL ANESTHETIC USE IN PESSARY MANAGEMENT: THE TAP STUDY</td>
<td>Susanne K. Taege, MD</td>
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<td>M45</td>
<td>PREDICTORS OF URINARY RETENTION FOLLOWING ONABOTULINUMTOXINA INJECTION FOR OVERACTIVE BLADDER IN PATIENTS WITH LOW PREOPERATIVE POST-VOID RESIDUAL</td>
<td>Rachel Sosiland, MD</td>
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<td>M47</td>
<td>SPINAL ANESTHESIA FOR TRANSURETHRAL PROSTATE RESECTION OR VAPORIZATION IS ASSOCIATED WITH PROLONGED LENGTH OF STAY</td>
<td>Joseph Rodriguez, MD</td>
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<td>M48</td>
<td>ARE NOMOGRAMS BASED ON FREE UROFLOWS HELPFUL TO EVALUATE URETHRAL OBSTRUCTION IN MEN?</td>
<td>Francoise A. Valenti, MD, PhD</td>
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<td>M49</td>
<td>URETHRAL STRICTURE DISEASE FOLLOWING LASER AND ELECTROCAUTERY TRANSURETHRAL PROSTATIC SURGERY</td>
<td>Amar J. Raval, MD</td>
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<tr>
<td>M50</td>
<td>EVIDENCE OF TAMSULOSIN 0.4 MG AS INITIAL DOSE IN ASIAN BPH PATIENTS?: CONSIDERATION THROUGH NETWORK META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS</td>
<td>Su Jin Kim</td>
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4:00 p.m. - 5:00 p.m.  
*IC/Pelvic Pain/Geriatrics/BPH Non-Moderated Poster Session  
*Not CME Accredited

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<td>NM78</td>
<td>ASSESSMENT OF PHYSICIANS’ PRACTICES IN SCREENING AND TREATING WOMEN WITH BACTERIURIA</td>
<td>Erica L. Ditkoff, BS</td>
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<td>NM79</td>
<td>UTILITY OF CATHETERIZED SPECIMENS IN REDUCING OVERDIAGNOSIS OF URINARY TRACT INFECTIONS IN WOMEN</td>
<td>Erica L. Ditkoff, BS</td>
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<td>NM80</td>
<td>SAFETY, TOLERABILITY AND PRELIMINARY EFFICACY OF LIRIS® 400 MG IN WOMEN WITH ULCERATIVE INTERSTITIAL CYSTITIS</td>
<td>Kenneth M. Peters, MD</td>
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<tr>
<td>NM81</td>
<td>RISK FACTOR AFFECTING RECURRENCE OF CYSTITIS AFTER URO-VAXOM TREATMENT FOR FEMALE PATIENTS WITH RECURRENT CYSTITIS</td>
<td>Ji-Yeon Han, MD, PHD</td>
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<tr>
<td>NM82</td>
<td>PHYSICAL THERAPY FOR PELVIC PAIN AND ORCHALGIA IN MEN</td>
<td>Matthew A. Nielsen, MD</td>
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<tr>
<td>NM83</td>
<td>THE MISDIAGNOSIS OF INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME</td>
<td>Jennifer T. Anger, MD, MPH, FPMRS</td>
</tr>
<tr>
<td>NM84</td>
<td>SLING EXCISION FOR PAIN: CAN WE PREDICT WHO BENEFITS FROM SURGERY?</td>
<td>Elizabeth Van Huffel Dray, MD</td>
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<tr>
<td>NM85</td>
<td>OUTCOMES OF KENALOG/HEPARIN/LIDOCAINE/GENTAMYCIN SUB-MUCOSAL INJECTION FOR INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME</td>
<td>Nikhil Uppaluri, BS</td>
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2017 Winter Meeting
Poster #NM86  MANAGEMENT OF MICROHEMATURIA IN POST-MENOPAUSAL WOMEN: ARE WE ADHERING TO THE GUIDELINES?  
Presented By: Eliza Lamin, MD  

Poster #NM87  ASSESSMENT OF PATIENT FRAILTY AND PERIOPERATIVE COMPLICATIONS AFTER UNDERGOING MINIMALLY INVASIVE APICAL PROLAPSE REPAIR  
Presented By: Zaid Chaudhry, MD  

Poster #NM88  IMPROVEMENT IN LOWER URINARY TRACT SYMPTOMS ACROSS MULTIPLE DOMAINS FOLLOWING VENTRICULOPERITONEAL SHUNTING FOR IDIOPATHIC NORMAL PRESSURE HYDROCEPHALUS  
Presented By: Sarah Caulkins Krzastek, MD  

Poster #NM89  REVIEW OF THE MOST COMMONLY USED HERBAL SUPPLEMENTS FOR “PROSTATE ENLARGEMENT”: WHERE IS THE EVIDENCE?  
Presented By: Michelle Kim, MD, PhD  

Poster #NM90  DECISION-MAKING IN MEN CONSIDERING USE OF NON-PRESCRIPTION TAMSULOSIN FOR LOWER URINARY TRACT SYMPTOMS  
Presented By: Joshua A. Cohn, MD  

Poster #NM91  INCREASED TRANSITIONAL ZONE SIZE CORRELATES WITH INCREASED LASER ENERGY USED IN HOLEP PROCEDURES AND DECREASED PREOPERATIVE URINE FLOW  
Presented By: Whitney R. Smith, MD  

5:00 p.m. - 6:00 p.m.  BREAKOUT SESSIONS  

1. Female Sexual Dysfunction  
5:00 p.m. - 6:00 p.m.  
Director: Karyn S. Eilber, MD, FPMRS  
Speakers: A. Lenore Ackerman, MD, PhD  
Polina Reyblat, MD  

2. Male Reconstruction  
5:00 p.m. - 6:00 p.m.  
Location: Arizona Ballroom I - III  
Director: Craig V. Comiter, MD  
Speakers: Gregory T. Bales, MD  
Ajay K. Singla, MD  

3. IC/BPS: Update in 2017  
5:00 p.m. - 6:00 p.m.  
Location: Arroyos C - E  
Director: Christopher K. Payne, MD  
Speakers: Kevin D. Benson, MD, MS  
Gamal M. Ghoniem, MD, FACS  

6:00 p.m. - 7:30 p.m.  Cocktail Hour - Awards and SUFU Foundation Auction in Exhibit Hall  
Location: Arizona Ballroom V - VIII  

SATURDAY, MARCH 4, 2017  

OVERVIEW  
6:00 a.m. - 12:00 p.m.  Registration/Information Desk Open  
Location: Vaquero Ballroom Foyer  

6:00 a.m. - 7:00 a.m.  Breakfast  
Location: Vaquero Ballroom Foyer  

6:00 a.m. - 12:00 p.m.  Speaker Ready Room Hours  
Location: Vaquero Ballroom Foyer  

GENERAL SESSION  
7:00 a.m. - 8:00 a.m.  Video Session II  
Moderators: Matthew P. Rutman, MD  
Kamran P. Sajadi, MD  

Video #7  
COMPLEX HORSESHOE MULTILOCULATED URETHRAL DIVERTICULUM REPAIR  
Presented By: Philippe E. Zimmern, MD, FACS, FPRMS
Video #8  FEMALE URETHROPLASTY WITH BUCCAL MUCOSAL GRAFT FOR STRICTURE DISEASE
Presented By: Carrie M. Mlynarczyk, MD

Video #9  REPAIR OF NEOBLADEER VESICOVAGINAL FISTULA WITH PEDICLED ISLAND SKIN FLAP
Presented By: Daniel S. Hoffman, MD

Video #10  TRANSVAGINAL BLADDER NECK CLOSURE FOR THE DEVASTATED FEMALE URETHRA
Presented By: Richard T. Kershen, MD

Video #11  BLADDER AUGMENT WITH BLADDER NECK CLOSURE AND CONTINENT STOMA
Presented By: Jennifer Yeung, DO

Video #12  BURIED PENIS REPAIR: A MULTIDISCIPLINARY APPROACH
Presented By: Melanie A. Adamsky, MD

8:00 a.m. - 9:30 a.m.  CONCURRENT POSTER/PODIUM SESSION

8:00 a.m. - 9:30 a.m.  Female Urology/Incontinence Moderated Podium Session
Moderators:  Stephanie J. Kielb, MD
             Yahir A. Santiago-Lastra, MD

8:00 a.m.  #33  EFFECTS OF BARIATRIC SURGERY ON FEMALE LOWER URINARY TRACT
SYMPTOMS AND SEXUAL FUNCTION
Presented By: Asnat Groutz, MD

8:10 a.m.  #34  EFFECT OF TYPE OF DELIVERY AND NUMBER OF DELIVERIES ON PATIENT
REPORTED URINARY OUTCOMES: RESULTS FROM A NATIONWIDE SAMPLE
Presented By: Natasha Ginzburg, MD

8:20 a.m.  #35  DIFFERENCES IN CONVALESCENCE AFTER PUBOVAGINAL SLING OR SYNTHETIC
MIDURETHRAL SLING
Presented By: Anne K. Pelletier-Cameron, MD, FPMRS

8:30 a.m.  #36  LONGTERM FOLLOW UP IN PATIENTS WITH MID-URETHRAL SLINGS WITH BMI
GREATER THAN 40
Presented By: Solafa Elshatanoufy, PharmD, MD

8:40 a.m.  #37  BOWEL FUNCTION, SEXUAL FUNCTION, AND SYMPTOMS OF PELVIC ORGAN
PROLAPSE IN WOMEN WITH AND WITHOUT URINARY INCONTINENCE
Presented By: Anne K. Pelletier-Cameron, MD, FPMRS

8:50 a.m.  #38  THE ECONOMIC BURDEN OF OVERACTIVE BLADDER (OAB) AND ITS EFFECTS ON
THE COSTS ASSOCIATED WITH OTHER CHRONIC, AGE-RELATED COMORBIDITIES IN
THE UNITED STATES
Presented By: Emily Durden, PhD

9:00 a.m.  #39  HOW TO IMPROVE PUBOVAGINAL SLING OUTCOMES: COMPARISON OF TWO
TECHNIQUES FOR SLING TENSIONING IN 177 PATIENTS
Presented By: Aleksandar C. Blubaum, BA

9:10 a.m.  #40  THE EFFECT OF MIXED URINARY INCONTINENCE ON CATHETERIZATION RATE
AFTER INTRADETRUSOR ONABOTULINUMTOXINA: IS STRESS INCONTINENCE
PROTECTIVE?
Presented By: Dianne Glass, MD, PhD

9:20 a.m.  #41  FEMALE SEXUAL DYSFUNCTION TREATMENT: A META-ANALYSIS OF THE PLACEBO
EFFECT ACROSS RANDOMIZED CONTROLLED TRIALS
Presented By: James Weinberger, BS

8:00 a.m. - 9:30 a.m.  Pelvic Organ Prolapse/Reconstruction Moderated Poster Session
Location: Vaquero Ballroom E - G
Moderators:  Emily E. Cole, MD
            Rebecca S. Lavelle, MD

Poster #M51  WITHDRAWN

Poster #M52  DYNAMIC PELVIC MRI IN THE EVALUATION OF PELVIC ORGAN PROLAPSE AND
CORRELATION WITH PHYSICAL EXAM FINDINGS
Presented By: Frank C. Lin, MD, MS

Poster #M53  THE IMPACT OF CONCURRENT PROCEDURES ON PERIOPERATIVE OUTCOMES
AMONG WOMEN UNDERGOING ABDOMINAL SACROCOLOPEXY: MIDURETHRAL
SLING PLACEMENT IS ASSOCIATED WITH INCREASED RISK OF COMPLICATION
Presented By: William Boysen, MD
Poster #M54  THE IMPACT OF CONCOMITANT SUI SURGERY ON PATIENTS UNDERGOING VAGINAL PROLAPSE REPAIR: ANALYSIS OF HOSPITAL SURGICAL QUALITY MEASURES.
Presented By: Dominique Malacarne, MD

Poster #M55  TEN-YEAR REVIEW OF SURGICAL MANAGEMENT OF ICS/IUGA CATERGORY 1-4 TRANSVAGINAL MESH COMPLICATIONS FOLLOWING PROLAPSE KITS
Presented By: Aleksandar C. Blubaum, BA

Poster #M56  DIRECT TO CONSUMER ADVERTISING FOR ROBOTIC ASSISTED SACROCOLUMPEXY: ARE PATIENTS GETTING THE RIGHT INFORMATION?
Presented By: Brent Medoff

Poster #M57  THE EFFECT OF RESIDENT INVOLVEMENT IN PELVIC PROLAPSE SURGERY: A RETROSPECTIVE STUDY FROM A NATIONWIDE INPATIENT SAMPLE
Presented By: Maxx K. Caveney, BSc

Poster #M58  POSTERIOR COMPARTMENT PROLAPSE OCCURRENCE AFTER ANTERIOR VAGINAL WALL SUSPENSION
Presented By: Rena D. Malik, MD

Poster #M59  UNDERSTANDING SIMPLE CYTSECTOMY FOR BENIGN DISEASE: A UNIQUE PATIENT COHORT WITH SIGNIFICANT RISKS
Presented By: Carrie M. Mlynarczyk, MD

Poster #M60  POST-OPERATIVE URETHROPLASTY MANAGEMENT: IS PERICATHETER RUG A BETTER IMAGING ALTERNATIVE?
Presented By: Rachael D. Sussman, MD

Poster #M61  SUPRAMEATAL URETHROLYSIS WITH MARTIUS FLAP INTERPOSITION FOR REFRACTORY IATROGENIC BLADDER OUTLET OBSTRUCTION FOLLOWING ANTI-INCONTINENCE SURGERY IN WOMEN
Presented By: Janine L. Oliver, MD

Poster #M62  THE IMPACT OF MESENTERIC WINDOW CLOSURE AFTER HARVESTING ILEUM FOR UROLOGIC RECONSTRUCTIVE SURGERY
Presented By: Michael A. Avallone, MD

Poster #M63  SHORT AND LONG-TERM ORAL COMPLICATIONS OF BUCCAL MUCOSAL GRAFT HARVEST FOR MALE AND FEMALE URETHROPLASTY
Presented By: Hazel Ecclestone, MD, FRCS

Poster #M64  BIOSIMILAR DEVICES FOR AUTOGRAFT AND ALLOGRAFT REPLACEMENTS: A NOVEL BIOMIMETIC STUDY USING ELECTROCHEMICAL ALIGNED COLLAGEN-BASED BIOTEXTILES AND HUMAN MESENCHYMAL STEM CELLS (HMSCS).
Presented By: Raymond R. Rackley, MD

8:00 a.m. - 9:30 a.m.  LUTS/Voiding Dysfunction/Neurogenic Bladder Moderated Podium Session
Location: Arizona Ballroom I - III
Moderators: Anne P. Cameron, MD
          Kenneth M. Peters, MD

8:00 a.m.  #42  ANTIMUSCARINIC USE IN THE ELDERLY: A POISONED APPLE?
Presented By: Daniel T. Pucheril, MD, MBA

8:10 a.m.  #43  THE EFFECT OF SOLIFENACIN ON POST-VOID DRIBBLING IN WOMEN: RESULTS OF A RANDOMIZED, PLACEBO-CONTROLLED TRIAL
Presented By: Tova Ablove, MD

8:20 a.m.  #44  PATIENT REPORTED OUTCOMES FROM SYNERGY, A RANDOMIZED, DOUBLE-BLIND, MULTICENTER STUDY EVALUATING COMBINATIONS OF MIRABEGRON AND SOLIFENACIN COMPARED WITH MIRABEGRON AND SOLIFENACIN MONOTHERAPY
Presented By: Elizabeth R. Mueller, MD, MSME

8:30 a.m.  #45  AUA WHITE PAPER: NON-NEUROGENIC CHRONIC URINARY RETENTION: CONSENSUS DEFINITION, MANAGEMENT STRATEGIES, AND FUTURE OPPORTUNITIES
Presented By: John T. Stoffel, MD

8:40 a.m.  #46  EFFICACY AND SAFETY OF ONABOTULINUMTOXINA 100U FOR TREATMENT OF URINARY INCONTINENCE DUE TO NEUROGENIC DETERUSOR OVERACTIVITY IN NONCATHERETERIZING MULTIPLE SCLEROSIS PATIENTS
Presented By: Alfred D. Kohan, MD, FACS
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<thead>
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<th>Time</th>
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<th>Presenter</th>
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<tr>
<td>8:50 a.m.</td>
<td>#47</td>
<td>SER120 NASAL SPRAY IS EFFECTIVE FOR THE TREATMENT OF NOCTURIA IN PATIENTS REGARDLESS OF ETIOLOGY: A POOLED ANALYSIS OF TWO RANDOMIZED, PLACEBO-CONTROLLED PHASE 3 TRIALS</td>
<td>David O. Sussman, DO</td>
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<td>9:00 a.m.</td>
<td>#48</td>
<td>PREDICTORS OF A RETURN OF VOLITIONAL VOIDING AFTER SPINAL CORD INJURY</td>
<td>Christopher S. Elliott, MD, PhD</td>
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<td>9:10 a.m.</td>
<td>#49</td>
<td>ASSOCIATION BETWEEN URINARY SYMPTOM SEVERITY AND AUTOMATED SEGMENTATION OF WHITE MATTER PLAQUE IN WOMEN WITH MULTIPLE SCLEROSIS</td>
<td>Siobhan M. Hartigan, MD</td>
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<td>9:20 a.m.</td>
<td>#50</td>
<td>SURVEILLANCE CYSTOSCOPY HAS MINIMAL DIAGNOSTIC YIELD IN PATIENTS WITH AUGMENTATION CYSTOPLASTY</td>
<td>Ronak Gor, DO</td>
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<td>8:00 a.m. - 9:30 a.m.</td>
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<td>*Pelvic Organ Prolapse/Reconstruction Non-Moderated Poster Session</td>
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<td>Location: Arizona Ballroom South Foyer</td>
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<td>*Not CME Accredited</td>
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<tr>
<td>Poster #NM92</td>
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<td>TRANSVAGINAL MESH INCREASES THE RISK OF BLEEDING, ORGAN SURGICAL SITE INFECTION, AND PULMONARY EMBOLISM IN VAGINAL PELVIC RECONSTRUCTION SURGERY: RESULTS FROM A MULTI-INSTITUTIONAL DATASET</td>
<td>Maxx K. Caveney, BSc</td>
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<td>Poster #NM93</td>
<td></td>
<td>CORRELATION BETWEEN VALSALVA EFFORT AND PELVIC ORGAN PROLAPSE: A PILOT OBSERVATION</td>
<td>Woojin Chong, MD</td>
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<tr>
<td>Poster #NM94</td>
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<td>DEFINING THE PREVALENCE OF ASYMPTOMATIC MICROSCOPIC HEMATURIA AMONG WOMEN WITH PELVIC ORGAN PROLAPSE: IMPLICATIONS FOR RECOMMENDING SUBSEQUENT DIAGNOSTIC EVALUATION</td>
<td>Brian J. Linder, MD</td>
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<td>Poster #NM95</td>
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<td>SECONDARY COMPARTMENT PROLAPSE OCCURRENCE AFTER OPEN MESH SACROCOLOPEXY WITH VERY LATE FOLLOW-UP</td>
<td>Brian Nan Wang</td>
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<td>Poster #NM96</td>
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<td>TRANSVAGINAL MESH IS NOT ASSOCIATED WITH CARCINOGENESIS</td>
<td>Bilal I. Chughtai, MD</td>
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<td>Poster #NM97</td>
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<td>VAGINAL PARAVAGINAL DEFECTS: IS REPAIR WITH MESH BETTER?</td>
<td>Nima Shah, MD</td>
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<td>Poster #NM98</td>
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<td>TRENDS IN SURGICAL APPROACH TO APICAL PELVIC ORGAN PROLAPSE IN A NATIONAL SAMPLE</td>
<td>Emily Slopnick, MD</td>
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<td>Poster #NM99</td>
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<td>ADOPTION OF ROBOT-ASSISTED SACROCOLOPEXY: OUTCOMES AND COMPARISON WITH OPEN SACROCOLOPEXY</td>
<td>James E. Pilkington, MD</td>
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<td>Poster #NM100</td>
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<td>FEASIBILITY OF SAME DAY DISCHARGE AFTER ROBOTIC ASSISTED PELVIC FLOOR RECONSTRUCTION</td>
<td>Juan Guzman, MD</td>
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<td>Poster #NM101</td>
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<td>“PATIENT-TAILORED” MESH GRAFT FOR ANTERIOR COMPARTMENT REPAIR USING VERTESSA LITE MESH: JUST ENOUGH BUT NOT TOO MUCH- TWO YEAR OUTCOMES</td>
<td>Matthew E Karlovsky, MD</td>
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<td>Poster #NM102</td>
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<td>TRANSVAGINAL MESH PLACEMENT AND THE INSTRUCTIONS FOR USE: A SURVEY OF NORTH AMERICAN UROLOGISTS</td>
<td>Gina Kirkpatrick, DO, MPH, MBA</td>
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<td>Poster #NM103</td>
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<td>ROLE OF CONCURRENT VAGINAL HYSTERECTOMY ON OUTCOMES OF MESH-BASED PELVIC ORGAN PROLAPSE SURGERY</td>
<td>Ramy S. Goueli, MD, MHS</td>
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<td>Poster #NM104</td>
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<td>DETRUSOR UNDERACTIVITY MAY PRESENT A RISK FACTOR TO PELVIC ORGAN PROLAPSE</td>
<td>Wesly Bass, MD</td>
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<td>NM105</td>
<td>COMPARISON OF PATIENT CHARACTERISTICS WITH SHORT VERSUS LONG LENGTH OF STAY AFTER MINIMALLY INVASIVE SACROCOLPOPEXY</td>
<td>Zaid Chaudhry, MD</td>
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<td>NM106</td>
<td>SACROSPINOUS LIGAMENT FIXATION USING TISSUE ANCHORING SYSTEMS MAY REDUCE THE PROCEDURE LENGTH WITH SIMILAR OUTCOMES COMPARE WITH CLASSICAL TECHNIQUES</td>
<td>Javier Pizarro-Berdichevsky, MD</td>
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<td>NM107</td>
<td>MULTI-INSTITUTIONAL OUTCOMES FOR URINARY DIVERSION PERFORMED SIMULTANEOUSLY OR AFTER COLOSTOMY: DOES TIMING AFFECT POST-OPERATIVE RECOVERY?</td>
<td>Paholo G. Barboglio Romo, MD, MPH</td>
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<tr>
<td>NM108</td>
<td>EFFECTS OF VENOUS THROMBOEMBOLISM PROPHYLAXIS FOR OBESE PATIENTS IN URETHRAL RECONSTRUCTION</td>
<td>Rachael D. Sussman, MD</td>
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<tr>
<td>NM109</td>
<td>FEMALE URETHRAL DISTRACTION INJURIES: A SYSTEMATIC REVIEW OF THE LITERATURE</td>
<td>Devin Patel, MD</td>
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<tr>
<td>NM110</td>
<td>SURGICAL MANAGEMENT AND OUTCOMES OF ADULT BURIED PENIS: AN INSTITUTIONAL SERIES</td>
<td>Melanie A. Adamsky, MD</td>
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<tr>
<td>NM111</td>
<td>MANAGEMENT OF PUBIC OSTEOMYELITIS FOLLOWING PELVIC RADIATION WITH SIMULTANEOUS PUBIC DEBRIDEMENT AND URINARY DIVERSION</td>
<td>Daniel Shapiro, MD</td>
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<td>NM112</td>
<td>THE ROAD TO RECOVERY AFTER TRANSVAGINAL SURGERY FOR SLING EROSION: AN EVALUATION OF PERIOPERATIVE OUTCOMES AND SUBSEQUENT PROCEDURES</td>
<td>Casey Kowalki, MD</td>
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<tr>
<td>NM113</td>
<td>URINARY-CUTANEOUS FISTULAE FOLLOWING CONSERVATIVE MANAGEMENT OF EXTRAPERITONEAL BLADDER RUPTURES</td>
<td>Rachel Sosland, MD</td>
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<td>NM114</td>
<td>SHOULD WE TREAT ONE PAD INCONTINENCE?</td>
<td>Miriam Greenstein, MD</td>
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<td>NM115</td>
<td>LONG TERM RESULT OF TRANSURETHRAL ENDOSCOPIC HOLMIUM (TEH) LASER FOR URETHRAL EROSION OF SYNTHETIC SLINGS</td>
<td>Connie Nan Wang</td>
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<td>NM116</td>
<td>TEMPORAL TRENDS IN THE INCIDENCE OF PELVIC FRACTURE-ASSOCIATED URETHRAL DISTRACTION DEFECTS IN THE UNITED STATES</td>
<td>Dennis Joseph Thum</td>
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<td>NM117</td>
<td>VESICOVAGINAL FISTULA IS RARELY ASSOCIATED WITH URETERIC INJURY.</td>
<td>Hazel Ecclestone, MD, FRCS</td>
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<td>NM118</td>
<td>PROTECTIVE EFFECT OF PLATELET-RICH PLASMA ON URETHRAL STRICTURE MODEL OF MALE RATS</td>
<td>Adiel E. Mamut, MD</td>
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<td>NM119</td>
<td>YV-PLASTY FOR REFRACTORY BLADDER NECK CONTRACTURE</td>
<td>Margaret R. Hines, MD</td>
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<td>NM120</td>
<td>RISK OF NEEDING SURGERY FOR VAGINAL MESH EROSION IN PATIENTS WITH A DIAGNOSIS OF BREAST CANCER: A RETROSPECTIVE CASE SERIES</td>
<td>Stefan De Wachter, MD, PhD</td>
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**Schedule: 9:30 a.m. - 11:00 a.m.**

- **Basic Science Talk on Bladder Sensory Mechanisms**
  - Speaker: Stefan De Wachter, MD, PhD

- **Proper Coding in FPMRS**
  - Speaker: Michael A. Ferragamo, Jr., MD, FACS

- **Debate: Do We Need to Repair ASX Moderate Anterior Prolapse at the Time of SUI Surgery?**
  - Moderator: Craig V. Comiter, MD
  - Yes
    - Speaker: Gregory T. Bales, MD
  - No
    - Speaker: Karyn S. Elber, MD, FPMRS
11:00 a.m. - 11:30 a.m.  Critical Analysis of the Rosetta Trial  
   Moderator:        Kathleen C. Kobashi, MD, FACS  
   **Against Conclusions**  
   Speaker:           Stephen R. Kraus, MD, FACS  
   **Pro Conclusions**  
   Speaker:           W. Stuart Reynolds, MD, MPH

11:30 a.m. - 12:00 p.m.  Panel: Management of Recurrent SUI  
   Moderator:        Roger R. Dmochowski, MD, MMHC, FACS  
   **Repeat MUS**  
   Panelist:          Michael E. Albo, MD  
   **Urethral Bulking Injection**  
   Panelist:          Philippe E. Zimmern, MD, FACS, FPRMS  
   **Autologous Sling is the Way to Go**  
   Panelist:          Gary E. Lemack, MD

12:00 p.m.  Meeting Adjourns
2017 Annual Business Meeting Agenda

Society for Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction

Friday, March 3, 2017
8:00 a.m. – 8:30 a.m.

1. Call to Order – President, Gary E. Lemack, MD
2. Approval of 2016 Minutes and Thank You to Program Chairs – Kathleen C. Kobashi, MD, FACS
3. Treasurer’s Report – Sandip P. Vasavada, MD
4. Awards Committee Report – Gary E. Lemack, MD
5. Membership Committee Report – Victor W. Nitti, MD
6. Nominating Committee Report – Kathleen C. Kobashi, MD, FACS
7. Other – Gary E. Lemack, MD
## SUFU 2017 Fellows Forum

**Wednesday, March 1, 2017**

1:30 p.m. – 5:45 p.m.

*Not CME Accredited*

**Please Note:** Sessions 1 & 2 are held concurrently.

**Location:** Arroyos D & E, Arroyos C

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<tr>
<th>Time</th>
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| 1:30 p.m. – 1:35 p.m. | Welcome and Introduction  
Michael E. Albo, MD |
| 1:35 p.m. – 1:45 p.m. | Choosing a Practice Model/How to Get Started  
Sandip P. Vasavada, MD |
| 1:45 p.m. – 1:55 p.m. | Academic Practice – Navigating Clinical and Research Expectations  
Leslie M. Rickey, MD, MPH |
| 1:55 p.m. – 2:05 p.m. | Contract Negotiations – What to Ask For/What to Look Out For  
Timothy B. Boone, MD, PhD |
| 2:05 p.m. – 2:15 p.m. | SUFU – How, Why and When to Get Involved  
Gary E. Lemack, MD |
| 2:15 p.m. – 2:45 p.m. | Quality Metrics/Registries/ACA – What does it Mean for Practice  
J. Quentin Clemens, MD |
| 2:45 p.m. – 3:05 p.m. | Getting a Job - My Experience  
Moderator: Michael E. Albo, MD  
Panelists: Kimberly Ferrante, MAS, MD  
Ryan M. Krlin, MD  
Leah Y. Nakamura, MD  
Anne M. Suskind, MS, MD |
| 3:05 p.m. – 3:20 p.m. | Q&A |
| 3:20 p.m. – 3:30 p.m. | Break |
| 3:30 p.m. – 5:45 p.m. | Fellow Abstract Presentations  
**Group 1**  
*Location: Arroyos D & E*  
Moderator: Christian O. Twiss, MD  

**Group 2**  
*Location: Arroyos C*  
Moderator: Michael E. Albo, MD |
Breakout Group One
Location: Arroyos D & E
Moderator: Christian O. Twiss, MD

3:35 p.m. – 3:44 p.m.   Paholo Barboglio Romo, MD, MPH
3:44 p.m. – 3:53 p.m.   Amanda S.J. Chung, MBBS, MS, FRACS
3:53 p.m. – 4:02 p.m.   Joshua A. Cohn, MD
4:02 p.m. – 4:11 p.m.   Elizabeth Van Huffel Dray, MD
4:11 p.m. – 4:20 p.m.   Juan A. Guzman-Negron, MD
4:20 p.m. – 4:29 p.m.   Casey Kowalik, MD
4:29 p.m. – 4:38 p.m.   Brain J. Linder, MD
4:38 p.m. – 4:47 p.m.   Rena D. Malik, MD
4:47 p.m. – 4:56 p.m.   Laura Nguyen, MD
4:56 p.m. – 5:05 p.m.   Henry T. Okafor, MD
5:05 p.m. – 5:14 p.m.   Lauren Rittenberg, DO
5:14 p.m. – 5:23 p.m.   Melissa T. Stanford, MD
5:23 p.m. – 5:32 p.m.   Nicole Szell, DO

5:41 p.m. – 5:45 p.m.   Wrap Up/Q & A
## Breakout Group Two

*Location: Arroyos C*  
Moderator: Michael E. Albo, MD

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
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<tr>
<td>3:35 p.m. – 3:44 p.m.</td>
<td>Marian Acevedo Alvarez, MD</td>
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<td>3:44 p.m. – 3:53 p.m.</td>
<td>Sarah A. Adelstein, MD</td>
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<td>3:53 p.m. – 4:02 p.m.</td>
<td>Megan Brady, MD</td>
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<td>4:02 p.m. – 4:11 p.m.</td>
<td>Elodi Dielubanza, MD</td>
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<td>Amy D. Dobberfuhl, MD</td>
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<td>Bilal Farhan, MD</td>
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<td>Dianne Glass, MD, PhD</td>
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<td>4:38 p.m. – 4:47 p.m.</td>
<td>Catherine Harris, MD</td>
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<td>4:47 p.m. – 4:56 p.m.</td>
<td>Dana Kivlin, DO</td>
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<td>4:56 p.m. – 5:05 p.m.</td>
<td>Jessica Lloyd, MD</td>
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<td>5:05 p.m. – 5:14 p.m.</td>
<td>Laura M. Martinez, MD</td>
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<td>5:14 p.m. – 5:23 p.m.</td>
<td>Dena Moskowitz, MD</td>
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<td>5:23 p.m. – 5:32 p.m.</td>
<td>Daniel Hoffman, MD</td>
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<td>5:32 p.m. – 5:45 p.m.</td>
<td><strong>Wrap Up/Q &amp; A</strong></td>
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Tuesday, February 28, 2017
1:00 p.m. – 2:30 p.m.

**Basic Science Panel: Novel Methods of Urodynamic Diagnosis**

**Dynamic Elasticity of the Bladder**

*John E. Speich, PhD*

*Virginia Commonwealth University*

This presentation will describe a novel repeat-fill urodynamics protocol used to quantify dynamic elasticity of the bladder and an objective technique for quantifying low amplitude rhythmic contractions during urodynamics.

Several studies have demonstrated that repeated stretches of “passive” rabbit, mouse or human bladder strips [1-5] can cause strain-induced stress softening (strain softening) [6]. Likewise, repeated filling of isolated mouse bladders [7] can soften the bladder, just as repeated stretches of a latex balloon make it easier to inflate. Moreover, unlike in a latex balloon, we have shown that strain softening in bladder can be reversed by active contraction at short muscle lengths [1, 4, 8]. Thus, bladder wall elasticity is strain-history-dependent and activation-history-dependent. Most importantly, we have identified reversible strain softening in human detrusor strips [4] and quantified as dynamic elasticity due to strain softening during a pilot human repeat-fill urodynamics study [9]. In this urodynamics study, filling pressure 1) decreased following a fill-passive emptying cycle to soften the bladder and 2) increased following a fill-active void cycle to reverse the strain softening. We have also shown that the change in elasticity associated with repeated passive filling is greater in a partial bladder outlet obstructed mouse model of detrusor overactivity [7]. Together, these preclinical and clinical data provide evidence that detrusor overactivity, and potentially overactive bladder in humans, may be associated with dynamic elasticity.

Low amplitude rhythmic contractions (LARC) have been identified in bladder strips from animals [10, 11] and humans [12], and LARC has been shown to be elevated in patients with detrusor overactivity [13, 14]. We found that LARC can regulate tension in bladder strips by restoring “passive” tension lost to strain softening [8]. We have developed methods for quantifying LARC in bladder strips [15, 16], and found that the frequency of LARC identified in human bladder strips correlates with LARC identified during urodynamics (UD) [12]. Together these studies suggest that LARC may regulate dynamic elasticity. We have developed an objective method to identify LARC during urodynamics (UD), categorize patients with significant LARC, and potentially begin to characterize a LARC-mediated detrusor overactivity subtype.

**REFERENCES**

Wednesday, March 1, 2017
1:30 p.m. – 3:05 p.m.

Role of Altered Bladder Permeability Visceral Organ Cross-Talk
Beverley Greenwood-Van Meerveld, PhD, FACP, AGAF
University of Oklahoma Health Sciences Center

The pathophysiology of painful bladder syndrome (PBS) is poorly understood; however, there is evidence of female predominance and comorbidity with irritable bowel syndrome (IBS). The mechanisms for the overlap of symptomatology in patients with PBS and IBS are poorly understood; however, visceral organ communication may be a contributing variable. Evidence suggests that afferent sensitization may play a pivotal role in visceral organ cross-communication. The possibility exists that activation of afferent nerves in response to mucosal damage may be the result of increased epithelial permeability allowing foreign substances to have direct access to the visceral sensory neurons. Given that PBS and IBS are characterized by the presence of minimal- to low-grade inflammation, my presentation will describe a study in which we investigated the effect of an acute disruption of either the bladder urothelium or colonic mucosa on both bladder and colonic permeability to test the hypothesis that enhanced epithelial permeability represents a novel mechanism for visceral organ cross-talk, and may explain the overlapping symptomology of PBS and IBS. In our study, permeability in the colon was assessed in Ussing chambers. To assess urinary bladder permeability, we developed a technique using small, biopsy-sized tissue samples placed in a modified Ussing chamber preparations. In both preparations, permeability was assessed electrophysiologically, via measurements of transepithelial electrical resistance (TEER). We found that TEER could directly be correlated with the flux across the bladder (and colonic) tissue of a macromolecular marker (FITC-dextran). Employing both approaches we found that acute urinary bladder permeability was induced by exposing the urinary bladder to low concentrations of protamine sulfate. A novel and important aspect to our study was that the induction of urinary bladder permeability following protamine sulfate infusion was at the same time associated with a marked disruption in colonic barrier function in the absence of any alterations to the histological appearance of the colon. This finding is supported by another study in which we used contrast-enhanced magnetic resonance imaging (CE-MRI) to monitor a loss of permeability in rat bladder urothelium and visceral organ crosstalk, which was measured as secondary enhanced contrast of the colon mucosa within 24 hours following exposure of the bladders to protamine sulfate. Conversely, in another series of experiments, we investigated the reverse effect of an acute colonic inflammation on bladder function. Colonic inflammation was induced and we observed increases in not only colonic but also the undamaged colon further demonstrating that enhanced permeability in one visceral organ can affect permeability in another. The finding that inducing an increase in urinary bladder or colon permeability rapidly induces permeability in the other organ supports the notion that altered permeability may be responsible for visceral organ cross-talk. Current experiments in my laboratory are characterizing the barrier defect in each organ.

The next part of my presentation will describe our experiments to test the hypothesis that increases in colonic permeability due to acute bladder damage increases colonic sensitivity. In these experiments colonic sensitivity was assessed in vivo by recording a visceromotor behavioral response (VMR), quantified as the number of abdominal contractions, to graded pressures (0, 20, 40, 60 mmHg) of isobaric colorectal distension (CRD). We found that following protamine sulfate infusion into the bladder the undamaged colon exhibits significant increases in mucosal permeability and an exaggerated behavioral response to luminal distension. The data that I will present will support the concept that the overlapping symptomology of PBS and IBS is due to visceral organ cross talk in which increases in epithelial permeability lead to colonic hypersensitivity. In our latest series of experiments, we are investigating the hypothesis that PS into the bladder causes persistent visceral organ hypersensitivity via activation of specific neuronal populations in the spinal cord. In response to a single infusion of protamine sulfate into the bladder, our data highlighted a persistent increase in i) permeability and pain sensitivity of the bladder and colon as assessed via measurements of referred visceral hyperalgesia and ii) neuronal activity in the spinal cord. Thus, when taken together our findings advance the understanding of the mechanisms of visceral organ crosstalk.
Thursday, March 2, 2017
8:50 a.m. – 9:10 a.m.

Point-Counterpoint: Urodynamics Should Be Performed Before TURP
Richard Lee, MD, MBA

Summary/Outline of Presentation:

1) No official guidelines re: use of urodynamics prior to TURP
2) No Level 1 data to guide use of urodynamics prior to TURP
3) Urodynamics can be useful in certain groups
   a. Those who have previously undergone TURP with failure to resolve symptoms
   b. Elderly patients (eg >80yo)
   c. Those with possible bladder pathology – eg neurogenic patients, pelvic trauma
4) Perhaps urodynamics do not need to be used in all patients but rather selectively in certain groups of patients who would most benefit from the additional testing
Thursday, March 2, 2017
11:20 a.m. – 11:35 a.m.

Best Practice Policy Statement on Urodynamic Antibiotic Prophylaxis in the Non-Index Patient
Anne P. Cameron, MD; Lysanne Campeau, MDCM, PhD, FRCSC; Benjamin M. Brucker, MD; J. Quentin Clemens, MD; Gregory T. Bales, MD; Michael E. Albo, MD; Michael J. Kennelly, MD

Abstract

Purpose: Antibacterial prophylaxis before invasive urodynamic testing (UDS) to prevent urinary tract infection (UTI) is widely utilized with only limited guidance, despite the risk of these medications and a call for antibiotic stewardship among physicians to prevent resistant organism. The Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU) convened a Best Practice Policy Panel to formulate recommendations on the use of antimicrobial prophylaxis during UDS for the prevention of UTIs, with special attention given to patients that fall outside of the definition of the index patient.

Methods: Recommendations are based on a literature review and the Panel's expert opinion with all recommendations graded with the Oxford grading system.

Results: All patients should receive a dipstick urinalysis before UDS to screen for bacteriuria or active UTI. Patients with symptomatic UTI should have the test postponed and those with asymptomatic bacteriuria can proceed with UDS after receiving prophylaxis. The first choice for prophylaxis is a single oral dose of trimethoprim-sulfamethoxazole as a first choice given before the test. There are several risk factors identified which increase the potential for UTI following invasive UDS testing. In the absence of any of these identified risk factors, there are several groups of individuals who do NOT require routine antibiotic prophylaxis including individuals without known relevant genitourinary anomalies, uncomplicated diabetics, those with prior genitourinary surgery, a history of recurrent UTI, post-menopausal women, recently hospitalized patients, patients with cardiac valvular disease and patients with nutritional deficiencies or obesity. The panel does recommend peri-procedure antibiotics for UDS in patients with known relevant neurogenic lower urinary tract dysfunction, elevated post void residual, asymptomatic bacteriuria, immunosuppression, age over 70 and patients with any form of indwelling catheter external device, or performing intermittent catheterization. Patients with orthopedic implants have a separate risk stratification outlined in the statement.

Conclusion: The recommendations in this document including the specific antimicrobials for UDS testing can assist urodynamic providers in the appropriate use of antibiotics for this procedure. Clinical judgment of the provider must always be considered in each case.
Colpocleisis is an excellent treatment for vaginal prolapse in women who are no longer interested in engaging in vaginal intercourse. It is minimally invasive (no entrance into the peritoneal cavity), has an over 90% success rate and few complications. Because it does not allow for continued vaginal intercourse it is more typically offered to older, perhaps more frail patients. In extremely frail patients it can be performed under sedation and local anesthesia. It can also be performed with a cervix/uterus in situ or post hysterectomy. If the cervix and uterus are to be left in-situ it is important to make sure the patient has had a recent pap smear and there is no evidence of uterine bleeding.

When there is significant anterior, posterior and apical prolapse a total or partial colpectomy is often performed. This involves removal of most of the vaginal epithelium and often closure of the anterior to the posterior underlying vaginal muscularis. Most techniques of colpocleisis also rely on an aggressive perineorrhaphy to ensure only a small vaginal introitus remains. In some cases when there is not much posterior prolapse an anterior colporrhaphy and possibly an apical procedure can be combined with an aggressive perineorrhaphy involving some of the distal posterior vaginal wall.

When the patient reports stress urinary incontinence or occult sui is demonstrated an anti-incontinence procedure, often a sling, is frequently done at the same time.

One of the causes of breakdown of the repair is thought to be hematoma formation. Thus it is important to make sure that reasonable hemostasis is maintained throughout the procedure.

This procedure can be done as a same day operation though as many of the patients who undergo colpocleisis are relatively frail some may be kept overnight for routine observation.

The discussion will review the indications, technique and outcomes of this often underutilized procedure.
Friday, March 3, 2017
7:00 a.m. – 8:30 a.m.

SUFU Biostatistics Review Course
April Slee, MS
Jennifer M. Wu, MD, MPH

Outline

I. Study Design (~ 30 min maximum)
   A. Overview of study design
   B. Types of study design
      i. Randomized trials
      ii. Case report/Case series
      iii. Cross sectional study
      iv. Cohort studies
      v. Case-control studies
   C. Determining the study design of example abstracts

II. Introductory Statistics (~ 30 min maximum)
   A. Statistical comparisons
      a. Descriptive statistics
         i. Choice of statistics to summarize variables
         ii. Which statistical test to use (for 2 and 3 groups)
      b. Outcomes
         i. Choice of models for various outcomes
         ii. Least-square means, hazard ratios, risk ratios and odds ratios
         iii. P-values and confidence intervals

III. Practice Questions and Examples; Q&A (~ 30 min minimum)
Friday, March 3, 2017
10:35 a.m. – 11:00 a.m.

Use of Allied Health Professionals (APP) in FPMRS Practice
Physician's Perspective
Scott A. MacDiarmid, MD

Advanced Practice Providers and Urology

The supply of urologists per capita in the US is declining, a trend that started in 1991 and one that continues to accelerate. In 2009 there were only 3.18 urologists per 100,000 in the population, a 30-year low and amongst the most severe specialty shortages. In addition, the “aging” urologist is a clinical reality with an average age of 52.5 years, of whom 18% are 65 years and older.

In 2014, the AUA recognized advanced practice urology nurses (APRN) and physician assistants (PAs) as “advanced practice providers (APPs)”. The AUA endorses the use of APPs in the care of genitourinary disease through a formally defined, supervisory role with a board-certified urologist.

Based on shortages of physicians and the ever increasing pressure to increase access and to reduce costs, APPs in medicine and urology are likely here to stay. Though many specialists like myself have mixed feelings regarding the role and benefits that APPs provide, I truly believe in team-based integrative medical care when its applied properly.

In this session we will discuss and hopefully debate the pros, cons, and even the potential risks of APPs in clinical practice, both private as well as in academics. We will concentrate on their clinical role, their degree of autonomy, and how APPs can be best used to help us deliver excellence to our patients. I’m hopeful that the session will be beneficial to all and that we can learn from one another.

Scott MacDiarmid, MD
Deciphering genital skin lesions can pose a particular challenge for healthcare providers across all specialties - including dermatology.

Multiple factors add to the diagnostic complexity of genital skin lesions. On one end of the spectrum, normal skin variants might mimic clinically significant abnormalities. Conversely, premalignant and malignant genital skin lesions might present as nonspecific, harmless looking lesions. Moreover, the same skin disease can take on different morphological forms on the genital skin depending on the patient gender, age, ethnicity, immune status and specific location within external genitals. Additionally, genital skin is notoriously exposed to sexually transmitted infections with more or less typical presentations that might be further complicated by coinfection. Furthermore, serious systemic skin diseases (such as psoriasis) might take on different morphologies on genital skin.

To make diagnostic challenges even more complex, most medical and surgical training programs provide very little (if any) dedicated training in general dermatology - and even less in genital dermatology. Even when training in the field of genital dermatology is available, it is rarely adequately structured to provide enough confidence and applicability in the setting of the typical, busy clinical practice.

Unfortunately, in the majority of medical text books, material is organized based on the concept that the diagnosis is already known. In contrast, in clinical practice, providers are faced with unknown conditions that require quick and accurate categorization. It is important to mention that genital dermatology contains innumerable diagnostic possibilities, each of which is loaded with countless additional relevant components related to etiology, prevalence, causes, prognosis, and treatment interventions. It would be quite unrealistic to expect that healthcare providers could possibly memorize all pertinent information. The key question is what and how much do we need to know in order to make correct diagnoses. Interestingly, once a diagnosis is properly established, all information germane to the condition is easily accessible in this day and age.

The aim of this State of Art presentation at the 2017 SUFU Winter meeting is to provide a practical guide for practitioners caring for female genitourinary dermatologic conditions with the goal of facilitating improvement in diagnostic accuracy and minimizing the level of stress, frustration and uncertainty that can be associated with the management of genital skin pathology. The discussion will be presented based upon four common clinical scenarios. Indications for laboratory testing, general treatment principles, and referral strategies will also be reviewed.

Scenario No1: Symptoms in the absence of visible genital lesions
Scenario No2: Normal variants that mimic clinically significant pathology
Scenario No3: Recognition of infectious lesions
Scenario No4: Identification of serious genital skin pathology

Principle No1: Indications for laboratory testing
Principle No2: General treatment approach
Principle No3: Referral strategies
Friday, March 3, 2017
5:00 p.m. – 6:00 p.m.

Breakout Session: Male Reconstruction
Gregory T. Bales, MD
Craig V. Comiter, MD
Ajay K. Singla, MD

During this breakout session on “male reconstruction” we will go beyond the typical lecture on urethral stricture disease or post prostatectomy incontinence. Instead, we will present three cases of complex urinary incontinence in men – and also go over the management of these patients.

1. Ajay Singla

59-year-old gentleman with severe PPI due to ISD. He had a bladder neck stricture postoperatively, managed with laser ablation x 3, and he ultimately had initial success with AUS, but after a catheter was placed by an emergency room physician (when the patient presented with appendicitis) he suffered an erosion at 18 months postoperatively. He subsequently had two more AUS surgeries, each resulting in erosion, and he now suffers from a refractory bladder neck stricture as well as urethral stricture at the site of the AUS erosions.
   a. Management options:
      i. ileal loop
      ii. urethral stricturoplasty plus 4th AUS
      iii. bladder neck closure and continent catheterizable stoma
      iv. continent diversion

2. Craig Comiter

25-year-old male with spinal cord injury. At age 19, he had an augmentation cystoplasty with appendicovesicostomy. He now suffers from neurogenic stress incontinence (ISD) per urethra and he also leaks per continent stoma with stressful activity.
   a. Management options:
      i. Male sling
      ii. AUS
      iii. Bladder neck closure
         1. plus revision/coaptite injection of catheterizable stoma

3. Greg Bales

52-year-old male with thoracic spinal cord injury and neurogenic bladder. He presents with a large sacral decubitus ulcer, referred by the plastic surgeons to have his fistula repaired prior to flap surgery. The fistula goes from his bulbar urethra to the sacral decubitus ulcer – and has occurred after having Foley catheter in place for 30 years. When the catheter is removed, he has total incontinence per urethra and per fistula. Bladder capacity is only 30 cc (the size of the Foley balloon).
   a. Management options:
      i. Ileal vesicostomy
         1. with or without bladder neck closure
         2. with or without fistula repair
      ii. Ileal loop urinary diversion
         1. With or without fistula repair
      iii. Augmentation cystoplasty with sling and CIC per urethra
         1. With or without fistula repair
      iv. Continent urinary diversion/catheterizable stoma
         1. With or without fistula repair

4. Audience cases – please consider preparing a summary of an interesting case for the panel and the audience to discuss.
Friday, March 3, 2017
5:00 p.m. – 6:00 p.m.

Breakout Session: Female Sexual Dysfunction
Karyn S. Eilber, MD, FPMRS
A. Lenore Ackerman, MD, PhD
Polina Reyblat, MD

Dr. Eilber, Director (5 minutes)
I. Female Sexual Dysfunction overview
   a. Incidence
   b. Classifications
   c. Introduction to hypoactive sexual desire disorder

Dr. Reyblat (20 minutes)
I. Hypoactive sexual desire disorder
   a. Review of disorder
   b. Prevalence/incidence
   c. Diagnostic criteria
   d. Treatment options
      i. Sex therapy
      ii. Pharmacotherapy/hormone replacement

II. Flibanserin
   a. History of FDA approval
   b. Pharmacology
   c. Indications
   d. Clinical studies

Dr. Ackerman (20 minutes)
I. Genitourinary syndrome of menopause
   a. Review of condition
      i. Physical changes
      ii. Changes in arousal/desire
   b. Normal serum hormone levels
   c. Pre and post – treatment labs
   d. Hormonal treatment options
   e. Non-hormonal treatment options

II. Flibanserin use in the elderly

Question and answers (10-15 minutes)
Proper Coding in FPMRS
Michael A. Ferragamo, Jr., MD, FACS

In recent times urologists and gynecologists are often involved in the performance of various uro-gynecological diagnostic and surgical procedures including an array of vaginal prolapse procedures and corrective urinary incontinence surgeries. This presentation will lead all attendees step by step through the accurate coding of these procedures. Knowledge of the coding/billing rules and processes will allow correct reimbursements and avoidance of denials and loss of payments.

Basic and advanced procedure coding will be explained using specific clinical examples, with modifier use, and correct use of ICD-10 codes. Coding tips for correct urogynecological procedure coding will be stressed with tips to get it right the first time.

Outline – The following topics will be discussed:

1. The only one 2017 new CPT code for GYN.
2. Proper coding for urodynamics and labioplasty.
3. Coding for removal of skin lesions of the perineum and vagina.
5. Coding for all types of vaginal slings and prolapses.
6. Coding for the use of mesh in pelvic surgical repairs and its removal.
7. How to bill for the use of laparoscopy/robotics in gyn surgery, use of unlisted CPT codes.
9. Coding of various fistula repairs, simple and complicated.
Basic Science Poster Session I
*Not CME Accredited
Tuesday, February 28, 2017
5:25 p.m. - 7:40 p.m.
Judges: Sang Don Koh, MD, PhD
John P. Lavelle, MB, FRCSI

Poster #BS1
HYPERGLYCEMIA INCREASES DETRUSOR SMOOTH MUSCLE ACTIVITY THROUGH A CAVEOLÆ DEPENDENT REGULATION OF RHO SIGNALING

Vivian Cristofaro, PhD¹,²; Josephine A. Carew, PhD¹,²; Suhas P. Dasari, BS¹,²; Raj K. Goyal, MD¹,²; Maryrose P. Sullivan, PhD¹,²
¹VA Boston Healthcare System, Harvard Medical School; ²Boston, MA
Presented By: Vivian Cristofaro

Poster #BS2
MULTIPLE SCLEROSIS IS ASSOCIATED WITH INCREASED FUNCTIONAL CONNECTIVITY IN LEFT AMYGDALA

Rose Khavari, MD¹; Christof Karmonik, PhD²; Michael Y. Shy, MD, PhD³; Aaron Kaviani, MD¹; Timothy B. Boone, MD, PhD¹
¹Department of Urology, Houston Methodist Hospital, Houston, TX; ²Methodist Research Institute, MRI Core, Houston, TX; ³Innovative Urology Practice of NY, Queens, NY
Presented By: Aaron Kaviani

Poster #BS3
SPINAL CORD INJURY AND DETRUSOR PDGFRβ+ CELLS

Haeyeong Lee, PhD; Byoung Koh, BS; Robert Corrigan, BS; Lauren Peri, BS; Kenton M. Sanders, PhD; Sang Koh, MD, PhD
Reno, NV
Presented By: Haeyeong Lee

Poster #BS4
AGING EFFECTS ON THE CENTRAL MOTOR CONTROL OF THE EXTERNAL ANAL SPHINCTER IN WOMEN

Yun Peng, MSc¹; Jinbao He, PhD²; Rose Khavari, MD³; Timothy B. Boone, PhD, MD³; Yingchun Zhang, PhD¹
¹Department of Biomedical Engineering, University of Houston, Houston, TX; ²Ningbo University of Technology, Ningbo, Zhejiang, China; ³Department of Urology, Houston Methodist Hospital, Houston, TX
Presented By: Yingchun Zhang

Poster #BS5
IDENTIFICATION OF SLOW WAVE PATTERN FROM ANORECTAL SMOOTH MUSCLES

Yun Peng MSc¹,²; Xinghua Yang, MD¹; Xuhong Li, MD³,²; Chuan Zhang, MSc⁴; Qingqing Li, MD¹; Yingchun Zhang, PhD²
¹Guangdong Provincial Work Injury Rehabilitation Center, Guangzhou, Guangdong, China; ²Department of Biomedical Engineering, University of Houston, Houston, TX; ³Department of Rehabilitation Medicine, the Third Xiangya Hospital, Central South University, Changsha, Hunan, China; ⁴University of Houston, Houston, TX
Presented By: Yingchun Zhang
Poster #BS6
OVARIECTOMIZED MICE PERSIST WITH OVERACTIVE VOIDING BEHAVIOR AFTER REPEATED INTRAVESICAL LIPOPOLYSACCHARIDE (LPS) EXPOSURE

Marian A. Acevedo, MD; Lery Alvarez-Lugo, MS; Ming Lu, MD; Toby C. Chai, MD
Yale, New Haven, CT
Presented By: Marian A. Alvarez

Poster #BS7
SHARED ALTERATIONS IN URINARY BACTERIAL COMMUNITIES IN PATIENTS WITH INTERSTITIAL CYSTITIS AND OVERACTIVE BLADDER

A. Lenore Ackerman, MD, PhD¹; Jie Tang, PhD²; Karyn S. Eilber, MD, FPMRS¹; Jayoung Kim, PhD³; J. Curtis Nickel, MD³; Garth Ehrlich, PhD⁵; David Underhill, PhD³; Jennifer T. Anger, MD, MPH, FPMRS¹
¹Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ²Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA; ³Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ⁴Department of Urology, Queen's University, Kingston, Ontario, Canada; ⁵Departments of Microbiology & Immunology and Otolaryngology-Head and Neck Surgery, Drexel University College of Medicine, Philadelphia, Pennsylvania.

Presented By: A. Lenore Ackerman

Poster #BS8
ALTERATIONS IN THE URINARY FUNGAL MYCOBIOME IN PATIENTS WITH BLADDER PAIN AND URINARY URGENCY

A. Lenore Ackerman, MD, PhD¹; Jennifer T. Anger, MD, MPH, FPMRS¹; Jie Tang, PhD²; Karyn S. Eilber, MD, FPMRS¹; Jayoung Kim, PhD³; Michael Freeman, PhD¹,²; David Underhill, PhD³
¹Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ²Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA; ³Departments of Medicine, Cedars-Sinai Medical Center, Los Angeles, CA

Presented By: A. Lenore Ackerman

Poster #BS9
DECREASED URINARY FUNGAL BURDEN AND DIVERSITY IN OVERACTIVE BLADDER

A. Lenore Ackerman, MD, PhD¹; Jie Tang, PhD²; Karyn S. Eilber, MD, FPMRS¹; Jayoung Kim, PhD³; Jennifer T. Anger, MD, MPH, FPMRS¹; David Underhill, PhD⁴; Michael Freeman, PhD⁵
¹Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ²Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA; ³Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ⁴Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA; ⁵Department of Medicine, Cedars-Sinai Medical Center, Los Angeles, CA

Presented By: A. Lenore Ackerman
Poster #BS10
OPTIMIZATION OF DNA EXTRACTION FROM HUMAN URINARY SAMPLES FOR MICROBIAL COMMUNITY PROFILING

A. Lenore Ackerman, MD, PhD¹; Karyn S. Eilber, MD, FPMRS¹; Jie Tang, PhD²; Jayoung Kim, PhD³; David Underhill, PhD⁴; Jennifer T. Anger, MD, MPH, FPMRS¹; Michael Freeman, PhD³
¹Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ²Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA; ³Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ⁴Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA; ⁵Department of Medicine, Cedars-Sinai Medical Center, Los Angeles, CA
Presented By: A. Lenore Ackerman

Poster #BS11
PROPOSAL FOR STANDARDIZATION AND OPTIMIZATION OF AWAKE CYSTOMETRY IN A MOUSE

Thomas M. Andersen, BSc¹; Chrissie Woien, BSc¹; Travis T. Mann-Gow, BSc²; Troy R. Larson, BSc²; Peter Zvara, MD, PhD¹
¹Odense, Denmark; ²Burlington, VT
Presented By: Thomas M. Andersen

Poster #BS12
URINARY METHYLATION PATTERNS IN WOMEN WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME

Megan S. Bradley, MD¹; Emily Burke, BS, MS²; Carole Grenier, BS³; Cindy L. Amundsen, MD¹; Susan Murphy, PhD³; Nazema Y. Siddiqui, MD, MHSc¹
¹Department of Obstetrics & Gynecology, Division of Urogynecology and Reconstructive Pelvic Surgery, Duke University Medical Center, Durham, NC; ²Department of Biostatistics and Bioinformatics, Duke University School of Medicine; ³Department of Obstetrics and Gynecology, Duke University Medical Center, Durham, NC
Presented By: Megan S. Bradley

Poster #BS13
STANDARDIZATION OF RNA PROCESSING FROM URINE SEDIMENT IN A CLINICAL SETTING

Megan S. Bradley, MD¹; Marie-Helene Boudreau²; Carole Grenier, BS²; Zhiqing Huang, PhD²; Susan Murphy, PhD²; Nazema Y. Siddiqui, MD, MHSc¹
¹Department of Obstetrics & Gynecology, Division of Urogynecology and Reconstructive Pelvic Surgery, Duke University Medical Center, Durham, NC; ²Department of Obstetrics and Gynecology, Duke University Medical Center, Durham, NC
Presented By: Megan S. Bradley

Poster #BS14
FEASIBILITY OF MEASURING BLADDER URINE OXYGEN TENSION

Megan Brady, MD¹; Madeline Genereux, MD²; Krystal Thomas-White, BS²; Danielle Johansen, BS²; Colleen M. Fitzgerald, MD²; Cynthia Brincat, MD, PhD²; Linda Brubaker, MD²; Alan J. Wolfe, PhD²; Elizabeth R. Mueller, MD, MSME²
¹Loyola University Medical Center; ²Maywood, IL
Presented By: Megan Brady
Poster #BS15
PERFORMANCE ASSESSMENT AND VALIDATION OF AN ENHANCED 12-RAT METABOLIC CAGE EQUIPPED WITH A NOVEL 100-GRAM LOAD CELL SENSOR INTERFACE

Amy D. Dobberfuhl, MD¹; Bertha Chen, MD²; Xiaoyuan Han, PhD¹; Edward Diaz, MD¹; Craig V. Comiter, MD¹
¹Stanford University, Dept. of Urology, Stanford, CA; ²Stanford University, Dept. of Obstetrics and Gynecology, Stanford, CA
Presented By: Amy D. Dobberfuhl

Poster #BS16
AMBULATORY AND CYSTOMETRIC RESPONSE FOLLOWING SINGLE VERSUS MULTIPLE ONABOTULINUMTOXINA DETRUSOR INJECTIONS IN A RAT MODEL OF OVERACTIVE BLADDER INDUCED BY INTRAVESICAL ACETIC ACID

Amy D. Dobberfuhl, MD¹; Bertha Chen, MD²; Xiaoyuan Han, PhD¹; Edward Diaz, MD¹; Craig V. Comiter, MD¹
¹Stanford University, Dept. of Urology, Stanford, CA; ²Stanford University, Dept. of Obstetrics and Gynecology, Stanford, CA
Presented By: Amy D. Dobberfuhl

Poster #BS17
ABERRANT BLADDER REFLEXES CAN DRIVE HIND LIMB LOCOMOTOR ACTIVITY FOLLOWING COMPLETE SUPRASACRAL SPINAL CORD INJURY

Brian M. Inouye, MD¹; Jillene M. Brooks, MS²; Danielle J. Degoski, BA²; Francis M. Hughes, Jr., PhD¹; J. Todd Purves, MD, PhD¹; Matthew O. Fraser, PhD²
¹Duke University Medical Center, Durham, NC; ²Institute for Medical Research, Durham, NC; ³Duke University and Durham VA Medical Centers
Presented By: Matthew O. Fraser

Poster #BS18
THE EFFECTS OF MYRBETRIQ ON DETRUSOR OVERACTIVITY ASSOCIATED WITH SUPRASACRAL SPINAL CORD INJURY (SCI) IN RATS

Jillene M. Brooks, MS¹; Danielle J. Degoski, BA¹; Matthew O. Fraser, PhD¹
¹Institute for Medical Research, Durham, NC; ²Duke University and Durham VA Medical Centers
Presented By: Matthew O. Fraser

Poster #BS19
AGING IS ASSOCIATED WITH LOWER URINARY TRACT DYSFUNCTION IN FEMALE RHESUS MACAQUES (MACACA MULATTA)

Leif Havton, MD, PhD¹; Evgeniy I. Kreydin, MD²; Kari Christe, DVM³
¹Departments of Neurology and Neurobiology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²Department of Urology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ³California National Primate Research Center, UC Davis, Davis, CA
Presented By: Leif Havton
Podium #1

**QUANTIFICATION AND RECONSTRUCTION OF 3D MICROVESSEL ARCHITECTURE BETWEEN THE VAGINA AND BLADDER**

Snehal Salunke, BS¹; Tova Ablowe, MD²; Teresa L. Danforth, MD³; Scott Doyle, PhD⁴
¹University at Buffalo, Department of Biomedical Engineering; ²University at Buffalo, Department of Obstetrics and Gynecology; ³University at Buffalo, Department of Urology; ⁴University at Buffalo, Department of Physiology and Anatomical Science & Department of Biomedical Engineering
Presented By: Snehal Salunke

Podium #2

**THE ROLE OF THE MUCOSA IN MODULATION OF EVOKED RESPONSES IN THE SPINAL CORD INJURED RAT BLADDER**

Claire Doyle, PhD¹; Bryan Sack, MD²; Kyle Costa, BSc³; Vivian Cristofaro, PhD⁴; Maryrose P. Sullivan, PhD⁵; Rosalyn M. Adam, PhD⁴
¹Boston Childrens Hospital & Harvard Medical School, Boston, MA; ²Boston Children's Hospital & Harvard Medical School, Boston, MA; ³Boston Children's Hospital, Boston, MA; ⁴VA Boston Healthcare System, West Roxbury & Harvard Medical School, Boston, MA; ⁵VA Boston Healthcare System, West Roxbury & Harvard Medical School, Boston, MA
Presented By: Claire Doyle

Podium #3

**NON-INVASIVE ELECTROMYOGRAPHIC ESTIMATION OF MOTOR UNIT NUMBER IN THE EXTERNAL ANAL SPHINCTER OF THE RAT**

Chuan Zhang, MSE¹,²; Alvaro Munoz, PhD²; Timothy B. Boone, MD, PhD²; Yingchun Zhang, PhD¹,²
¹Department of Biomedical Engineering, University of Houston, Houston, TX; ²Department of Urology, Houston Methodist Hospital, Houston, TX
Presented By: Yingchun Zhang

Podium #4

**QUANTIFICATION OF BLADDER WALL BIOMECHANICS DURING URODYNAMICS: A METHODOLOGIC INVESTIGATION USING ULTRASOUND**

Anna S. Nagle, PhD; Adam P. Klausner, MD; Jary Varghese, BS; Rachel Bernardo; Andrew F. Colhoun, MD; Paul H. Ratz, PhD; Wayne Barbee, PhD; Laura Carucci, MD; John Speich, PhD
*Virginia Commonwealth University, Richmond, VA*
Presented By: Anna S. Nagle

Podium #5

**BIG POTASSIUM CHANNEL (BK) ACTIVITY IN FEMALE MOUSE BLADDER UMBRELLA CELLS IS ENHANCED BY BACTERIAL LIPOPOLYSACCHARIDE: AN ACUTE HOST RESPONSE IN UTI PATHOGENESIS**

Ming Lu, MD; JianRi Li, MD; Yan Li, MD, PhD; Shan Yu, MD; Toby C. Chai, MD
*Yale, New Haven, CT*
Presented By: Toby C. Chai
Podium #6
TRPM4 CHANNEL CROSSTALK WITH SARCOPLASMIC RETICULUM IP3 RECEPTOR: NOVEL PHYSIOLOGICAL MECHANISM IN HUMAN DETRUSOR SMOOTH MUSCLE

Aaron Provence, BS¹; Eric S. Rovner, MD²; Georgi V. Petkov, PhD³
¹USC, Columbia, SC; ²MUSC, Charleston, SC; ³University of South Carolina
Presented By: Georgi V. Petkov

Podium #7
ALTERATIONS OF BRAIN FUNCTIONAL CONNECTIVITY IN STRESS INDUCED BLADDER HYPERALGESIA

Huiyi H. Chang, PhD; Zhou Wang, PhD; Yunliang Gao, PhD; Rong Zhang, PhD; Melissa T. Sanford, MD; Daniel Phillip Holschneider, MD; Larissa V. Rodriguez, MD, FPMRS
University of Southern California, Los Angeles, CA
Presented By: Melissa T. Sanford

Podium #8
MULTIPLE SCLEROSIS PATIENTS WITH BRAIN ATROPHY OR PONS LESIONS HAVE LOWEST FUNCTIONAL CONNECTIVITY BETWEEN RELATED BRAIN AREAS. A FINDING SHOWN BY CONCURRENT FUNCTIONAL MRI AND URODYNAMICS

Rose Khavari, MD¹; Christof Karmonik, PhD²; Michael Y. Shy, MD, PhD³; Aaron Kaviani, MD¹; Timothy B. Boone, MD, PhD¹
¹Department of Urology, Houston Methodist Hospital, Houston, TX; ²Methodist Research Institute, MRI Core, Houston, TX; ³Innovative Urology Practice of NY, Queens, NY
Presented By: Aaron Kaviani

Podium #9
CYCLOPHOSPHAMIDE-INDUCED OVERACTIVE BLADDER VIA DOWNREGULATION OF RELAXATION FACTORS IN DETRUSOR PDGFR?+ CELLS

Haeyeong Lee, PhD¹; Byoung Koh, BS¹; Robert Corrigan, BS¹; Lauren Peri, BS¹; Toby C. Chai, MD²; Kenton M. Sanders, PhD¹; Sang Koh, MD, PhD¹
¹Reno, NV; ²New Haven, CT
Presented By: Haeyeong Lee

Podium #10
MOLECULAR AND FUNCTIONAL EVIDENCE OF P2X4 RECEPTOR IN DETRUSOR SMOOTH MUSCLE

Vivian Cristofaro, PhD¹,²; Josephine A. Carew, PhD¹,²; Sean D. Carey, BS¹,²; Raj K. Goyal, MD¹,²; Maryrose P. Sullivan, PhD³
¹VA Boston Healthcare System, Harvard Medical School; ²Boston, MA; ³Boston, MA
Presented By: Vivian Cristofaro
Poster #BS20
MOLECULAR BIOLOGIC STUDY ABOUT THE CIRCADIAN RHYTHMIC CONTROL OF MICTURATION FUNCTION

Su Jin Kim, MD, PhD¹; Kyung Jin Chung, MD, PhD²; Sae Woong Kim, MD, PhD¹; Khae Hawn Kim, MD, PhD²; Sung Tae Cho, MD, PhD²; Hyeong Gon Kim, MD, PhD³; Hana Yoon, MD, PhD⁴
¹Department of Urology, Seoul St. Mary’s Hospital, The Catholic University of Korea College of Medicine, Seoul, South Korea; ²Department of Urology, Gachon University Gil Medical Center, Gachon University School of Medicine, Incheon, Korea; ³Department of Urology, College of Medicine, Hallym University, Seoul, South Korea; ⁴Department of Urology, Konkuk University School of Medicine, Konkuk University Medical Center, Seoul, South Korea
Presented By: Su Jin Kim

Poster #BS21
PREVENTIVE EFFECT OF PLANT COMBINATION ON DETRUSOR UNDERACTIVITY INDUCED BY BLADDER OUTLET OBSTRUCTION

Su Jin Kim, MD, PhD¹; Du Geon Moon, MD, PhD²; Hyun Cheol Jeong ¹; Woong Jin Bae, MD,PhD¹; Hyuk Jin Cho, MD, PhD¹; U Syn Ha, MD,PhD¹; Sung Hoo Hong, MD, PhD¹; Ji Youl Lee, MD, PhD¹; Sae Woong Kim, MD, PhD¹
¹Department of Urology, Seoul St. Mary’s Hospital, The Catholic University of Korea College of Medicine, Seoul, South Korea; ²Department of Urology, Korea University Guro Hospital, Seoul, South Korea
Presented By: Woong Jin Bae

Poster #BS22
EFFECT OF PLANT COMBINATION ON DETRUSOR OVERACTIVITY INDUCED BY BLADDER OUTLET OBSTRUCTION MEDIATED BY RHO KINASE PATHWAY

Su Jin Kim, MD, PhD¹; Du Geon Moon, MD, PhD²; Hyun Cheol Jeong, MD¹; Woong Jin Bae, MD,PhD¹; Hyuk Jin Cho, MD, PhD¹; U Syn Ha, MD,PhD¹; Sung Hoo Hong, MD, PhD¹; Ji Youl Lee, MD, PhD¹; Sae Woong Kim, MD, PhD¹
¹Department of Urology, Seoul St. Mary’s Hospital, The Catholic University of Korea College of Medicine, Seoul, South Korea; ²Department of Urology, Korea University Guro Hospital, Seoul, South Korea
Presented By: Woong Jin Bae

Poster #BS23
GLYCINE TRANSPORTER TYPE 2 (GLYT2) INHIBITOR AMELIORATES AUTONOMIC DYREFLEXIA AND DETRUSOR OVERACTIVITY IN INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME (IC/BPS) RAT MODEL

Jang-Hwan Kim, MD, PhD¹; Soo Young Moon, PhD¹; Hee Seo Son, MD, PhD¹; Mark Benson Gamo, MD¹; Jae Yup Hong, MD, PhD²
¹Department of Urology, Yonsei University College of Medicine, Severance Hospital Seoul, Republic of Korea; ²CHA University College of Medicine, CHA Bundang Medical Center, Seongnam, Korea
Presented By: Jang-Hwan Kim
Poster #BS24
QUANTITATIVE ELECTROMYOGRAPHY OF THE EXTERNAL ANAL SPHINCTER IN A PRIMATE MODEL OF AGING
Evgeniy I. Kreydin, MD¹; Kari Christe, DVM²; Leif Havton, MD, PhD³
¹Department of Urology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²California National Primate Research Center, UC Davis, Davis, CA; ³Departments of Neurology and Neurobiology, David Geffen School of Medicine at UCLA, Los Angeles, CA
Presented By: Evgeniy I. Kreydin

Poster #BS25
ANTI-VEGF TREATMENT DECREASES BLADDER PAIN IN CYCLOPHOSPHAMIDE CYSTITIS IN MICE
Baixin Shen, MD; Pooja Vijairania; Xiaowei Zhang, MD; Sherri Vogt; Robert Gereau, IV, PhD; H. Henry Lai, MD
Washington University School of Medicine, St. Louis, MO
Presented By: H. Henry Lai

Poster #BS26
ASSOCIATION OF POST-PROCEDURE ACUTE KIDNEY INJURY FOLLOWING PERIOPERATIVE ADMINISTRATION OF SODIUM FLUORESCIN
Emmanuel J. Mitsinikos, MD; Davida Becker, PhD; Christopher F. Tenggardjaja, MD
Presented By: Emmanuel J. Mitsinikos

Poster #BS27
REGULATORY ROLE OF UROTHELIAL P2X3R FOR CONTRACTILE RESPONSES IN PORCINE BLADDER STRIPS
Kristopher Hoffman¹; Betsy Salazar, PhD¹; Timothy B. Boone, MD, PhD²; Alvaro Munoz, PhD¹
¹Houston Methodist Research Institute, Houston, TX; ²Houston Methodist Research Institute and Department of Urology, Houston Methodist Hospital, Houston, TX
Presented By: Alvaro Munoz

Poster #BS28
BIOMECHANICAL TESTING OF COLLAGEN-BASED GELATION VERSUS PLANAR ELECTROCHEMICAL ALIGNMENT GRAFT FABRICATIONS OF BIOTEXTILES FOR PELVIC RECONSTRUCTIVE SURGERY
XingGuo Cheng, PhD¹; Nicole Edwards, BS, BME¹; Bradley C. Gill, MD, MS²; David R. Staskin, MD³; Raymond R. Rackley, MD⁴
¹Southwest Research Institute, San Antonio, TX; ²Cleveland Clinic, Cleveland, OH; ³Steward Health Tufts University School of Medicine, Boston, MA
Presented By: Raymond R. Rackley

Poster #BS29
AGEING OF THE FEMALE PELVIC FLOOR: THE EXPERIMENTAL EVIDENCE
Diaa E. Rizk, MSc, FRCOG, FRCS, MD¹; Mohamed Fahim, MS, PhD²
¹Department of Obstetrics and Gynecology, College of Medicine and Medical Sciences, Arabian Gulf University; ²Director, Neuro-Science Research Centre, Emirates College for Advanced Education, AbuDhabi, United Arab Emirates
Presented By: Diaa E. Rizk
Poster #BS30
CYTOKINE EXPRESSION ANALYSIS OF HUMAN MSC AND INJURED RAT TISSUE IN A MODEL OF STRESS URINARY INCONTINENCE INDUCED BY VAGINAL BIRTH TRAUMA

Zhina Sadeghi, MD¹,²; Jonathan Kenyon, PhD³; Sara Tomechko, PhD⁴; Patrick Leahy, PhD⁵; Arnold I. Caplan, PhD³; Adonis Hijaz, MD¹,²
¹University Hospitals Cleveland Medical Center; ²Case Western Reserve University, Department of Urology, Cleveland, OH; ³Department of Biology, Case Western Reserve University, Cleveland, OH; ⁴Center for Proteomics and Bioinformatics, Case Western Reserve University, Cleveland, OH; ⁵Case Comprehensive Cancer Center, Case Western Reserve University, Cleveland, OH
Presented By: Zhina Sadeghi

Poster #BS31
CORRELATION BETWEEN SPINAL CORD INJURY FORCE AND ELECTROMYOGRAPHIC CHARACTERISTICS OF THE LOWER URINARY TRACT IN FEMALE RATS: EFFECTS OF INTRAVESICAL P2X3R INHIBITION

Betsy Salazar, PhD¹; Kristopher Hoffman¹; Chuan Zhang, MS²; Yingchun Zhang, PhD²; Carolina Rivera, MS¹; Timothy B. Boone, MD, PhD³; Alvaro Munoz, PhD¹
¹Houston Methodist Research Institute, Houston, TX; ²Department of Biomedical Engineering, University of Houston, Houston TX; ³Houston Methodist Research Institute and Department of Urology, Houston Methodist Hospital, Houston, TX
Presented By: Betsy Salazar

Poster #BS32
ELECTRICAL SIGNALS IN THE LOWER URINARY TRACT DURING ISOVOLUMETRIC CYSTOMETRY: EFFECTS OF INTRAVESICAL INHIBITION OF MUSCARINIC RECEPTORS

Betsy Salazar, PhD¹; Kristopher Hoffman¹; Alejandra Tijerina¹; Chuan Zhang, MS²; Yingchun Zhang, PhD²; Timothy B. Boone, MD, PhD³; Alvaro Munoz, PhD¹
¹Houston Methodist Research Institute, Houston, TX; ²Department of Biomedical Engineering, University of Houston, Houston TX; ³Houston Methodist Research Institute and Department of Urology, Houston Methodist Hospital, Houston, TX
Presented By: Betsy Salazar

Poster #BS33
HCN1-INTERSTITIAL CELL INTERACTIONS CONTRIBUTE TO SYMPATHETIC RELAXATION OF MOUSE DETRUSOR

Iman Al-Naggar, PhD¹; Cara Hardy¹; Omar Taweh³; April Masters³; Laura Haynes, PhD³; Arie Mobley, PhD⁴; George Kuchel, MD¹; Phillip P. Smith, MD⁵
¹University of Connecticut, Farmington CT; ²University of Connecticut, Storrs, CT; ³University of Connecticut, Farmington, CT; ⁴Western New England University, Springfield, MA; ⁵University of Connecticut School of Medicine
Presented By: Phillip P. Smith

Poster #BS34
FLOW CHARACTERISTICS OF URETHRAL CATHETERS OF THE SAME CALIBER VARY BETWEEN MANUFACTURERS

Carrie A. Stewart, MD¹; Eiichiro Yamaguchi, PhD²; Jessica Teixeira Vaz²; Genevieve Mattei²; Donald Gaver, PhD²; Joseph Ortenberg, MD³
¹Tulane University School of Medicine; ²Tulane University, New Orleans, LA; ³Children’s Hospital, New Orleans, LA
Presented By: Carrie A. Stewart
Poster #BS35
FIBROTIC RESPONSE TO SYNTHETIC MIDURETHRAL SLING MESH IN WOMEN WITH COMPLICATIONS

Lauren E. Tennyson, MD¹; Stacy Palcsey, BS²; Rui Liang, MD²; Steve Abramowitch, PhD³; Pamela Moalli, MD, PhD²
¹Urology Resident, Pittsburgh, PA; ²Magee Women's Research Institute, Pittsburgh, PA; ³University of Pittsburgh School of Biomedical Engineering, Pittsburgh, PA
Presented By: Lauren E. Tennyson

Poster #BS36
A NOVEL MECHANISM FOR DETRUSOR UNDER-ACTIVITY MEDIATED BY MYOSIN LIGHT CHAIN PHOSPHORYLATION AND AMP-DEPENDENT KINASE

Randy Vince, MD¹; Ramanan Ramesh²; Amy Miner³; Anna S. Nagle, PhD³; Paul Ratz, PhD³; Wayne Barbee, PhD³; John Speich, PhD³; Adam P. Klausner, MD⁴
¹VCU Health Systems, Richmond, VA; ²VCU Department of Biochemistry, Richmond, VA; ³VCU Department of Bioengineering, Richmond, VA; ⁴VCU Division of Urology, Richmond, VA
Presented By: Randy Vince

Poster #BS37
THE CHARACTERISTICS AND PROGRESSION OF BACTERIAL BIOFILMS ON URINARY CATHETERS

Anh Nguyen, MS; Glenn T. Werneburg, PhD; Jason M. Kim, MD; Annie Rohan, PhD, FAANP; David Thanassi, PhD
Stony Brook University, Stony Brook, NY
Presented by: Glenn T. Werneburg
Abstract Listing

IC/Pelvic Pain/Geriatrics/BPH Podium Session
Thursday, March 2, 2017
1:00 p.m. - 2:20 p.m.
Moderators: Ja-Hong Kim, MD
Jennifer G. Rothschild, MD, MPH

Podium #1
CLINICAL ASSESSMENT OF A NOVEL Oligonucleotide Probe-Based Rapid Diagnostic Tool to Detect, Identify and Assess Antibiotic Susceptibility of Uropathogens

Seth A. Cohen, MD¹; Colin Halford, MS¹; Ja-Hong Kim, MD¹; Gabriel Monti, BS¹; Maziar Zarrehparvar, MS, MBA²; Warren Otto, BA²; Bernard M. Churchill, MD¹; David Haake, MD¹
¹Department of Urology, UCLA, Los Angeles, CA; ²MicrobeDx, Inc., Pacific Palisades, CA
Presented By: Seth A. Cohen

Podium #2
USE OF A BODY PAIN MAP TO CHARACTERIZE UROLOGIC CHRONIC PELVIC PAIN SYNDROME – A MAPP RESEARCH NETWORK STUDY

H. Henry Lai, MD¹; Thomas Jemielita, BA²; Catherine S. Bradley, MD³; Bruce Naliboff, PhD⁴; Robert Gereau, IV, PhD⁴; David A. Williams, PhD⁵; Karl J. Kreder, MD⁵; J. Quentin Clemens, MD⁵; Larissa V. Rodriguez, MD⁵; John Krieger, MD⁵; John Farrar, MD²; Nancy Robinson, PhD²; J. Richard Landis, PhD²
¹Washington University School of Medicine, St Louis, MO; ²University of Pennsylvania School of Medicine, Philadelphia, PA; ³University of Iowa School of Medicine, Iowa City IA; ⁴UCLA School of Medicine, Los Angeles, CA; ⁵University of Michigan School of Medicine, Ann Arbor, MI; ⁶University of Iowa School of Medicine, Iowa City, IA; ⁷USC School of Medicine, Los Angeles, CA; ⁸University of Washington School of Medicine, Seattle, WA
Presented By: H. Henry Lai

Podium #3
LONG-TERM EFFICACY OF ENDOSCOPIC ABBLATION OF THE HUNNER’S LESION IN PATIENTS WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME

Kwang Jin Ko, MD¹; Hyeong Gon Kim, MD, PhD²; Kyu-Sung Lee, MD, PhD¹
¹Department of Urology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea; ²Department of Urology, Konkuk University School of Medicine, Seoul, Korea
Presented By: Kyu-Sung Lee

Podium #4
FRAILTY AND THE ROLE OF OBLITERATIVE VERSUS RECONSTRUCTIVE SURGERY FOR PELVIC ORGAN PROLAPSE; A NATIONAL STUDY

Anne M. Suskind, MD, MS¹; Chengshin Jin, PhD²; Louise C. Walter, MD³; Emily Finlayson, MD, MS⁵
¹University of California, San Francisco Department of Urology; ²Department of Epidemiology and Biostatistics, University of California, San Francisco, CA; ³Division of Geriatrics, Department of Medicine, University of California, San Francisco, CA; ⁴Division of Geriatrics, Veterans Affairs Medical Center, San Francisco, CA; ⁵Department of Surgery, University of California, San Francisco, CA
Presented By: Anne M. Suskind
Podium #5
HEALTH LITERACY, COGNITION AND URINARY INCONTINENCE AMONG GERIATRIC INPATIENTS DISCHARGED TO SKILLED NURSING FACILITIES

Joshua A. Cohn, MD; Avantika Saraf, MPH; Kathryn Goggins, MPH; Sandra Simmons, PhD; Sunil Kripalani, MD, MSc; Roger R. Dmochowski, MD, MMHC, FACS; John Schnelle, PhD; W. Stuart Reynolds, MD, MPH
Vanderbilt University Medical Center, Nashville, TN
Presented By: Joshua A. Cohn

Podium #6
THE RISK OF SUICIDALITY AND DEPRESSION FROM 5-ALPHA REDUCTASE INHIBITORS: A POPULATION BASED COHORT STUDY

Blayne Welk, MD, MSc; Eric McArthur, MSc¹; Michael Ordon, MD, MSc²; Kelly Anderson, PhD³; Jade Hayward, BSc⁴; Stephanie Dixon, PhD¹
¹ICES Western; ²University of Toronto; ³Western University
Presented By: Blayne Welk

Podium #7
THE IMPACT OF DETRUSOR UNDERACTIVITY ON PATIENT SATISFACTION AFTER HOLEP: A PROSPECTIVE STUDY

Young Ju Lee; Bum Sik Tae; Seung-June Oh, MD, PhD
Seoul National University Hospital, Seoul, South Korea
Presented By: Young Ju Lee

Podium #8
MINIMALLY INVASIVE PROSTATIC URETHRAL LIFT (PUL) EFFICACIOUS IN A LARGE PERCENTAGE OF TURP CANDIDATES: A MULTICENTER GERMAN STUDY AFTER TWO YEARS

Bastian Amend, Dr¹; Martin Schthaler, Dr²; Richard Berges, Dr³; Bjorn Volkmar, Dr⁴; Christian Gratzeke, Dr⁵; Ulrich Wetterauer, Dr²; Karl-Dietrich Sievert MD, PhD, FACS, FRCS
¹Univ of Tubingen; ²Univ of Freiburg; ³Pan Clinic; ⁴Klinikum Kassel; ⁵Klinikum Munich; ⁶PMU
Presented By: Karl-Dietrich Sievert
Poster #M1
IS INITIAL RETENTION AFTER MACROPLASTIQUE® INJECTION A PREDICTOR OF SUCCESS?

Himanshu Aggarwal, MD, MS; Feras Alhalabi; Philippe E. Zimmern, MD, FACS, FPRMS
Baptist Medical Center South, AL
Presented By: Himanshu Aggarwal

Poster #M2
FACTORS ASSOCIATED WITH DURABILITY OF THERAPEUTIC BOTULINUM TOXIN A INJECTION FOR OVERACTIVE BLADDER

Jay Vance¹; Kristian D. Stensland, MD²; Bennett Sluis³; Arthur P. Mourtzinos, MD, MBA⁴; Lara MacLachlan, MD⁵
¹Lahey Hospital and Medical Center; ²Lahey Hospital and Medical Center, Burlington, MA
Presented By: Jay Vance

Poster #M3
NON-SURGICAL MANAGEMENT OF DETRUSOR LEAK POINT PRESSURES ABOVE 40 CM H2O IN ADULTS WITH CONGENITAL NEUROGENIC BLADDER

Giulia I. Lane, MD¹,²; Ronak Gor, MD³; Jenna R. Katorski, APRN, CNP, MS⁴; Sean P. Elliott, MD, MS⁵
¹University of Minnesota, Minneapolis; ²VA HCS, Minneapolis, MN; ³University of Minnesota, Minneapolis, MN; ⁴Gillette Lifetime Specialty Healthcare, St. Paul, MN
Presented By: Giulia I. Lane

Poster #M4
THE NEUROGENIC BLADDER SYMPTOM SCORE (NBSS): AN ASSESSMENT OF ITS EXTERNAL VALIDITY AND ABILITY TO DETECT CHANGE

Blayne Welk, MD, MSc; Sara M. Lenherr, MD, MSc¹; Sean P. Elliott, MD, MSc²; John T. Stoffel, MD²; Angela Presson, PhD, MSc¹; Chong Zhang, MSc¹; Kevin V. Carlson, MD, FRCSC⁴; Richard Baverstock, BSc, MD, FRCSC⁴; Jeremy B. Myers, MD¹
¹University of Utah; ²University of Minnesota; ³University of Michigan; ⁴University of Calgary
Presented By: Blayne Welk

Poster #M5
URODYNAMIC FINDINGS IN PATIENTS WITH BRAIN TUMOR CLASSIFIED BY LOCATION OF AFFECTED AREA

Hee Seo Son, MD, PhD¹; Mark Benson Gamo, MD¹; Jae Yup Hong, MD, PhD²; Jang Hwan Kim, MD, PhD¹
¹Department of Urology, Yonsei University College of Medicine, Severance Hospital Seoul, Republic of Korea; ²Department of Urology, CHA University College of Medicine, CHA Bundang Medical Center, Seongnam, Korea
Presented By: Hee Seo Son
Poster #M6
INTRA-DETRUSOR AND INTRA-AUGMENT INJECTION OF ONABOTULINUM TOXIN A IMPROVES REFRACTORY STORAGE SYMPTOMS AFTER AUGMENTATION CYSTOPLASTY

Robyn Roberts, MD¹; Julie N. Stewart, MD²; Timothy B. Boone, MD, PhD²; Laura M. Martinez, MD²; Aaron Kaviani, MD²; Rose Khavari, MD²
¹Department of Surgery, University of Texas Medical Branch, Galveston, TX; ²Department of Urology, Houston Methodist Hospital, Houston, TX
Presented By: Laura M. Martinez
Abstract Listing

*LUTS/Voiding Dysfunction/Neurogenic Bladder Non-Moderated Poster Session
Thursday, March 1, 2017
1:00 p.m. - 2:20 p.m.
*Not CME Accredited

Poster #NM1
DOES UREAPLASMA UREALYTICUM HAVE AN ACTIVE ROLE IN FEMALE LOWER URINARY TRACT SYMPTOMS?
Daniel T. Pucheril, MD, MBA¹; Solafa Elshatanoufy, MD, PharmD²; Vicki Irish, NP, MS²; Mireya Diaz, PhD²; Humphrey O. Atiemo, MD²
¹Vattikuti Urology Institute, Henry Ford Hospital; ²Vattikuti Urology Institute, Henry Ford Hospital, Detroit, MI
Presented By: Daniel T. Pucheril

Poster #NM2
LOW INCIDENCE OF CLEAN INTERMITTENT CATHETERIZATION WITH ONABOTULINUMTOXINA IN DIVERSE AGE GROUPS OF OVERACTIVE BLADDER PATIENTS WITH SUBSTANTIAL IMPROVEMENTS IN TREATMENT RESPONSE
Victor W. Nitti, MD¹; Eric S. Rovner, MD²; Marcus Drake, MA, DM, FRCS (Urol)³; Karel Everaert⁴; Sidney B. Radomski, MD, FRCS⁵; Christopher R. Chapple, BSc, MD, FRCS, FEBU⁶; David A. Ginsberg, MD⁷; Tamer Abousshwareb, MD, PhD⁸; Cheng-Tao Chang⁹; Roger R. Dmochowski, MD, MMHC, FACS¹⁰
¹New York University, New York, NY; ²Medical University of South Carolina, Charleston, SC; ³Bristol Urological Institute, Bristol, UK; ⁴Ghent University Hospital, Gent, Belgium; ⁵University of Toronto, Toronto, Canada; ⁶The Royal Hallamshire Hospital, Sheffield Teaching Hospitals, NHS Foundation Trust, Sheffield, UK; ⁷USC Institute of Urology, Los Angeles, CA; ⁸Allergan plc, Irvine, CA; ⁹Allergan plc, Bridgewater, NJ; ¹⁰Vanderbilt University Medical Center, Nashville, TN
Presented By: Victor W. Nitti

Poster #NM3
STAGED APPROACH TO SLING REMOVAL IN WOMEN PRESENTING WITH PAIN ONLY
Carlos Finsterbusch, MD; Feras Alhalabi; Philippe E. Zimmern, MD, FACS, FPRMS
UT Southwestern Medical Center, Dallas, TX
Presented By: Carlos Finsterbusch

Poster #NM4
WHAT’S WRONG WITH UAB PATIENTS?
Phillip P. Smith, MD¹; Gerard Pregenzer, MD²; Andrew Boylan, MD³; Jason Frankel, MD³; George Kuchel, MD⁴
¹University of Connecticut School of Medicine; ²St. Francis Hospital, Hartford, CT; ³University of Connecticut, Farmington, CT; ⁴University of Connecticut School of Medicine, Farmington, CT
Presented By: Phillip P. Smith

Poster #NM5
INFLUENCE OF LOWER URINARY TRACT SYMPTOMS ON PROFICIENCY OF URINARY INCONTINENCE KNOWLEDGE
Sophia D. Delpe, MD¹; Marsha K. Guess, MD²; Andrea Russo, MD²
¹Yale New Haven Hospital, New Haven, CT; ²Yale New Haven Hospital
Presented By: Sophia D. Delpe
Poster #NM6
ARE THERE ANY MODIFIABLE RISK FACTORS FOR URINARY TRACT INFECTION FOLLOWING ONABOTULINUMTOXINA INJECTION FOR OVERACTIVE BLADDER?

Rachel Sosland, MD¹; Joshua A. Cohn, MD¹; Casey Kowalik, MD¹; David J. Osborn, MD²; W. Stuart Reynolds, MD, MPH¹; Melissa R. Kaufman, MD, PhD¹; Douglas F. Milam, MD¹; Roger R. Dmochowski, MD, MMHC, FACS¹
¹Vanderbilt University, Nashville, TN; ²Walter Reed National Military Medical Center, Bethesda, MD,
Presented By: Rachel Sosland

Poster #NM7
ADVERSE EVENTS AFTER INTRADETRUSOR ONABOTULINUMTOXINA INJECTION IN IDIOPATHIC DETRUSOR OVERACTIVITY

Jason P. Gilleran, MD¹; Aaron Yunker²; Natalie P. Gaines, MD¹; Kenneth M. Peters, MD¹; Laura Nguyen, MD¹; Kim A. Killinger, MD¹; Jamie M. Bartley, DO¹; Jason P. Gilleran, MD¹; Judith A. Boura, MS¹; Larry T. Sirls, II, MD¹
¹Beaumont Health, Royal Oak, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Jason P. Gilleran

Poster #NM8
COST-EFFECTIVENESS OF BEST SUPPORTIVE CARE VS. ONABOTULINUMTOXINA, ORAL THERAPIES, PERCUTANEOUS TIBIAL NERVE STIMULATION, AND SACRAL NERVE STIMULATION FOR TREATING OVERACTIVE BLADDER—CLINICAL ASPECTS

Roger R. Dmochowski, MD, MMHC, FACS¹; Sam H. Hessami²; Dmitry Guiltyaev³; Johanna Lister³; Kristin M. Khalaf⁴; Robert Boer⁵
¹Vanderbilt University Med Center, Nashville, TN; ²New York Medical College, Valhalla, NY; ³La-Ser Analytica, Lorrach, Germany; ⁴Xcenda, Palm Harbor, FL; ⁵Allergan, plc, Irvine, CA
Presented By: Roger R. Dmochowski

Poster #NM9
USE OF ELECTRONIC QUESTIONNAIRES TO PROVIDE PATIENT-CENTRIC HEALTHCARE IN OVERACTIVE BLADDER

Cristina J. Palmer, DO; Bilal Farhan, MD; Tuyen Hoang; Lishi Zhang; Danh Nguyen; Rebecca Do; Nobel Nguyen, BS; Gamal M. Ghoniem, MD, FACS
University of California Irvine, Orange, CA
Presented By: Cristina J. Palmer

Poster #NM10
INCREASED PULSE-WAVE VELOCITY AS A RISK FACTOR FOR LOWER URINARY TRACT SYMPTOMS IN MEN

Ji-Yeon Han, MD, PhD¹; Young-Suk Lee, MD, PhD²
¹Pusan National University Yangsan Hospital; ²Samsung Changwon Hospital Sungkyunkwan University School of Medicine
Presented By: Ji-Yeon Han

Poster #NM11
IMPACT OF GENDER ON TREATMENT JOURNEY FOR PATIENTS WITH OVERACTIVE BLADDER

Amanda S. J. Chung, BSc, MBBS, MS, FRACS; Jennifer Miles-Thomas, MD; Jessica DeLong, MD; Ramon Virasoro, MD; Jeremy Tonkin, MD; Kurt A. McCammon, MD
Eastern Virginia Medical School, Norfolk, VA
Presented By: Amanda S.J. Chung
Poster #NM12
CORRELATION BETWEEN SYMPTOM SEVERITY, BOTHER AND SEVERITY OF THE UNDERLYING CONDITION IN PATIENTS WITH LOWER URINARY TRACT SYMPTOMS

Jerry G. Blaivas, MD¹; Amy L. O'Boyle, MD, FACOG, FACS²; David C. Chaikin, MD³; Zahava Hirsch, BS⁴; Yehuda Herman⁵; Lucas Policastro, BS⁶
¹Clinical Professor of Urology at Weill Cornell Medical School, New York, NY; ²Walter Reed National Military Medical Center, Bethesda, MD; ³Vice Chairman of Urology Morristown Memorial Hospital, Morristown, NJ; ⁴Urocenter of New York, New York, NY; ⁵Queens College, Queens, NY; ⁶Downstate Medical College, Brooklyn, NY
Presented By: Jerry G. Blaivas

Poster #NM13
THE EFFICACY OF SACRAL NEUROMODULATION FOR TREATMENT OF MALEVOIDING DYSFUNCTION

Rachel Barratt, MBBS; Marco Spilotros, MD, FEBU; Mahreen Pakzad, MD, FRCS, MB ChB; Jeremy L. Ockrim, MD, FRCS, MB ChB; Tamsin J. Greenwell, MD, FRCS, MB ChB; Rizwan Hamid, MSc, FRCS (Urol), MB ChB
UCLH Urology, UCLH, London, UK
Presented By: Rachel Barratt

Poster #NM14
A CROSS SECTIONAL STUDY OF THE CATHETER MANAGEMENT OF NEUROGENIC BLADDER AFTER TRAUMATIC SPINAL CORD INJURY

Giulia I. Lane, MD¹,²; Amy Driscoll, BSN, CURN, CCCN³; Kyrollos Tawfik, MD⁴; Kristin L. Chrouser, MD⁵
¹University of Minnesota, Minneapolis; ²VA HCS, Minneapolis, MN; ³Minneapolis VA Health Care System, Minneapolis, MN; ⁴University of Tennessee Health Science Center; ⁵University of Minnesota, Minneapolis and Minneapolis VA HCS, MN
Presented By: Giulia I. Lane

Poster #NM15
IMPROVEMENT IN PATIENT-REPORTED TREATMENT BENEFIT AND HEALTH-RELATED QUALITY OF LIFE FOLLOWING TREATMENT WITH SER120 AMONG PATIENTS WITH NOCTURIA

Eric S. Rovner, MD¹; Jason B. Bennett, MD²; Steven Abrams³; Kristin M. Khalaf³; Linda Cheng⁵; Seymour Fein⁵; Roger R. Dmochowski, MD, MMHC, FACS⁶
¹MUSC, Charleston, SC; ²Grand Rapids Women’s Health, Grand Rapids, MI; ³Allergan, plc, Irvine, CA; ⁴Xcenda, Palm Harbor, FL; ⁵Serenity Pharmaceuticals, LLC, Milford, PA; ⁶Vanderbilt University Med Center, Nashville, TN
Presented By: Eric S. Rovner

Poster #NM16
HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN ADULT PATIENTS WITH NOCTURIA – USE OF A NEW NOCTURIA-SPECIFIC PATIENT-REPORTED OUTCOME (PRO) MEASURE

Benajmin M. Brucker, MD¹; Kevin T. McVary, MD, FACS³; Steve Kawahara⁴; Riya Pulicharam⁵; Amy Tung⁴; Caroline Burk³; Roger R. Dmochowski, MD, MMHC, FACS⁶
¹New York University, New York, NY; ²Southern Illinois University, Springfield, IL; ³Davita Medical Group, El Segundo, CA; ⁴Allergan, plc, Irvine, CA; ⁵Health Outcomes Consultant, Laguna Beach, CA; ⁶Vanderbilt University Med Center, Nashville, TN
Presented By: Benjamin M. Brucker
Poster #NM17
INTRAVESICAL INJECTION OF HIGHLY PURIFIED BOTULINUM TOXIN [INCOTOTULINUMTOXIN A (XEOMIN)] FOR NEUROGENIC BLADDER

Denise A. Asafu-Adjei, MD, MPH¹; Alexander Small, MD¹; Cory Harris, MD²; Glen W. McWilliams, MD²; Doreen E. Chung, MD, FRCSC¹
¹New York Presbyterian Hospital/Columbia University Medical Center, New York, NY; ²James J. Peters Veterans Affairs Medical Center, New York, NY
Presented By: Denise A. Asafu-Adjei

Poster #NM18
THE ADULT SPINA BIFIDA PATIENT: DOES A DELAY IN REFERRAL IMPACT URODYNAMIC FINDINGS AND CLINICAL OUTCOMES? RECOMMENDATIONS FOR TRANSITION OF CARE.

Jessica Eastman¹; Catherine J. Harris, MD¹; Catherine M. Howard, BS²; Gary E. Lemack, MD¹
¹Dallas, TX; ²El Paso, TX
Presented By: Catherine J. Harris

Poster #NM19
DIFFERENCES IN BLADDER-RELATED QUALITY OF LIFE AFTER SPINAL CORD INJURY

Sara M. Lenherr, MD, MS¹; Darshan Patel, MD¹; Ronak A. Gor, DO²; Shyam Sukumar, MD²; Sean P. Elliott, MD, MS²; Amitabh Jha, MD, MPH¹; Angela P. Presson, PhD, MS¹; Chong Zhang, MS¹; Jeffrey Rosenbluth, MD, MPH¹; John T. Stoffel, MD²; Blayne Welk, MD, MSc⁴; Jeremy B. Myers, MD¹
¹University of Utah, Salt Lake City, UT; ²University of Minnesota, Minneapolis, MN; ³University of Michigan, Ann Arbor, MI; ⁴Western University, London, Ontario, Canada
Presented By: Sara M. Lenherr

Poster #NM20
PERMANENT CUTANEOUS VESICOSTOMY URINARY DIVERSION IN ADULTS WITH MYELOMENINGOCELE

Whitney R. Smith, MD; Patricia Zahner, MD; Alana M. Murphy, MD; Akhil K. Das, MD; Amar J. Raval, MD; Patrick J. Shenot, MD, FACS
Thomas Jefferson University Hospital, Philadelphia, PA
Presented By: Whitney R. Smith

Poster #NM21
ADULT MYELOMENINGOCELE PATIENTS WITH CHILDHOOD AUGMENTATION CYSTOPLASTY ARE AT HIGH RISK FOR RENAL ABNORMALITIES AND REQUIRE CLOSE UROLOGIC SURVEILLANCE

Jessica Eastman¹; Catherine J. Harris, MD¹; Catherine M. Howard, BS²; Gary E. Lemack, MD¹
¹Dallas, TX; ²El Paso, TX
Presented By: Catherine J. Harris

Poster #NM22
SELF REPORTED ANCILLARY BENEFITS FROM BLADDER CHEMODENERVATION IN SPINAL CORD INJURY (SCI) PATIENTS

Brandon Haynes, MD; Nathan C. Osbun, MD; Claire C. Yang, MD
Department of Urology, University of Washington, Seattle, WA
Presented By: Brandon Haynes
Male Incontinence/Urodynamics Moderated Podium Session
Thursday, March 2, 2017
5:15 p.m. - 6:45 p.m.

Moderators: Jaspreet S. Sandhu, MD
O. Lenaine Westney, MD

Podium #9
ASSOCIATION BETWEEN EARLY POSTOPERATIVE URINARY RETENTION AND OUTCOMES AFTER ADVANCE SLING INSERTION FOR TREATMENT OF MALE STRESS URINARY INCONTINENCE

Amanda A.J. Chung, BSc/MBBS, MS, FRACS; Jack M. Zuckerman, MD; Oscar Suarez, MD; Kurt A. McCammon, MD
Eastern Virginia Medical School, Norfolk, VA
Presented By: Amanda S.J. Chung

Podium #10
ARTIFICIAL URINARY SPHINCTER REVISION WITH QUICK-CONNECTORS VERSUS SUTURE-TIE CONNECTORS: DO THE DIFFERENT TECHNIQUES MAKE A DIFFERENCE?

Joseph A. Scales, MD; Brian J. Linder, MD; Laureano Rangel, MS, MSc; Daniel S. Elliott, MD
Mayo Clinic, Rochester, MN
Presented By: Joseph Scales

Podium #11
COMPARATIVE URINARY FUNCTION AND INTERVENTIONS FOR VOIDING DYSFUNCTION AFTER RADICAL PERINEAL PROSTATECTOMY VERSUS ROBOTIC-ASSISTED LAPAROSCOPIC PROSTATECTOMY

Alyssa K. Greiman, MD¹; William H. Rawls, BS²; Barry Keane, BS²; Jonathan C. Picard, MD³; Harry S. Clarke, MD, PhD³; Sandip M. Prasad, MD, MPhili; Thomas E. Keane, MD, ChB, FRCSI, FACS³; Lindsey Cox, MD³
¹Department of Urology, Medical University of South Carolina, Charleston, SC; ²Medical University of South Carolina, Charleston, SC; ³Roper St. Francis Hospital, Department of Urology, Charleston SC, Charleston, SC
Presented By: Alyssa K. Greiman

Podium #12
VALSALVA LEAK-POINT PRESSURE (VLPP) GREATER THAN 70 CM H2O IS AN INDICATOR FOR SLING SUCCESS: A SUCCESS PREDICTION MODEL FOR THE MALE TRANSOBTURATOR SLING

Divya Ajay, MD, MPH¹; Bradley A. Potts, MD²; Andrew C. Peterson, MD, FACS²
¹Duke University Medical Center, Durham, NC; ²Walter Reed Medical Center; ³Duke University Medical Center, Durham, NC
Presented By: Divya Ajay

Podium #13
OUTCOMES WITH LIMITED ANTIBIOTIC USE FOLLOWING ARTIFICIAL URINARY SPHINCTER PLACEMENT ACCORDING TO AUA BEST PRACTICE POLICY

Temitope Rude, MD; Alice Drain, BA; Victor W. Nitti, MD
NYU Department Urology, New York, NY
Presented By: Temitope Rude
Podium #14
URODYNAMICS PARAMETERS AND OUTCOMES IN WOMEN VOIDING BY VALSALVA UNDERGOING SLING PLACEMENT

Casey Kowalik, MD¹; Joshua A. Cohn, MD¹; W. Stuart Reynolds, MD, MPH¹; Melissa R. Kaufman, MD, PhD¹; Roger R. Dmochowski, MD, MMHC, FACS¹; Alexander Gomelsky, MD²
¹Vanderbilt University Medical Center, Nashville, TN; ²Louisiana State University- Shreveport, Shreveport, LA
Presented By: Casey Kowalik

Podium #15
CAN URODYNAMIC PARAMETERS PREDICT SLING REVISION FOR VOIDING DYSFUNCTION IN WOMEN UNDERGOING SYNTHETIC MIDURETHRAL SLING PLACEMENT?

Brian J. Linder, MD¹; Emanuel C. Trabuco, MD, MS²; John Gebhart, MD, MS²; Christopher Klingele, MD, MS²; John Occhino, MD, MS²; Daniel S. Elliott, MD²; Deborah J. Lightner, MD²
¹Mayo Clinic, Rochester, MN; ²Mayo Clinic
Presented By: Brian J. Linder

Podium #16
TRENDS IN URODYNAMIC TESTING PRIOR TO MIDURETHRAL SLING PLACEMENT - WHAT WAS THE VALUE OF THE VALUE TRIAL?

Jessica C. Lloyd, MD; Elodi Dielubanza, MD; Juan Guzman, MD; Henry T. Okafor, MD; Howard B. Goldman, MD
Cleveland, OH
Presented By: Jessica C. Lloyd

Podium #17
PHYSIOLOGIC FACTORS THAT DETERMINE VOLUNTARY DETRUSOR CONTRACTION DURATION IN MALES

Henry H.Y. Tran, MD¹; Arindam RoyChoudhury, PhD²; Carrie M. Mlynarczyk, MD¹; Marissa Theofanides, MD¹; Gina Badalato, MD¹; Matthew P. Rutman, MD¹; Doreen E. Chung, MD, FRCSC¹
¹Columbia University Department of Urology, New York, NY; ²Columbia University, New York, NY
Presented By: Henry H.Y. Tran
Female Urology/Incontinence Moderated Poster Session
Thursday, March 2, 2017
5:15 p.m. - 6:45 p.m.

Moderators: Michael E. Albo, MD
Alvaro Lucioni, MD

Poster #M7
PSYCHOSOCIAL FACTORS, SLEEP, AND PHYSICAL FUNCTION IN WOMEN WITH LOWER URINARY TRACT SYMPTOMS

Nazema Y. Siddiqui, MD, MHS¹; Anne P. Cameron, MD²; David Cella, PhD³; Catherine S. Bradley, MD, MSCE⁴; H. Henry Lai, MD⁵; Margaret E. Helmuth, MA⁶; Jonathan Wiseman, MS⁷; James W. Griffith, PhD⁸; Cindy L. Amundsen, MD⁹; Kimberly S. Kenton, MD¹⁰; J. Quentin Clemens, MD¹¹; Karl J. Kreder, MD, MBA¹²; Robert M. Merion, MD, FACS¹³; Ziya Kirkali, MD¹⁴; Margaret E. Helmuth, MA¹⁵, John W. Kusek, PhD¹⁶
¹Duke University Medical Center, Durham, NC; ²University of Michigan, Ann Arbor, MI; ³Department of Medical Social Sciences, Feinberg School of Medicine, Northwestern University, Chicago, IL; ⁴Dept. Ob-Gyn, University of Iowa Carver College of Medicine, Iowa City, IA; ⁵Washington University School of Medicine, St. Louis, MO; ⁶Arbor Research Collaborative for Health, Ann Arbor, MI; ⁷Northwestern University, Chicago, IL; ⁸Department of Obstetrics and Gynecology, Duke University, Durham, NC; ⁹University of Iowa, Iowa City, IA; ¹⁰National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD
Presented By: Nazema Y. Siddiqui

Poster #M8
LOW SERUM TESTOSTERONE IS ASSOCIATED WITH INCREASED STRESS AND MIXED INCONTINENCE IN WOMEN

Evgeniy I. Kreydin, MD¹; Zaid Chaudhry, MD²; Janine L. Oliver, MD¹; Shlomo Raz, MD¹
¹Department of Urology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²Department of Obstetrics and Gynecology, David Geffen School of Medicine at UCLA, Los Angeles, CA
Presented By: Evgeniy I. Kreydin

Poster #M9
A RANDOMIZED, DOUBLE-BLIND, MULTICENTER, PLACEBO-CONTROLLED STUDY OF AUTOLOGOUS MUSCLE DERIVED CELLS FOR URINARY SPHINCTER REPAIR (AMDC-USR)

Lesley Carr, MD, FRCSC¹; Le Mai Tu, MD²; Magali Robert, MD³; David Quinlan, MBCH⁴; Kevin V. Carlson, MD, FRCS⁵; Sender Herschorn, BSc, MDCM, FRCSC¹; Roger R. Dmochowski, MD, MMHC, FACS⁶; Ron Jankowski, PhD⁷; Michael B. Chancellor, MD⁸
¹Sunnybrook Health Sciences Centre, Toronto, ON; ²Centre Hospitalier Universitaire de Sherbrooke, Sherbrooke, QC; ³Foothills Medical Centre, Calgary, AB; ⁴Victoria Gynecology and Continence Clinic, Victoria, BC; ⁵Southern Alberta Institute of Urology, Calgary, AB; ⁶Vanderbilt University Hospital, Nashville, TN; ⁷Cook MyoSite, Incorporated, Pittsburgh, PA; ⁸William Beaumont Hospital, Royal Oak, MI
Presented By: Sender Herschorn

Poster #M10
CONCOMITANT TREATMENT OF STRESS URINARY INCONTINENCE AND GYNECOLOGIC ONCOLOGY SURGERY: ARE WE UNDERTREATING?

Dennis J. Thum, MD¹; Lauren N. Wood, MD²; Ariel Moradzadeh, MD³; Alex Hannemann, BS⁴; Andy Li, MD²; A. Lenore Ackerman, MD, PhD¹; Jennifer T. Anger, MD, MPH, FPMRS¹; Karyn S. Eilber, MD, FPMRS¹
¹Cedars Sinai Medical Center, Los Angeles, CA; ²UCLA, Los Angeles, CA; ³Cedars Sinai Medical Center
Presented By: Dennis J. Thum
Poster #M11
EFFECTS OF GROUP REHABILITATION UPON WOMEN UNDERGOING SURGERY FOR OBSTETRIC FISTULA

Pooja S. Parameshwar, BS¹; Musa Kayondo, MD²; A. Lenore Ackerman, MD, PhD¹; Jennifer T. Anger, MD, MPH, FPMRS¹; Christopher Tarnay, MD³
¹Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ²Department of Obstetrics & Gynecology, Mbarara University of Science and Technology, Mbarara, Uganda; ³Department of Obstetrics & Gynecology, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA
Presented By: Pooja S. Parameshwar

Poster #M12
WHAT IS THE TRUE RATE OF URINARY RETENTION REQUIRING CATHETERIZATION AFTER BOTOX INJECTION?

Juzar Jamnagerwalla, MD; Devin Patel, MD; Justin Houman, MD; Jennifer T. Anger, MD, MPH, FPMRS; Karyn S. Eilber, MD
Cedars-Sinai Medical Center, Los Angeles, CA
Presented By: Juzar Jamnagerwalla

Poster #M13
WHERE DO WOMEN GO FOR URETHRAL SLING REVISIONS? GEOGRAPHIC MIGRATION PATTERNS IN CALIFORNIA

Kai B. Dallas, MD¹; Lisa Rogo-Gupta, MD¹; Christopher S. Elliott, MD, PhD²
¹Stanford, CA; ²Stanford, CA
Presented By: Kai B. Dallas

Poster #M14
PREVENTATIVE CONCOMITANT SLING FOR DE-NOVO STRESS URINARY INCONTINENCE AFTER ROBOTIC SACRAL COLPOPEXY DOES NOT IMPROVE LONG TERM CONTINENCE OR SATISFACTION

Charles R. Powell, II, MD¹; Bridget Eckrich, BS²; Jeffrey Rothenberg, MD³; Thomas A. Gardner, MD²
¹Indiana University School of Medicine Department of Urology; ²Indiana University; ³St. Vincent Health
Presented By: Charles R. Powell, II

Poster #M15
COMPLEX HORSESHOE MULTILOCULATED URETHRAL DIVERTICULUM REPAIR

Philippe E. Zimmern MD, FACS, FPRMS
UT Southwestern Medical Center
Presented By: Philippe E. Zimmern

Poster #M16
IMPROVED COMPLIANCE WITH PELVIC FLOOR THERAPY AMONG PATIENTS MEETING WITH A PHYSICAL THERAPIST AT TIME OF INITIAL UROGYNECOLOGIC EVALUATION

Amy H. Lim, MD, PhD; Hayley Barnes, MD; Heidi Brown, MD; Dobie Giles, MD, MS; Sarah E. McAchran, MD
Madison, WI
Presented By: Amy H. Lim
Poster #M17
COMPARING THE VAGINAL WALL SLING WITH AUTOLOGOUS RECTUS FASCIA AND POLYPROPYLENE SLING ON OUTCOME AND PATIENT SATISFACTION

Mohamed Keheila, MD; Marina Germanos, BS; Joo H. Kim, MPH; Isaac L. Kelly, MD; Matthew Pierce, MD; Andrea Staack, MD, PhD
Loma Linda University Department of Urology, Loma Linda, CA
Presented By: Mohamed Keheila

Poster #M18
UNPLANNED HOSPITAL VISITS IN THE FIRST 30 DAYS AFTER URETHRAL SLING PROCEDURES - A STATEWIDE ANALYSIS OF CALIFORNIA

Kai B. Dallas, MD; Christopher S. Elliott, MD, PhD
Stanford, CA
Presented By: Kai B. Dallas

Poster #M19
PATIENT KNOWLEDGE AND PERCEPTIONS OF PRIOR SURGERY FOR STRESS URINARY INCONTINENCE OR PELVIC ORGAN PROLAPSE

Wai Lee, MD¹; Andrew Chen, BA¹; Kailash Kapadia, BS¹; Justina Tam, MD¹; Evan Shreck, MD²; Jason M. Kim, MD¹
¹Department of Urology, Stony Brook Medicine, Stony Brook, NY; ²Department of Urology, Montefiore Medical Center, Bronx, NY
Presented By: Wai Lee

Poster #M20
CAN URETHRAL BULKING AGENTS SALVAGE FAILED SLINGS?

Elizabeth V.H. Dray, MD¹; Anne K. Pelletier-Cameron, MD, FPMRS¹; Marybeth Hall, BS²; J. Quentin Clemens, MD¹; John T. Stoffel, MD¹
¹NPR Division, University of Michigan, Ann Arbor, MI; ²University of Michigan Medical School, Ann Arbor, MI
Presented By: Elizabeth V.H. Dray

Poster #M21
MANAGEMENT OF URODYNAMIC STRESS URINARY INCONTINENCE IN URETHRAL DIVERTICULUM

Rachel Barratt, MBBS; Sachin Malde, MSc (Urol), FRCS, MBBS; Marco Spilotros, FEBU, MD; Mahreen Pakzad, MD, FRCS, MB ChB; Rizwan Hamid, MSc, FRCS (Urol), MB ChB; Jeremy Ockrim, MD, FRCS, MB ChB; Tamsin J. Greenwell, MD, FRCS, MB ChB
UCLH Urology, UCLH, London, UK
Presented By: Rachel Barratt

Poster #M22
MONOCYTE CHEMOTACTIC PROTEIN-1 (MCP-1) URINARY LEVEL IN PATIENT WITH OAB BEFORE AND AFTER TREATMENT

Bilal Farhan, MD¹; Ahmed Ahmed, MD²; Michael Weingart, MD²; Frank Zaldivar, MD²; Gamal M. Ghoniem, MD, FACS²
¹Irvine, California; ²Irvine, CA
Presented By: Bilal Farhan
Poster #M23
PREPARATION AND IN-VITRO EVALUATION OF ELECTROCHEMICAL ALIGNED COLLAGEN BIOTECHTILE DEVICE GRAFT FOR PELVIC RECONSTRUCTION

XingGuo Cheng, PhD¹; Nicole Edwards, BS, BME¹; Brad C. Gill, MD, MS²; David R. Staskin, MD³; Raymond R. Rackley, MD²
¹Southwest Research Institute, San Antonio, TX; ²Cleveland Clinic, Cleveland, OH; ³Steward Health Tufts University School of Medicine, Boston, MA
Presented By: Raymond R. Rackley, MD
Abstract Listing

*Female Urology/Incontinence Non-Moderated Poster Session
Thursday, March 2, 2017
5:15 p.m. - 6:45 p.m.
*Not CME Accredited

Poster #NM23
COMPLIANCE WITH PRESCRIBED PELVIC FLOOR PHYSICAL THERAPY IN A DIVERSE UROGYNECOLOGY POPULATION
Megan Brady, MD¹; Madeline Genereux, MD³; Cynthia Brincat, MD, PhD²; Linda Brubaker, MD³; Elizabeth R. Mueller, MD, MSME²; Colleen M. Fitzgerald, MD²
¹Loyola University Medical Center; ²Maywood, IL
Presented By: Megan Brady

Poster #NM24
TITLE: PATIENTS HAVE POOR UNDERSTANDING OF COMMON FEMALE PELVIC MEDICINE PROBLEMS: A PROSPECTIVE QUESTIONNAIRE OF UROLOGY AND GYNECOLOGY PATIENTS
Olga Povcher, MD; Anh Nguyen, BS; Wai Lee, MD; William T. Berg, MD; Andrew Chen, BS; Jason M. Kim, MD
Stony Brook, New York, NY
Presented By: Olga Povcher

Poster #NM25
GENDER AND SUBSPECIALTY OF UROLOGY FACULTY IN DEPARTMENT-BASED LEADERSHIP ROLES
Julia Han, MD¹; Stephanie Stillings, BS²; Harold Hamann, BS²; Vincent G. Bird, MD¹; Louis Moy, MD¹
¹University of Florida Department of Urology Gainesville, FL; ²University of Florida College of Medicine Gainesville, FL
Presented By: Julia Han

Poster #NM26
HOW DEEP SHOULD THE BLADDER BE DUG IN TRANSURETHRAL ENDOSCOPIC EXCISION USING THE HOLMIUM LASER?
Jeong Hwan Son¹; Jae Yop Hong, MD, PhD²; Dong Wan Sohn, MD³; Jae Won Lee¹
¹Bundang Jesaeng Hospital; Seongnam; ²CHA Medical School Hospital, Seongnam; ³The Catholic University of Korea, St. Mary’s Hospital, Seoul
Presented By: Jeong Hwan Son

Poster #NM27
SEAPI INCONTINENCE CLASSIFICATION SYSTEM: ONE-YEAR POST-OPERATIVE RESULTS FOLLOWING MIDURETHRAL SLING PLACEMENT
Allison S. Glass, MD¹; Blythe Dubin-Johnson, PhD¹; Jennifer G. Rothschild, MD, MPH¹; Alexander Gomelsky, MD²
¹University of California-Davis, Sacramento, CA; ²Louisiana State University Health-Shreveport, Shreveport, LA
Presented By: Allison S. Glass
Poster #NM28
STUDY DESIGN AND OUTCOMES MEASURES: THE INFLUENCE OF COMPOSITE ENDPOINTS AND OTHER DESIGN VARIABLES ON OUTCOMES IN A STUDY OF DEVICES FOR STRESS INCONTINENCE.

J. Christian Winters, MD, FACS¹; Eric S. Rovner, MD²; Roger R. Dmochowski, MD, MMHC, FACS³
¹LSU HealthCare Network, New Orleans, LA; ²Medical University of South Carolina, Charleston, SC; ³Vanderbilt University Medical Center, Nashville, TN
Presented By: Roger R. Dmochowski

Poster #NM29
THREE MONTH PRIMARY EFFICACY RESULTS FROM THE SUCCESS STUDY OF AN INTRAVESICAL BALLOON TO TREAT STRESS URINARY INCONTINENCE (SUI)

Eric S. Rovner, MD¹; Karny Jacoby, MD²; Susan J. Kalota, MD³; Jeffrey A. Snyder, MD, FACS⁴; Kevin J. Cline, MD⁵; Kaiser J. Robertson, II, MD⁶; Charles Rardin, MD⁷; Randall Kahan, MD⁸; Lonny Green, MD⁹; Denise Elser, MD¹⁰; Jack M. Zuckerman, MD¹¹; Kurt A. McCammon, MD¹²
¹MUSC; ²Mount Lake Terrace, WA; ³Tuscon, AZ; ⁴Denver, CO; ⁵Shreveport, LA; ⁶Glen Bernie, MD; ⁷Providence, RI; ⁸Arlington Heights, IL; ⁹Richmond, VA; ¹⁰Oaklawn, IL; ¹¹San Diego, CA; ¹²Norfolk, VA
Presented By: Eric S. Rovner

Poster #NM30
PRACTICE PATTERNS FOR THE EVALUATION OF ASYMPTOMATIC MICROSCOPIC HEMATURIA IN WOMEN IN A SINGLE HEALTHCARE SYSTEM: ROOM FOR IMPROVEMENT?

A. Lenore Ackerman, MD, PhD¹; Stephanie J. Handler, MD²; Parisa Samimi, MD³; Jennifer T. Anger, MD, MPH, FPMRS⁴; Karyn Eilber, MD, FPMRS²
¹Cedars-Sinai Medical Center, Department of Urology; ²Los Angeles, CA
Presented By: A. Lenore Ackerman

Poster #NM31
OUTCOMES OF TREATMENT OF STRESS URINARY INCONTINENCE ASSOCIATED WITH FEMALE URETHRAL DIVERTICULA: A SELECTIVE APPROACH

Alyssa K. Greiman, MD¹; Lauren Rittenberg, MD¹; Drew A. Freilich, MD²; Ross A. Rames, MD³; Ahmed M. El-Zawahry, MD, MSc⁴; Michelle E. Koski, MD³; Eric S. Rovner, MD⁴
¹Department of Urology, Medical University of South Carolina, Charleston, SC; ²Urology Specialists of Atlanta, Atlanta, GA; ³Department of Urology, Southern Illinois University School of Medicine, Springfield, IL
Presented By: Alyssa K. Greiman

Poster #NM32
URETHRA-SPHINCTER COMPLEX VOLUMES ARE ELEVATED IN FEMALE PATIENTS WITH PROXIMAL URETHRAL DIVERTICULA.

Eskinder Solomon, MSc, PhD; Rachel Barratt, MB ChB, MRCS; Sahar Naaseri, MB ChB, FRCRadiol; Sachin Malde, MSc (Urol), FRCS, MB ChB; Mahreen Pakzad, MD, FRCS, MB ChB; Rizwan Hamid, MSc, FRCS (Urol), MB ChB; Jeremy Ockrim, MD, FRCS, MB ChB; Tamsin J. Greenwell, MD, FRCS, MB ChB
UCLH Urology, UCLH, London, UK
Presented By: Rachel Barratt
Poster #NM33
INITIAL EXPERIENCE WITH TELEMEDICINE VISITS IN FEMALE UROLOGY PATIENTS
Whitney R. Smith, MD; Ajay Puri, BS; Patricia Zahner, MD; Sarah Weingarten, BA; Amar J. Raval, MD; Alana M. Murphy, MD; Akhil K. Das, MD; Patrick J. Shenot, MD, FACS; Deborah T. Glassman, MD
*Thomas Jefferson University Hospital, Philadelphia, PA*
Presented By: Whitney R. Smith

Poster #NM34
OBESITY DOES NOT WORSEN URINARY INCONTINENCE FOLLOWING SACRAL COLPOPEXY
Charles R. Powell, II, MD¹; Bridget Eckrich, BS²; Jeffrey Rothenberg, MD³; Thomas A. Gardner, MD⁴
¹Indiana University School of Medicine Dept. of Urology; ²Indianapolis, IN; ³St. Vincent Health; ⁴Indiana University School of Medicine
Presented By: Charles R. Powell, II

Poster #NM35
VOIDING PATTERNS IN WOMEN UNDERGOING SLING SURGERY FOR STRESS AND MIXED URINARY INCONTINENCE
Casey Kowalik, MD¹; Joshua A. Cohn, MD¹; Rachel Sosland, MD¹; W. Stuart Reynolds, MD, MPH¹; Melissa R. Kaufman, MD, PhD¹; Roger R. Dmochowski, MD, MMHC, FACS¹; Alexander Gomelsky, MD²
¹Vanderbilt University Medical Center, Nashville, TN; ²Louisiana State University- Shreveport, Shreveport, LA
Presented By: Casey Kowalik

Poster #NM36
PREDICTORS OF A FAILED VOIDING TRIAL AFTER SLING AND CONCOMITANT PELVIC SURGERY
J. Margaret Lovin, MD; Clifton F. Frilot, II, PhD; Alexander Gomelsky, MD
*LSU Health-Shreveport, Shreveport LA*
Presented By: J. Margaret Lovin

Poster #NM37
RANDOMIZED TRIAL OF URETHRAL LENGTH MEASUREMENT AND RETROPUBIC TVT POSITION
Elizabeth R. Mueller, MD, MSME¹; Ahmed Akl, MD²; Susanne K. Taege, MD³; Linda Brubaker, MD, MS¹; Cynthia Brincat, MD, PhD²
¹Maywood, IL; ²Scottsdale, AZ; ³Maywood, IL
Presented By: Elizabeth R. Mueller

Poster #NM38
SELECTIVE RETROPUBIC SYNTHETIC SLING ARMS REMOVAL
Carlos Finsterbusch, MD; Maude Carmel, MD, FRCSC; Alexander T. Rozanski, MD; Philippe E. Zimmern, MD, FACS, FPRMS
*UT Southwestern Medical Center*
Presented By: Carlos Finsterbusch
Poster #NM39
TRANSURETHRAL BLADDER NECK INCISION FOR FEMALE PRIMARY BLADDER NECK OBSTRUCTION: UCLA EXPERIENCE AND OUTCOMES

Janine L. Oliver, MD; Evgeniy I. Kreydin, MD; Ja-Hong Kim, MD; Z. Chad Baxter, MD; Shlomo Raz, MD
Department of Urology, David Geffen School of Medicine at UCLA, University of California Los Angeles, Los Angeles, CA
Presented By: Janine L. Oliver

Poster #NM40
COMPARISON OF OUTCOMES BETWEEN SIMPLE AND COMPLEX PATIENTS UNDERGOING AUTOLOGOUS PUBOVAGINAL SLING PLACEMENT

Michael Maccini, MD; Tamara P. Lhungay, BS; Tyler Doumaney; Aleksander C. Blubaum, BA; Stephen Blakely, MD; Brian J. Flynn, MD
Aurora, CO
Presented By: Aleksandar C. Blubaum

Poster #NM41
MISINTERPRETATION OF URETHRAL BULKING AGENTS IN RADIOLOGIC IMAGING

Mary E. Hall, BA¹; J. Quentin Clemens, MD²; John T. Stoffel, MD²; Anne Pelletier-Cameron, MD²
¹University of Michigan Medical School, Ann Arbor, MI; ²University of Michigan Department of Urology, Ann Arbor, MI
Presented By: Mary E. Hall

Poster #NM42
FEMALE SEXUAL DYSFUNCTION AND THE INTERNET: A LACK OF PATIENT-ORIENTED INFORMATION

Eliza Lamin, MD¹; Jessica L. Chan, MD²; Samantha B. Schon, MD²; Puneet Masson, MD²
¹University of Pennsylvania, Philadelphia, PA; ²Philadelphia, PA
Presented By: Eliza Lamin

Poster #NM43
URETHROVAGINAL FISTULA REPAIR – LONG-TERM OUTCOMES

Sender Herschorn, BSc, MDCM, FRCSC
Sunnybrook/University of Toronto
Presented By: Sender Herschorn

Poster #NM44
STATEWIDE TRENDS OF INTERSTIM® IMPLANTATION ACROSS DIFFERENT SURGICAL SPECIALTIES IN NEW YORK

Wai Lee, MD¹; Andrew Chen, BA²; Olga Povcher, MD²; Kailash Kapadia, BS²; Wei Hou, PhD²; Jason M. Kim, MD²
¹Department of Urology, Stony Brook Medicine, Stony Brook, NY; ²Stony Brook, NY
Presented By: Wai Lee
Abstract Listing

Poster #NM45
CORRELATION BETWEEN MICHIGAN INCONTINENCE SEVERITY INDEX AND AMERICAN UROLOGICAL SOCIETY SYMPTOM INDEX IN FEMALE INCONTINENCE PATIENTS

Solafa Elshatanoufy, PharmD, MD¹; Meghan Griffin, DO²; Alexandra Matthews³; Timothy Quinn³; Michelle Jesse, PhD⁴; Humphrey O. Atiemo, MD⁵; David Richardson, MD⁵
¹Henry Ford Health Systems. Detroit, MI; ²Henry Ford Health System, Detroit, MI; ³Wayne State University, Detroit, MI; ⁴Henry Ford Health System, Detroit, MI; ⁵Henry Ford Health Systems, Detroit, MI
Presented By: Solafa Elshatanoufy

Poster #NM46
EFFECTIVENESS OF VAGINAL WALL SLINGS IN TREATING OVERWEIGHT PATIENTS WITH STRESS URINARY INCONTINENCE AFTER ONE YEAR FOLLOW UP

Marina Germanos, BS; Joo H. Kim, MPH; Matthew A. Pierce, MD; Isaac L. Kelly, MD; Mohamed Keheila, MD; Andrea Staack, MD, PhD
Loma Linda University Department of Urology, Loma Linda, CA
Presented By: Matthew A. Pierce

Poster #NM47
PRELIMINARY EXPLORATION: CAN SUFFERING AND ACCEPTANCE BE FOUND IN THE DISCORDANCE BETWEEN MEASURES?

Solafa Elshatanoufy, PharmD, MD¹; Meghan Griffin, DO²; Timothy Quinn³; Alexandra Matthews³; Michelle Jesse, PhD⁴; Humphrey O. Atiemo, MD⁵; David Richardson, MD⁵
¹Henry Ford Health Systems, Detroit, MI; ²Henry Ford Health System, Detroit, MI; ³Wayne State University, Detroit, MI
Presented By: Solafa Elshatanoufy

Poster #NM48
IS IT SAFE TO GIVE BOTOX OR A URETHRAL BULKING AGENT IN THE SETTING OF ASYMPTOMATIC BACTERIURIA?

Carolyn M. Fronczak, MD, MSPH¹; Chad A. LaGrange, MD, FACS²; Rebecca McCrery, MD, FACOG, FACS³
¹University of Nebraska Medical Center, Omaha, NE; ²University of Nebraska Medical Center, Omaha NE; ³Adult, Pediatric Urology, and Urogynecology, PC
Presented By: Carolyn Fronczak

Poster #NM49
THE IMPACT OF PERCEIVED STRESS AND HEALTH ON INSOMNIA IN POSTMENOPAUSAL WOMEN WITH OVERACTIVE BLADDER SYMPTOMS

K'dee Elsen, MA; Christina P. Moldovan, MA; Jim Shen, MD; Mohamed Keheila, MD; Salim Cheriyan, MD; Matthew Pierce, MD; Isaac L. Kelly, MD; Andrea Staack, MD, PhD
Loma Linda University
Presented By: Isaac L. Kelly

Poster #NM50
FEMALE SEXUAL DYSFUNCTION: A SYSTEMATIC REVIEW OF OUTCOMES ACROSS VARIOUS TREATMENT MODALITIES

James M. Weinberger, BS¹; Justin Houman, MD²; Ashley Caron, BS²; Jennifer T. Anger, MD, MPH, FPMRS²
¹David Geffen School of Medicine at UCLA & UCLA Anderson School of Management; ²Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA
Presented By: James M. Weinberger
Video Session I
Friday, March 3, 2017
7:00 a.m. - 8:00 a.m.
Moderators: Anne P. Cameron, MD
Steven J. Weissbart, MD

Video #1
SURGICAL TECHNIQUE: TOTAL COLPOCLEISIS
Rena D. Malik, MD; Carlos Finsterbusch, MD; Catherine Harris, MD; Maude Carmel, MD
UT Southwestern Medical Center, Dallas, TX
Presented By: Rena D. Malik

Video #2
TOTAL AUTOLOGOUS FASCIA LATA ANTERIOR REPAIR AND VAGINAL VAULT SUSPENSION: A NEW TECHNIQUE
Christian O. Twiss, MD; Miguel Craig, MD; Frank Lin, MD; Joel Funk, MD
University of Arizona College of Medicine, Tucson, AZ
Presented By: Christian O. Twiss

Video #3
HIGH UTEROSACRAL HYSTEROPEXY FOR THE MANAGEMENT OF PELVIC ORGAN PROLAPSE
Naveen Kachroo, MD, PhD; Solafa Elshatanoufy, PharmD, MD; Humphrey Atiemo, MD
Vattikuti Urology Institute, Henry Ford Hospital, Detroit, MI
Presented By: Naveen Kachroo

Video #4
UTERINE SPARING PROLAPSE REPAIR: ROBOTIC-ASSISTED LAPAROSCOPIC SACROHYSTEROPEXY AND RECTOPEXY
Catherine Harris, MD; Rena Malik, MD; Maude Carmel, MD
Dallas, TX
Presented By: Catherine J. Harris

Video #5
REPAIR OF A COMPLEX VAGINAL J-POUCH FISTULA UTILIZING A GRACILIS MUSCLE INTERPOSITION FLAP
Gillian Wolff, MD¹; Ahmet Bedestani, MD²; Erin Dougher, DO¹; J. Christian Winters, MD¹; Ralph Chessen, MD¹
¹New Orleans, LA; ²Metairie, LA
Presented By: Gillian F. Wolff

Video #6
COMPLETE REMOVAL OF SACRAL NEUROMODULATION LEAD USING LEAD EXTRACTING DEVICE: A NOVEL TECHNIQUE
Erin Dougher DO¹, J. Christian Winters MD², Ryan Krlin MD³ and Gillian Wolff MD³
¹LSU-HSC, New Orleans, LA; ²LSU-HSC New Orleans, LA; ³LSU-HSC New Orleans
Presented By: Erin Dougher, DO
Abstract Listing

Pelvic Organ Prolapse/Reconstruction Podium Session
Friday, March 3, 2017
8:30 a.m. - 10:00 a.m.

Moderators: Sarah E. McAchran, MD
Ariana L. Smith, MD

Podium #18
DEVELOPMENT OF FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY FELLOWSHIP PROGRAMS FOLLOWING THE DEADLINE FOR SENIOR ACCREDITATION

Allison R. Polland, MD¹; Lee A. Richter, MD²
¹Washington Hospital Center; ²MedStar Washington Hospital Center/Georgetown
Presented By: Lee A. Richter

Podium #19
ADDITIONAL TREATMENTS, SATISFACTION, AND QUALITY OF LIFE IN WOMEN AFTER TRANSVAGINAL AND ABDOMINAL PELVIC ORGAN PROLAPSE REPAIR

Laura Nguyen, BSc, MD; Natalie P. Gaines, MD¹; Morgan Gruner, BS²; Kim A. Killinger, MSN¹; Michelle Jankowski, MAS²; Larry T. Sirls, II, MD¹; Kenneth M. Peters, MD¹
¹Royal Oak, MI; ²Rochester, MI
Presented By: Laura Nguyen

Podium #20
A COMPARATIVE ANALYSIS OF THE OVERALL COST AND RATE OF HEALTH CARE UTILIZATION AMONG SURGICAL PROCEDURES FOR APICAL PROLAPSE

Lannah L. Lua, MD; Prathamesh Parm, MS; Vani Dandolu, MD, MPH, MBA
Las Vegas, NV
Presented By: Lannah L. Lua

Podium #21
PENDING EVISCERATION PROLAPSE DUE TO LACK OF ANTERIOR VAGINAL WALL AFTER ROBOTIC-ASSISTED RADICAL CYSTECTOMY: CASE SERIES OF A PREVIOUSLY UNDESCRIBED COMPLICATION

Melissa T. Sanford, MD; Renee Rolston, MD; Christine Horton, MD; Begum Ozel, MD; David A. Ginsberg, MD; Larissa V. Rodriguez, MD, FPMRS
University of Southern California, Los Angeles, CA
Presented By: Melissa T. Sanford

Podium #22
IS VAGINAL MESH A STIMULUS OF AUTOIMMUNE DISEASE?

Bilal I. Chughtai, MD¹; Art Sedrakyan, MD, PhD²; Jialin Mao, MD, MSc³; Karyn S. Eilber, MD³; Jennifer T. Anger, MD, MPH, FPMRS²; J. Quentin Clemens, MD⁴
¹Weill Cornell Medicine; ²New York, NY; ³Los Angeles, CA; ⁴Ann Arbor, MI
Presented By: Bilal I. Chughtai
Podium #23
HOW INFORMED IS OUR CONSENT? PATIENT AWARENESS OF RADIATION AND RADICAL PROSTATECTOMY COMPLICATIONS

Derek J. Lomas, MD, PharmD; Daniel S. Elliott, MD
Mayo Clinic, Rochester, MN
Presented By: Derek J. Lomas

Podium #24
POST-TURP URETHRAL STRICTURES CAN BE MANAGED SUCCESSFULLY WITH URETHROPLASTY

Mashrin L. Chowdhury, DO¹; Esther Liu²; Ibraheem Malkawi, MD³; Maha Husainat, MD⁴; Jonathan N. Warner, MD⁴; Andre Cavalcani, MD⁵; Francisco E. Martins, MD⁶; Christopher Gonzalez, MD⁷; Justin Han, MD⁸; Reynaldo Gomez, MD⁹; Pankaj Joshi, MBBS¹⁰; Javier Angulo, MD¹¹; Nicolaas Lumen, MD, PhD¹²; Dmitriy Nikolovsky, MD¹³; Richard Santucci, MD¹³
¹Detroit Medical Center Department of Urology, Detroit, MI; ²Michigan State University College of Osteopathic Medicine, East Lansing, MI; ³Detroit Medical Center Department of Urology, Detroit, MI; ⁴City of Hope National Medical Center, City of Hope, California; ⁵Universidade do Estado do, Rio de Janeiro, Brazil; ⁶University of Lisbon School of Medicine, Santa Maria Hospital, Lisbon, Portugal; ⁷University Hospitals Case Medical Center and Case Western Reserve University School of Medicine, Cleveland, OH; ⁸Northwell Health, New Hyde Park, NY; ⁹Hospital del Trabajador and Universidad Andres Bello, Santiago, Chile; ¹⁰Kulkarni Reconstructive Urology Center, Pune, India; ¹¹Universidad Europea de Madrid Hospital, Universitario de Getafe, Madrid, Spain; ¹²Ghent University Hospital, Ghent, Belgium; ¹³SUNY Upstate Medical University, Syracuse, NY
Presented By: Mashrin L. Chowdhury

Podium #25
TWENTY-YEAR EXPERIENCE WITH THE ANTERIOR VAGINAL WALL SUSPENSION PROCEDURE: A NATIVE TISSUE VAGINAL REPAIR FOR STRESS URINARY INCONTINENCE WITH EARLY STAGE ANTERIOR COMPARTMENT PROLAPSE

Alexander T. Rozanski, MD; Philippe E. Zimmern, MD, FACS, FPRMS; Alana Christie, MS; Feras Alhalabi
University of Texas Southwestern Medical Center, Dallas, TX
Presented By: Alexander T. Rozanski

Podium #26
SMOKING STATUS AS A RISK FACTOR FOR VAGINAL MESH EXPOSURE

Carlos Finsterbusch, MD; Dayron Rodriguez, MD, MPH; Himanshu Aggarwal, MD, MS; Alana Christie, MS; Philippe E. Zimmern, MD, FACS, FPRMS
UT Southwestern Medical Center
Presented By: Carlos Finsterbusch
Male Incontinence/Urodynamics/Neuromodulation Moderated Poster Session
Friday, March 3, 2017
8:30 a.m. - 10:00 a.m.

Moderators: Brian J. Flynn, MD
Alexander Gomelsky, MD

Poster #M24
OUTCOMES COMPARISON OF ARTIFICIAL URINARY SPHINCTER DEVICE SURVIVAL IN PATIENTS ON WARFARIN VERSUS PATIENTS NOT ON WARFARIN

Andrew T. Blackburne, MD; Brian J. Linder, MD; Daniel S. Elliott, MD
Mayo Clinic, Rochester, MN
Presented By: Andrew T. Blackburne

Poster #M25
ARTIFICIAL URINARY SPHINCTER OUTCOMES BASED UPON ETIOLOGY OF INCONTINENCE IN A LARGE SINGLE CENTER COHORT

Adam R. Miller, MD; Brian J. Linder, MD; Laureano Rangel, MS, MSc; Daniel S. Elliott, MD
Rochester, MN
Presented By: Adam R. Miller

Poster #M26
ARE PAD WEIGHT TESTING AND SURGICAL TUNNELING OF SLING ASSOCIATED WITH ADVANCE MALE SLING OUTCOMES?

Laura Nguyen, BSc, MD¹; Natalie P. Gaines, MD¹; Allison Gurney-McMaster²; Melissa C. Fischer, MD¹; Kim A. Killinger, MSN¹; Jason Gilleran, MD¹; Jamie M. Bartley, DO¹; Judith A. Boura, MS¹; Larry T. Sirls, II, MD¹
¹Beaumont Health, Royal Oak, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Laura Nguyen

Poster #M27
INTERVENTIONS FOR STRESS URINARY INCONTINENCE AFTER ADVANCE MALE SLING

Laura Nguyen, BSc, MD¹; Natalie P. Gaines, MD¹; Allison Gurney-McMaster²; Melissa C. Fischer, MD¹; Kim A. Killinger, MSN¹; Jamie M. Bartley, DO¹; Jason Gilleran, MD¹; Judith A. Boura, MS¹; Larry T. Sirls, II, MD¹
¹Beaumont Health, Royal Oak, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Laura Nguyen

Poster #M28
ASSESSING THE RELATIONSHIP BETWEEN CNS DISEASE BURDEN, URINARY SYMPTOMS AND URODYNAMIC FINDINGS IN PATIENTS WITH MULTIPLE SCLEROSIS UTILIZING MRI SEGMENTATION POST-PROCESSING

Jessica Eastman; Catherine J. Harris, MD; Ryan Hutchinson, MD; Benjamin Wagner; Joseph A. Maldjian, MD; Marco C. Pinho, MD; Gary E. Lemack, MD
Dallas, TX
Presented By: Catherine J. Harris
Poster #M29
THE USE AND UTILITY OF URODYNAMICS PRIOR TO SACRAL NEUROMODULATION

Elodi Dielubanza, MD¹; Shree Agrawal¹; Bradley C. Gill, MD, MS²; Henry T. Okafor, MD²; Jessica C. Lloyd, MD²; Juan Guzman, MD²; Sandip P. Vasavada, MD²; Courtenay K. Moore, MD²; Howard B. Goldman, MD²; Raymond R. Rackley, MD²
¹Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH; ²Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH
Presented By: Elodi Dielubanza

Poster #M30
DEVELOPMENT OF BLADDER SENSATION DURING URODYNAMICS COMPARED TO DURING A NON-INVASIVE ACCELERATED HYDRATION PROTOCOL

Randy Vince, MD¹; Anna S. Nagle, PhD²; John Speich, PhD²; David M. Le²; Peter P. Ghamarian, MD³; Andrew F. Colhoun, MD³; Wayne Barbee, PhD³; Paul H. Ratz, PhD³; Adam P. Klausner, MD³
¹VCU Health Systems, Richmond, VA; ²Department of Bioengineering, Richmond, VA; ³VCU Medical School, Richmond, VA; ⁴VCU Division of Urology, Richmond, VA; ⁵VCU Department of Biochemistry
Presented By: Randy Vince

Poster #M31
DO URODYNAMICS PREDICT URINARY RETENTION AFTER SLING PLACEMENT IN THE COMPLEX PATIENT: VALUE OF REPRODUCING SYMPTOMS OF URODYNAMICS

Alyssa K. Greiman, MD; Lauren Rittenberg, MD; Lindsey Cox, MD; Ross A. Rames, MD; Eric S. Rovner, MD
Department of Urology, Medical University of South Carolina, Charleston, SC
Presented By: Alyssa K. Greiman

Poster #M32
RACIAL DIFFERENCES IN BLADDER MANAGEMENT METHODS IN PATIENTS WITH SPINAL CORD INJURY & DISABILITY

Jacqueline Morin, BA¹; Ashley B. King, MD²; John T. Roseman, MD²; Lance L. Goetz, MD³; Adam P. Klausner, MD³
¹Virginia Commonwealth University, Richmond, VA; ²Virginia Commonwealth University Division of Urology, Department of Surgery, Richmond, VA Commonwealth University Division of Urology, Department of Surgery, Richmond, VA; ³Virginia Commonwealth University Division of Urology, Department of Surgery, Richmond, VA; ⁴Hunter Holmes McGuire Veterans Affairs Center for Spinal Cord Injury and Disorders, Richmond, VA
Presented By: Jacqueline Morin

Poster #M33
PROSPECTIVE RANDOMIZED BLINDED STUDY EVALUATING ULTRASOUND VERSUS FLUOROSCOPY GUIDED SACRAL INSTERSTEM® LEAD PLACEMENT

Jaschar Shakuri-Rad, DO¹; Jannah Thompson, MD²; Arman Cicic, DO²; Cody Christensen, DO²
¹Michigan State University; ²Michigan State University, Wyoming, MI
Presented By: Jaschar Shakuri-Rad

Poster #M34
A CADAVER MODEL DESCRIBING A NOVEL RETROGRADE APPROACH FOR PERCUTANEOUS PLACEMENT OF AN IMPLANTABLE TIBIAL NERVE STIMULATION LEAD

Larry T. Sirls, II, MD¹; Kenneth M. Peters, MD²
¹Beaumont Health - Royal Oak, MI; ²Oakland University William Beaumont School of Medicine - Rochester, MI; ³Beaumont Health - Royal Oak, MI
Presented By: Larry T. Sirls, II
Poster #M35
RESULTS OF A PROSPECTIVE, MULTICENTER STUDY EVALUATING THE EFFICACY AND SAFETY OF SACRAL NEUROMODULATION THROUGH FIVE YEARS IN SUBJECTS WITH SYMPTOMS OF OVERACTIVE BLADDER

Steven W. Siegel, MD¹; Jason Bennett, MD²; Jeffrey Mangel, MD³; Craig V. Comiter, MD⁴; Samuel Zylstra, MD, MPH⁵; Erin T. Bird, MD⁶; Tomas L. Griebling, MD, MPH⁷; Daniel J. Culkin, MD⁸; Suzette E. Sutherland, MD⁹; Kellie Chase Berg, MS¹⁰; Fangyu Kan, MS¹⁰; Karen L. Noble, MD, MAS¹¹
¹Metro Urology, Woodbury, MN; ²Female Pelvic Medicine, Grand Rapids, MI; ³MetroHealth Medical Center, Cleveland, OH; ⁴Stanford University, Stanford, CA; ⁵Milford Regional Medical Center, Whitinsville, MA; ⁶Scott and White Healthcare, Temple, TX; ⁷University of Kansas, Kansas City, KS; ⁸University of Oklahoma, Oklahoma City, OK; ⁹University of Washington, Seattle, WA; ¹⁰Medtronic, Minneapolis, MN; ¹¹University of California, Riverside, CA
Presented By: Steven W. Siegel

Poster #M36
CLINICIAN KNOWLEDGE AND COMFORT WITH SACRAL NERVE STIMULATION IMPROVES TEMPORARILY AFTER TARGETED EDUCATIONAL INTERVENTIONS

Bradley C. Gill, MD, MS; Calvin Lee, BSE; Elodi Dielubanza, MD; Sandip P. Vasavada, MD
Cleveland Clinic, Cleveland, OH
Presented By: Bradley C. Gill

Poster #M37
A REVIEW OF OVER 100 PATIENTS UNDERGOING PERCUTANEOUS TIBIAL NERVE STIMULATION IN AN OFFICE SETTING: REAL WORLD EXPERIENCE

Kenneth M. Peters, MD¹; Evan Sirls²; Kim A. Killinger, RN, MSN³; Judith A. Boura, MS⁴
¹Beaumont Health- Royal Oak, MI, Oakland University William Beaumont School of Medicine - Rochester, MI; ²Beaumont Health - Royal Oak, MI; ³Beaumont Health - Royal Oak, MI, Oakland University William Beaumont School of Medicine, Rochester, MI; ⁴Beaumont Health - Royal Oak, MI, Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Kenneth M. Peters

Poster #M38
SACRAL NEUROMODULATION IN CALIFORNIA FROM 2005 TO 2011: WHAT ARE THE REAL-WORLD SUCCESS RATES?

Amy D. Dobberfuhl, MD¹; Amandeep S. Mahal, MD²; Craig V. Comiter, MD³; Christopher S. Elliott, MD, PhD⁴
¹Stanford University, Dept. of Urology, Stanford, CA; ²Stanford University, Dept. of Obstetrics and Gynecology, Stanford, CA
Presented By: Amy D. Dobberfuhl
Neuromodulation/OAB Moderated Podium Session
Friday, March 3, 2017
4:00 p.m. - 5:00 p.m.

Moderators: Raul C. Ordoñica, MD
Steven W. Siegel, MD

Podium #27
SPECIFIC CHANGES IN BRAIN ACTIVITY IN WOMEN WITH OVERACTIVE BLADDER AFTER SUCCESSFUL SACRAL NEUROMODULATION WITH INTERSTIM®: AN FMRI STUDY

Steven J. Weissbart, MD; Rupal Bhavsar; Hengyi Rao, PhD; Alan J. Wein, MD, PhD; John Detre, MD; Lily Arya, MD; Ariana Smith, MD

¹Stony Brook University, Stony Brook, NY; ²University of Pennsylvania, Philadelphia, PA
Presented By: Steven J. Weissbart

Podium #28
NEUROMODULATION FOR CHRONIC UROGENITAL PAIN: A COMPARISON OF PUDENDAL AND SACRAL NERVE STIMULATION

Kenneth M. Peters, MD; Austin Fan; Kim A. Killinger, RN, MSN; Judith A. Boura

¹Beaumont Health- Royal Oak, MI, Oakland University William Beaumont School of Medicine - Rochester, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI; ³Beaumont Health - Royal Oak, MI, Oakland University William Beaumont School of Medicine, Rochester, MI; ⁴Beaumont Health - Royal Oak, MI, Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Kenneth M. Peters

Podium #29
CHANGES IN BRAIN ACTIVITY ON FUNCTIONAL MAGNETIC RESONANCE IMAGING DURING SACRAL NERVE STIMULATION FOR OVERACTIVE BLADDER

Bradley C. Gill, MD, MS; Javier Pizarro-Berdichevsky, MD; Pallab Bhattacharyya, PhD; Brian K. Marks, MD; Adrienne Quirouet, MD; Sandip P. Vasavada, MD; Stephen Jones, MD; Howard B. Goldman, MD

¹Cleveland Clinic, Cleveland, OH; ²Pontificia Universidad Catolica de Chile, Santiago, Chile; ³Concord Hospital, Concord, NH; ⁴Montfort Hospital, Ottawa, ON
Presented By: Bradley C. Gill

Podium #30
CHARACTERISTICS ASSOCIATED WITH NEUROMODULATION DEVICE EXPLANTATION FOR DECLINING EFFICACY

Jason P. Gilleran, MD; Kim Killinger, RN, MSN; Jamie M. Bartley, DO; Natalie P. Gaines, MD; Laura Nguyen, MD; Judith Boura, MSN; Kenneth M. Peters, MD

¹Beaumont Hospital, Royal Oak MI; ²Royal Oak, MI
Presented By: Jason P. Gilleran
Podium #31
ELECTRICAL STIMULATION OF AFFERENT NERVES IN THE FOOT WITH TRANSCUTANEOUS ADHESIVE PAD ELECTRODES IN WOMEN WITH OAB: COMPARISON OF DIFFERENT STIMULATION DURATIONS

Christopher J. Chermansky, MD¹; Bing Shen, DVM²; Janet Okonski²; William C. de Groat, PhD³; Changfeng Tai, PhD⁴
¹UPMC Department of Urology; ²UPMC Department of Urology, Pittsburgh, PA; ³Universtiy of Pittsburgh Department of Pharmacology; ⁴UPMC Department of Urology, Pittsburgh, PA
Presented By: Christopher J. Chermansky

Podium #32
OPTIMIZING LEAD PLACEMENT DURING STAGED SACRAL NEUROMODULATION (SNM): A SUMMARY OF PREDICTIVE FACTORS FOR PROGRESSION TO STAGE 2 AND SHORT TERM OUTCOMES

Sarah A. Adelstein, MD¹; Kevin Gioia, MD²; Alvaro Lucioni, MD¹; Kathleen C. Kobashi, MD, FACS¹; Una J. Lee, MD, FPMRS¹
¹Virginia Mason, Seattle, WA; ²Virginia Mason, Seattle, WA
Presented By: Sarah A. Adelstein
IC/Pelvic Pain/Geriatrics/BPH Moderated Poster Session
Friday, March 3, 2017
4:00 p.m. - 5:00 p.m.

Moderators: Larry T. Sirls, II, MD
John T. Stoffel, MD

Poster #M39
SYMPTOMATIC OVERLAP IN OVERACTIVE BLADDER AND INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME

A. Lenore Ackerman, MD, PhD¹; H. Henry Lai, MD²; Karyn S. Eilber, MD¹; Jennifer T. Anger, MD, MPH, FPMRS¹
¹Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ²Departments of Surgery and Anesthesiology, Washington University School of Medicine in St. Louis, St. Louis, MO
Presented By: A. Lenore Ackerman

Poster #M40
THE NATURE AND SEVERITY OF MENTAL COMORBIDITIES IN PATIENTS WITH INTERSTITIAL CYSTITIS AND IRRITABLE BOWEL SYNDROME: RESULTS FROM AN NIH TRIAL

Tova Ablove, MD¹; Teresa L. Danforth, MD²; Greg Gudleski, PhD²; Rebeca Firth, MHA²; Jeffrey Lackner, PsyD³
¹University at Buffalo, Department of Obstetrics and Gynecology; ²University at Buffalo, Department of Urology; ³University at Buffalo, Department of Medicine
Presented By: Tova Ablove

Poster #M41
THE EFFECTS OF A STRESS AND EMOTION INTERVIEW FOR WOMEN WITH UROGENITAL PAIN: A RANDOMIZED TRIAL

Jennifer Carty, PhD¹; Maisa Ziadni, PhD²; Mark Lumley, PhD²; Hannah Holmes, MA²; Janice Tomakowsky, PhD, MPH³; Howard Schubiner, MD⁴; Emily Dove-Medows, MSN, CNM⁴; Kenneth M. Peters, MD⁵
¹University of Massachusetts, Worcester, MA; ²Stanford University, Stanford, CA; ³Wayne State University, Detroit, MI; ⁴Beaumont Health, Royal Oak, MI; ⁵St. John Providence Hospital, Southfield, MI; ⁶Oakland University Wm. Beaumont School of Medicine and Beaumont Health, Royal Oak, MI
Presented By: Kenneth M. Peters

Poster #M42
HISTOPATHOLOGICAL CHARACTERISTICS OF INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME WITHOUT HUNNER LESION

Myung-Soo Choo, MD, PhD; Aram Kim, MD; Ju Young Han Master; Yong-Mi Cho, MD; Dong-Myung Shin, PhD
Seoul, South Korea
Presented By: Myung-Soo Choo

Poster #M43
OVERACTIVE BLADDER IS MORE STRONGLY ASSOCIATED WITH FRAILTY THAN AGE IN OLDER INDIVIDUALS

Anne M. Suskind, MD, MS¹; Kathryn Quanstrom¹; Shoujun Zhao, PhD¹; Mark Bridge¹; Emily Finlayson, MD, MS²
¹University of California, San Francisco Department of Urology; ²University of California, San Francisco Department of Surgery
Presented By: Anne M. Suskind
Poster #M44
A RANDOMIZED, DOUBLE BLIND, PLACEBO CONTROLLED TRIAL OF TOPICAL ANESTHETIC USE IN PESSARY MANAGEMENT: THE TAP STUDY

Susanne K. Taege, MD¹; William Adams, MA²; Elizabeth R. Mueller, MD, MSME³; Linda Brubaker, MD, MS³; Colleen M. Fitzgerald, MD, MS³; Cynthia Brincat, MD, PhD³
¹Loyola University Chicago Stritch School of Medicine, Maywood, IL; ²Health Sciences Division, Loyola University Chicago Stritch School of Medicine, Maywood, IL; ³Departments of Obstetrics and Gynecology and Urology, Loyola University Chicago Stritch School of Medicine, Maywood, IL
Presented By: Susanne K. Taege

Poster #M45
PREDICTORS OF URINARY RETENTION FOLLOWING ONABOTULINUMTOXINA INJECTION FOR OVERACTIVE BLADDER IN PATIENTS WITH LOW PREOPERATIVE POST-VOID RESIDUAL

Rachel Sosland, MD¹; Joshua A. Cohn, MD¹; Casey Kowalik, MD¹; David J. Osborn, MD²; W. Stuart Reynolds, MD, MPH¹; Melissa R. Kaufman, MD, PhD¹; Douglas F. Milam, MD¹; Roger R. Dmochowski, MD, MMHC, FACS¹
¹Vanderbilt University, Nashville, TN; ²Walter Reed National Military Medical Center, Bethesda, MD
Presented By: Rachel Sosland

Poster #M46
WITHDRAWN

Poster #M47
SPINAL ANESTHESIA FOR TRANSURETHRAL PROSTATE RESECTION OR VAPORIZATION IS ASSOCIATED WITH PROLONGED LENGTH OF STAY

Joseph Rodriguez, MD; William Boysen, MD; Melanie A. Adamsky, MD; Gregory T. Bales, MD; Glenn S. Gerber, MD
University of Chicago, Chicago, IL
Presented By: Joseph Rodriguez

Poster #M48
ARE NOMOGRAMS BASED ON FREE UROFLOWS HELPFUL TO EVALUATE URETHRAL OBSTRUCTION IN MEN?

Françoise A. Valentini, MD, PhD; Peter Rosier, MD, PhD¹; Pierre Nelson, PhD²
¹University Medical Centre Utrecht, Utrecht, The Netherlands; ²Université Pierre et Marie Curie, Paris, France
Presented By: Francoise A. Valentini

Poster #M49
URETHRAL STRICTURE DISEASE FOLLOWING LASER AND ELECTROCAUTERY TRANSURETHRAL PROSTATIC SURGERY

Amar J. Raval, MD; Ali Syed, MD; Ajay Puri, BS; Akhil K. Das, MD; Bradley D. Figler, MD; Whitney R. Smith, MD
Thomas Jefferson University Hospital, Philadelphia, PA
Presented By: Amar J. Raval
Poster #M50
EVIDENCE OF TAMSULOSIN 0.4 MG AS INITIAL DOSE IN ASIAN BPH PATIENTS: CONSIDERATION THROUGH NETWORK META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Su Jin Kim, MD, PhD¹; Khae Hawn Kim, MD, PhD²; Sung Tae Cho, MD, PhD³; Hyeong Gon Kim, MD, PhD⁴; Hana Yoon, MD, PhD⁵
¹Department of Urology, Seoul St. Mary’s Hospital, The Catholic University of Korea College of Medicine, Seoul, South Korea; ²Department of Urology, Gachon University Gil Medical Center, Gachon University School of Medicine, Incheon, Korea; ³Department of Urology, College of Medicine, Hallym University, Seoul, South Korea; ⁴Department of Urology, Konkuk University School of Medicine, Konkuk University Medical Center, Seoul, South Korea; ⁵Department of Urology, Ewha Woman’s University School of Medicine, Seoul, Republic of Korea
Presented By: Su Jin Kim
*IC/Pelvic Pain/Geriatrics/BPH Non-Moderated Poster Session
Friday, March 3, 2017
4:00 p.m. - 5:00 p.m.
*Not CME Accredited

Poster #NM78
ASSESSMENT OF PHYSICIANS’ PRACTICES IN SCREENING AND TREATING WOMEN WITH BACTERIURIA

Erica L. Ditkoff, BS¹; Carrie M. Mlynarczyk, MD¹; Casey Kowalik, MD²; Joshua A. Cohn, MD²; Wilson Sui, BA¹; Marissa Theofanides, MD¹; Matthew P. Rutman, MD¹; Rony Adam, MD³; Roger R. Dmochowski, MD, MMHC, FACS³; Kimberly L. Cooper, MD¹
¹Department of Urology, Columbia University College of Physicians and Surgeons, New York, NY; ²Department of Urology, Vanderbilt University Medical Center, Nashville, TN; ³Department of Obstetrics and Gynecology, Vanderbilt University Medical Center, Nashville, TN
Presented By: Erica L. Ditkoff

Poster #NM79
UTILITY OF CATHETERIZED SPECIMENS IN REDUCING OVERDIAGNOSIS OF URINARY TRACT INFECTIONS IN WOMEN

Erica L. Ditkoff, BS¹; Carrie M. Mlynarczyk, MD¹; Arindam RoyChoudhury, PhD²; Gina M. Badalato, MD¹; Matthew P. Rutman, MD¹; Doreen E. Chung, MD, FRSC²; Kimberly L. Cooper, MD¹
¹Department of Urology, Columbia University College of Physicians and Surgeons, New York, NY; ²Department of Biostatistics, Columbia University Mailman School of Public Health, New York, NY
Presented By: Erica L. Ditkoff

Poster #NM80
SAFETY, TOLERABILITY AND PRELIMINARY EFFICACY OF LIRIS® 400 MG IN WOMEN WITH ULCERATIVE INTERSTITIAL CYSTITIS

Kenneth M. Peters, MD¹; Chris Cutie, MD, MBA²; Daniel Radecki, PhD³
¹Beaumont Health, Royal Oak, MI; ²TARIS Biomedical, Lexington, MA; ³Allergan plc, Irvine, CA
Presented By: Kenneth M. Peters

Poster #NM81
RISK FACTOR AFFECTING RECURRENCE OF CYSTITIS AFTER URO-VAXOM TREATMENT FOR FEMALE PATIENTS WITH RECURRENT CYSTITIS

Ji-Yeon Han, MD-PhD¹; Young-Suk Lee, MD-PhD²
¹Pusan National University Yangsan Hospital, Seoul, South Korea; ²Samsung Changwon Hospital Sungkyunkwan University School of Medicine
Presented By: Ji-Yeon Han

Poster #NM82
PHYSICAL THERAPY FOR PELVIC PAIN AND ORCHALGIA IN MEN

Matthew A. Nielsen, MD¹; Charles Gresham, MS²; Erin Glace, BSPT, MSPT³; Courtney Anderson, MPA, PA-C²; Kurt A. McCammon, MD²
¹EVMS. Norfolk, VA; ²EVMS, Norfolk, VA; ³Urology of Virginia, Virginia Beach, VA
Presented By: Matthew A. Nielsen
Poster #NM83
THE MISDIAGNOSIS OF INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME

Stephanie L. Skove, BS¹; Lauren Howard, MS²; Catherine Bresee, MS³; Justin Senechal¹; Amanda De Hoedt, MS¹; Jayoung Kim, PhD²; Stephen J. Freedland, MD²; Jennifer T. Anger, MD, MPH, FPMRS³
¹Veterans Affairs Medical Center, Durham, NC; ²Duke University, Durham, NC; ³Cedars-Sinai Medical Center, Los Angeles, CA
Presented By: Jennifer T. Anger

Poster #NM84
SLING EXCISION FOR PAIN: CAN WE PREDICT WHO BENEFITS FROM SURGERY?

Elizabeth V.H. Dray, MD¹; Anne K. Pelletier-Cameron, MD, FPMRS¹; J. Quentin Clemens, MD¹; John T. Stoffel, MD¹; Erin Crosby, MD²; Yongmei Qin, MD, MS³
¹NPR Division, University of Michigan, Ann Arbor, MI; ²FPMRS Division, Albany Medical Center, Albany, NY; ³Department of Urology, University of Michigan, Ann Arbor, MI
Presented By: Elizabeth V.H. Dray

Poster #NM85
OUTCOMES OF KENALOG/HEPARIN/LIDOCAINE/GENTAMYCIN SUB-MUCOSAL INJECTION FOR INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME

Nikil Uppaluri, BS¹; Alexandra M. Carolan, BA²; Colby A. Dixon, MD³; Nissrine A. Nakib, MD³
¹New York Medical College, Valhalla, NY; ²University of Minnesota Medical School, Minneapolis, MN; ³Department of Urology, University of Minnesota, Minneapolis, MN
Presented By: Nikil Uppaluri

Poster #NM86
MANAGEMENT OF MICROHEMATURIA IN POST-MENOPAUSAL WOMEN: ARE WE ADHERING TO THE GUIDELINES?

Eliza Lamin, MD; Mark Pyfer, BA; Phillip Mucksavage, MD; Ariana L. Smith, MD
University of Pennsylvania, Philadelphia, PA
Presented By: Eliza Lamin

Poster #NM87
ASSESSMENT OF PATIENT FRAILTY AND PERIOPERATIVE COMPLICATIONS AFTER UNDERGOING MINIMALLY INVASIVE APICAL PROLAPSE REPAIR

Zaid Chaudhry, MD¹; Evgeniy I. Kreydin, MD²; Shlomo Raz, MD²
¹Division of Female Pelvic Medicine and Reconstructive Surgery, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²Division of Pelvic Medicine and Reconstructive Surgery, David Geffen School of Medicine at UCLA, Los Angeles, CA
Presented By: Zaid Chaudhry

Poster #NM88
IMPROVEMENT IN LOWER URINARY TRACT SYMPTOMS ACROSS MULTIPLE DOMAINS FOLLOWING VENTRICULOOPERITONEAL SHUNTING FOR IDIOPATHIC NORMAL PRESSURE HYDROCEPHALUS

Sarah C. Krzastek, MD¹; Samuel Robinson, MD¹; Harold F. Young, MD²; Adam P. Klausner, MD¹
¹VCU School of Medicine, Division of Urology, Richmond, VA; ²VCU School of Medicine, Department of Neurosurgery, Richmond, VA
Presented By: Sarah C. Krzastek
Poster #NM89
REVIEW OF THE MOST COMMONLY USED HERBAL SUPPLEMENTS FOR “PROSTATE ENLARGEMENT”: WHERE IS THE EVIDENCE?

Michelle Kim, MD, PhD; Mahdi Zangi, MD; Reza Nabavizadeh, BS; Maryam Bejestani, BA; Shahin Tabatabaei, MD
MGH, Boston, MA
Presented By: Michelle Kim

Poster #NM90
DECISION-MAKING IN MEN CONSIDERING USE OF NON-PRESCRIPTION TAMSULOSIN FOR LOWER URINARY TRACT SYMPTOMS

Joshua A. Cohn, MD¹; Roger R. Dmochowski, MD, MMHC, FACS¹; Casey Kowalik, MD¹; Douglas Bierer, PhD²; Anna E. Verbeek, PhD²; Jan Wruck, PhD³
¹Vanderbilt University Medical Center, Nashville, TN; ²Douglas Bierer Consulting, LLC, Cincinnati, OH; ³Boehringer-Ingelheim, Ridgefield, CT
Presented By: Joshua A. Cohn

Poster #NM91
INCREASED TRANSITIONAL ZONE SIZE CORRELATES WITH INCREASED LASER ENERGY USED IN HOLEP PROCEDURES AND DECREASED PREOPERATIVE URINE FLOW

Lawrence M. Lee, MD; Ajay Puri, MD; Whitney R. Smith, MD; Patricia Zahner, MD; Amar J. Raval, MD; Akhil K. Das, MD; Patrick J. Shenot, MD, FACS
Thomas Jefferson University Hospital, Philadelphia, PA
Presented By: Whitney R. Smith
Video Session II  
Saturday, March 4, 2017  
7:00 a.m. - 8:00 a.m.  

Moderators: Matthew P. Rutman, MD  
Kamran P. Sajadi, MD  

Video #7  
**COMPLEX HORSESHOE MULTILEOCULATED URETHRAL DIVERTICULUM REPAIR**  
Philippe E. Zimmern, MD, FACS, FPRMS  
*UT Southwestern Medical Center*  
Presented By: Philippe E. Zimmern  

Video #8  
**FEMALE URETHROPLASTY WITH BUCCAL MUCOSAL GRAFT FOR STRicture DISEASE**  
Alexander Small, MD; Carrie M. Mlynarczyk, MD; Henry Tran, MD; Doreen Chung, MD  
*New York Presbyterian Hospital / Columbia University Medical Center, New York, NY*  
Presented By: Carrie M. Mlynarczyk  

Video #9  
**REPAIR OF NEOBLADDER VESICOVAGINAL FISTULA WITH PEDICLED ISLAND SKIN FLAP**  
Daniel S. Hoffman, MD; Alon Mas, MD; Victor W. Nitti, MD  
*New York University Langone Medical Center*  
Presented By: Daniel S. Hoffman  

Video #10  
**TRANSVAGINAL BLADDER NECK CLOSURE FOR THE DEVASTATED FEMALE URETHRA**  
Gregory Murphy, MD¹; Richard T. Kershen, MD²  
¹UCSF School of Medicine, San Francisco, CA; ²Tallwood Institute of Urology, HHCMG, Hartford, CT  
Presented By: Richard T. Kershen  

Video #11  
**BLADDER AUGMENT WITH BLADDER NECK CLOSURE AND CONTINENT STOMA**  
Jennifer Yeung, DO¹; Benjamin Smith, MD¹; Donna Mazloomdoost, MD¹; Catrina Crisp, MD, MSc¹; Rachel Pauls, MD¹; Steven Kleeman, MD¹; Ayman Mahdy, MD, PhD²  
¹TriHealth, Cincinnati, OH; ²University of Cincinnati, Cincinnati, OH  
Presented By: Jennifer Yeung  

Video #12  
**BURIED PENIS REPAIR: A MULTIDISCIPLINARY APPROACH**  
Melanie A. Adamsky, MD¹; Andrew Cohen, MD²; Lawrence Zachary, MD²; Jeff Kim, MD²; Mieczyslaw Franczyk, MD¹; Sarah Faris, MD²; Gregory Bales, MD²  
¹University of Chicago Medicine, Chicago, IL; ²University of Chicago, Chicago, IL  
Presented By: Melanie A. Adamsky
Podium #33
EFFECTS OF BARIATRIC SURGERY ON FEMALE LOWER URINARY TRACT SYMPTOMS AND SEXUAL FUNCTION

Asnat Groutz, MD¹; Avner Leshem, MD¹; David Gordon, MD¹; Mordechai Shimonov, MD²
¹Lis Maternity and Women's Hospital, Tel Aviv, Israel; ²Wolfson Medical Center, Holon, Israel
Presented By: Asnat Groutz, MD

Podium #34
EFFECT OF TYPE OF DELIVERY AND NUMBER OF DELIVERIES ON PATIENT REPORTED URINARY OUTCOMES: RESULTS FROM A NATIONALWIDE SAMPLE

Michael Daugherty, MD; Timothy K. Byler, MD; Natasha Ginzburg, MD
SUNY Upstate Medical University, Syracuse, NY
Presented By: Natasha Ginzburg

Podium #35
DIFFERENCES IN CONVALESCENCE AFTER PUBOVAGINAL SLING OR SYNTHETIC MIDURETHRAL SLING

Lucas Berry¹; J. Quentin Clemens, MD, MSCI²; John T. Stoffel, MD²; J. Stuart Wolf, Jr., MD²; Steven Thelen-Perry, BS³; Hye Sung Min, MS³; Anne K. Pelletier-Cameron, MD, FPMRS⁴
¹Jackson, MI; ²Ann Arbor, MI
Presented By: Anne K. Pelletier-Cameron

Podium #36
LONGTERM FOLLOW UP IN PATIENTS WITH MID-URETHRAL SLINGS WITH BMI GREATER THAN 40

Solafa Elshatanoufy, PharmD, MD¹; Meghan Griffin, DO²; Yun Wang, BS³; Marcus Jamil⁴; Alexandra Matthews⁵; Mairy Yousi⁶; David Richardson, MD⁷; Humphrey O. Atiemo, MD⁷; Ali Luck, MD⁷
¹Henry Ford Health Systems, Detroit, MI; ²Providence Hospital, Southfield, MI; ³Henry Ford Health System, Detroit, MI; ⁴Wayne State University School of Medicine, Henry Ford Health System, Detroit, MI; ⁵Wayne State University School of Medicine, Henry Ford Health System, Detroit, MI; ⁶University of Michigan. Henry Ford Health System; ⁷Henry Ford Health System
Presented By: Solafa Elshatanoufy

Podium #37
BOWEL FUNCTION, SEXUAL FUNCTION, AND SYMPTOMS OF PELVIC ORGAN PROLAPSE IN WOMEN WITH AND WITHOUT URINARY INCONTINENCE

Anne K. Pelletier-Cameron, MD, FPMRS¹; Nazema Y. Siddiqui, MD, MHS²; Jonathan Wiseman, MS¹; Margaret Helmuth, MA¹; Cindy L. Amundsen, MD²; J. Quentin Clemens, MD, MSCI¹; Catherine S. Bradley, MD²; David Cella, PhD⁴; H. Henry Lai, MD⁵; Kimberly Kenton, MD⁶; Bradley A. Erickson, MD, MS, FACS³; Brenda W. Gillespie, PhD¹; Robert M. Merion, MD, FACS¹; Ziya Kirkali, MD⁶; John W. Kusek, PhD⁶
¹Ann Arbor, MI; ²Durham, NC; ³Iowa City, IA; ⁴Chicago, IL; ⁵St. Louis, MO; ⁶Bethesda, MD
Presented By: Anne K. Pelletier-Cameron
Podium #38
THE ECONOMIC BURDEN OF OVERACTIVE BLADDER (OAB) AND ITS EFFECTS ON THE COSTS ASSOCIATED WITH OTHER CHRONIC, AGE-RELATED COMORBIDITIES IN THE UNITED STATES

Emily Durden, PhD¹; David Walker, PhD²; Stephani Gray, MA¹; Rob Fowler, MS¹; Paul Juneau, MS¹; Katherine Gooch, PhD²
¹Truven Health Analytics, Bethesda, MD; ²Astellas, Northbrook, IL
Presented by: Emily Durden

Podium #39
HOW TO IMPROVE PUBOVAGINAL SLING OUTCOMES: COMPARISON OF TWO TECHNIQUES FOR SLING TENSIONING IN 177 PATIENTS

Michael Maccini, MD; Tamara P. Lhungay, BS; Tyler Doumaney; Aleksander C. Blubaum, BA; Stephen Blakely, MD; Brian J. Flynn, MD
Aurora, CO
Presented by: Aleksandar C. Blubaum

Podium #40
THE EFFECT OF MIXED URINARY INCONTINENCE ON CATHETERIZATION RATE AFTER INTRADETRUSOR ONABOTULINUMTOXINA: IS STRESS INCONTINENCE PROTECTIVE?

Dianne Glass, MD, PhD¹; Daniel S. Hoffman, MD¹; Ekene A. Enemchukwu, MD, MPH²; Benjamin M. Brucker, MD¹; Victor W. Nitti, MD¹
¹New York University Langone Medical Center, Department of Urology, New York, NY; ²Stanford University, Department of Urology, Palo Alto, CA
Presented By: Dianne Glass

Podium #41
FEMALE SEXUAL DYSFUNCTION TREATMENT: A META-ANALYSIS OF THE PLACEBO EFFECT ACROSS RANDOMIZED CONTROLLED TRIALS

James M. Weinberger, BS¹; Justin Houman, MD²; Ashley Caron, BS²; Avi Baskin, BS³; A. Lenore Ackerman, MD, PhD³; Karyn S. Eilber, MD³; Jennifer T. Anger, MD, MPH, FPMRS³
¹David Geffen School Of Medicine At UCLA & UCLA Anderson School Of Management; ²Department of Surgery, Division of Urology, Cedars-Sinai Medical Center, Los Angeles, CA; ³David Geffen School of Medicine at UCLA, Los Angeles, CA
Presented By: James Weinberger
Pelvic Organ Prolapse/Reconstruction Moderated Poster Session
Saturday, March 4, 2017
8:00 a.m. - 9:30 a.m.

Moderators: Emily E. Cole, MD
Rebecca S. Lavelle, MD

Poster #M51
WITHDRAWN

Poster #M52
DYNAMIC PELVIC MRI IN THE EVALUATION OF PELVIC ORGAN PROLAPSE AND CORRELATION WITH PHYSICAL EXAM FINDINGS

Frank C. Lin, MD, MS¹; Hina A. Tiwari, MD²; Bobby T. Kalb, MD²; Joel T. Funk, MD¹; Christian O. Twiss, MD¹
¹Division of Urology, University of Arizona; ²Department of Radiology, University of Arizona
Presented By: Frank C. Lin

Poster #M53
THE IMPACT OF CONCURRENT PROCEDURES ON PERIOPERATIVE OUTCOMES AMONG WOMEN UNDERGOING ABDOMINAL SACROCLOPOPEXY: MIDURETHRAL SLING PLACEMENT IS ASSOCIATED WITH INCREASED RISK OF COMPLICATION

William Boysen, MD; Andrew Cohen, MD; Melanie A. Adamsky, MD; Joseph Rodriguez, MD; Sarah Faris, MD; Gregory T. Bales, MD
University of Chicago, Chicago IL
Presented By: William Boysen

Poster #M54
THE IMPACT OF CONCOMITANT SUI SURGERY ON PATIENTS UNDERGOING VAGINAL PROLAPSE REPAIR: ANALYSIS OF HOSPITAL SURGICAL QUALITY MEASURES.

Dominique R. Malacarne, MD; Benjamin M. Brucker, MD
New York University Langone Medical Center, New York, NY
Presented By: Dominique R. Malacarne

Poster #M55
TEN-YEAR REVIEW OF SURGICAL MANAGEMENT OF ICS/IUGA CATEGORY 1-4 TRANsvAGINAL MESH COMPLICATIONS FOLLOWING PROLAPSE KITS

Salvatore Catarinicchia, MD¹; Aleksandar C. Blubaum, BA²; Kirk Anderson, MD¹; Lisa Parrillo, MD¹; Brian J. Flynn, MD¹
¹University of Colorado, Division of Urology, Aurora, CO; ²University of Colorado School of Medicine
Presented By: Aleksandar C. Blubaum
Poster #M56
DIRECT TO CONSUMER ADVERTISING FOR ROBOTIC ASSISTED SACROCOLPOPEXY: ARE PATIENTS GETTING THE RIGHT INFORMATION?

Brent Medoff¹; Juzar Jamnagerwalla, MD²; Dominique Thomas³; Jennifer T. Anger, MD, MPH, FPMRS²; Bilal I. Chughtai, MD³
¹The Commonwealth Medical College, Scranton, PA; ²Cedars-Sinai Medical Center, Los Angeles, CA; ³Weill Cornell Medical College-New York Presbyterian Hospital, New York, NY
Presented By: Brent Medoff

Poster #M57
THE EFFECT OF RESIDENT INVOLVEMENT IN PELVIC PROLAPSE SURGERY: A RETROSPECTIVE STUDY FROM A NATIONWIDE INPATIENT SAMPLE

Maxx K. Caveney, BSc¹; Catherine A. Matthews, MD²; Majid Mirzazadeh, MD²
¹Wake Forest School of Medicine; ²Department of Urology, Wake Forest School of Medicine, Winston-Salem, NC
Presented By: Maxx K. Caveney

Poster #M58
POSTERIOR COMPARTMENT PROLAPSE OCCURRENCE AFTER ANTERIOR VAGINAL WALL SUSPENSION

Rena D. Malik, MD; Alana Christie, MS; Philippe E. Zimmern, MD, FACS, FPRMS
UT Southwestern Medical Center, Dallas, TX
Presented By: Rena D. Malik

Poster #M59
UNDERSTANDING SIMPLE CYTSECTOMY FOR BENIGN DISEASE: A UNIQUE PATIENT COHORT WITH SIGNIFICANT RISKS

Carrie M. Mlynarczyk, MD¹; Arindam R. Coudhury, PhD²; Henry Tran, MD¹; Marissa Theofanides, MD¹; Doreen E. Chung, MD¹
¹Department of Urology, Columbia University, New York, NY; ²Department of Biostatistics, Mailman School of Public Health, Columbia University, New York, NY
Presented By: Carrie Mlynarczyk

Poster #M60
POST-OPERATIVE URETHROPLASTY MANAGEMENT: IS PERICATHETER RUG A BETTER IMAGING ALTERNATIVE?

Rachael D. Sussman, MD; F. Cameron Hill, MD; Versha Patel, MPH; Elizabeth T. Brown, MD, MPH; Krishnan Venkatesan, MD
Washington, DC
Presented By: Rachael D. Sussman

Poster #M61
SUPRAMEatal URETHROlysis with MArtius FLAP INTERPOSITION FOR REFRACTORY IATROGENIC BLadder OUTlet OBSTRUCTION FOLLOWING ANti-INCONTINENCE SURGERY IN WOMEN

Janine L. Oliver, MD; Evgeniy I. Kreydin, MD; Shlomo Raz, MD
Department of Urology, David Geffen School of Medicine at UCLA, University of California Los Angeles, Los Angeles, CA
Presented By: Janine L. Oliver
Poster #M62
THE IMPACT OF MESENTERIC WINDOW CLOSURE AFTER HARVESTING ILEUM FOR UROLOGIC RECONSTRUCTIVE SURGERY

Michael Avallone, MD; Peter Dietrich, MD; Shanta Shepherd, MD; Mona Lalehzari, BS; R. Corey O’Connor, MD, FACS; Michael L. Guralnick, MD, FACS
Milwaukee, WI
Presented By: Michael Avallone

Poster #M63
SHORT AND LONG-TERM ORAL COMPLICATIONS OF BUCCAL MUCOSAL GRAFT HARVEST FOR MALE AND FEMALE URETHROPLASTY

Marco Spilotros, MD, FEBU; Hazel Ecclestone, MD, FRCS; Bashir Mukhtar, MB ChB; Sachin Malde, MSc, FRCS, MB ChB; Mahreen Pakzad, MD, FRCS, MB ChB; Rizwan Hamid, MSc, FRCS (Urol), MB ChB; Jeremy Ockrim, MD, FRCS, MB ChB; Tamsin J. Greenwell, MD, FRCS, MB ChB
UCLH Urology, UCLH, London, UK
Presented By: Hazel Ecclestone, MD, FRCS

Poster #M64
BIOSIMILAR DEVICES FOR AUTOGRRAFT AND ALLOGRAFT REPLACEMENTS: A NOVEL BIOMIMETIC STUDY USING ELECTROCHEMICAL ALIGNED COLLAGEN-BASED BIOTEXTILES AND HUMAN MESENCHYMAL STEM CELLS (HMSCS).

XingGuo Cheng, PhD¹; Nicole Edwards, BS, BME¹; Bradley C. Gill, MD²; David R. Staskin, MD³; Raymond R. Rackley, MD²
¹Southwest Research Institute, San Antonio, TX; ²Cleveland Clinic, Cleveland, OH; ³Steward Health Tufts University School of Medicine, Boston, MA
Presented By: Raymond R. Rackley
Podium #42
ANTIMUSCARINIC USE IN THE ELDERLY: A POISONED APPLE?

Daniel T. Pucheril, MD, MBA¹; Patrick Karabon, MSc²; Quoc-Dien Trinh, MD³; Bilal I. Chughtai, MD⁴; Humphrey O. Atiemo, MD²
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Presented By: Daniel T. Pucheril

Podium #43
THE EFFECT OF SOLIFENACIN ON POST-VOID DRIBBLING IN WOMEN: RESULTS OF A RANDOMIZED, PLACEBO-CONTROLLED TRIAL

Tova Ablove, MD¹; Lauren Bell, PhD²; Hong Liang, PhD²; Richard Chappell, PhD³; Steven Yale, MD²
¹University at Buffalo, Department of Obstetrics and Gynecology; ²North Florida Regional Medical Center, Department of Medicine; ³University of Wisconsin, Department Biostatistics
Presented By: Tova Ablove

Podium #44
PATIENT REPORTED OUTCOMES FROM SYNERGY, A RANDOMIZED, DOUBLE-BLIND, MULTICENTER STUDY EVALUATING COMBINATIONS OF MIRABEGRON AND SOLIFENACIN COMPARED WITH MIRABEGRON AND SOLIFENACIN MONOTHERAPY

Elizabeth R. Mueller, MD, MSME¹; Dudley Robinson²; Con Kelleher³; David R. Staskin, MD⁴; Christian Falconer⁵, Jianye Wang⁶, Arwin Ridder⁷, Matthias Stoelzel¹, Asha Paireddy⁷, Rob van Maanen⁷, Zalmai Hakimi⁵; Sender Herschorn, BS, MDCM, FRCSC⁸
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Presented By: Elizabeth R. Mueller

Podium #45
AUA WHITE PAPER: NON-NEUROGENIC CHRONIC URINARY RETENTION: CONSENSUS DEFINITION, MANAGEMENT STRATEGIES, AND FUTURE OPPORTUNITIES

John T. Stoffel, MD¹; Andrew C. Peterson, MD²; Jaspreet Sandu, MD³; Anne M. Suskind, MD, MS⁴; John T. Wei, MD, MS⁵; Deborah J. Lightner, MD⁶
¹University of Michigan, Ann Arbor, MI; ²Durham, NC; ³New York, NY; ⁴San Francisco, CA; ⁵Ann Arbor, MI; ⁶Rochester, MN
Presented By: John T. Stoffel, MD
Podium #46
EFFICACY AND SAFETY OF ONABOTULINUMTOXINA 100U FOR TREATMENT OF URINARY INCONTINENCE DUE TO NEUROGENIC DETRUSOR OVERACTIVITY IN NONCATHERETERIZING MULTIPLE SCLEROSIS PATIENTS

Alfred D. Kohan, MD, FACS¹; Francisco Cruz²; Pierre Denys³; Blair Egerdie⁴; Emmanuel Chartier-Kastler⁵; Andrew Magyar⁶; JP Nicandro⁷; Benjamin M. Brucker, MD⁸
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Presented By: Alfred D. Kohan

Podium #47
SER120 NASAL SPRAY IS EFFECTIVE FOR THE TREATMENT OF NOCTURIA IN PATIENTS REGARDLESS OF ETIOLOGY: A POOLED ANALYSIS OF TWO RANDOMIZED, PLACEBO-CONTROLLED PHASE 3 TRIALS

David O. Sussman, DO¹; Jed C. Kaminetsky, MD²; Mitchell D. Efros, MD³; Scott A. MacDiarmid, MD⁴; Steven Abrams⁵; Emily Weng⁶; Maria Cheng⁷; Seymour Fein⁸; Roger R. Dmochowski, MD, MMHC, FACS⁹
¹Rowan University School of Osteopathic Medicine, Sewell, NJ; ²NYU Medical Center, New York, NY; ³Accumed Research Associates, Garden City, NY; ⁴Alliance Urology Specialists, Greensboro, NC; ⁵Allergan plc, Irvine, CA; ⁶Serenity Pharmaceuticals LLC, Milford, PA; ⁷Vanderbilt University, Nashville, TN
Presented By: David O. Sussman

Podium #48
PREDICTORS OF A RETURN OF VOLITIONAL VOIDING AFTER SPINAL CORD INJURY

Dimitar V. Zlatev, MD¹; Kazuko Shem, MD²; Christopher S. Elliott, MD, PhD³
⁠¹Stanford University Medical Center, Stanford, CA; ²Santa Clara Valley Medical Center, San Jose, CA
Presented By: Christopher S. Elliott

Podium #49
ASSOCIATION BETWEEN URINARY SYMPTOM SEVERITY AND AUTOMATED SEGMENTATION OF WHITE MATTER PLAQUE IN WOMEN WITH MULTIPLE SCLEROSIS

Siobhan M. Hartigan, MD¹; Steven J. Weissbart, MD²; Michel Bilello, MD, PhD³; Diane Newman, DNP, FAAN, BCB-PMD⁴; Alan J. Wein, MD, PhD, FACS⁵; Ariana Smith, MD⁶
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Presented By: Siobhan M. Hartigan

Podium #50
SURVEILLANCE CYSTOSCOPY HAS MINIMAL DIAGNOSTIC YIELD IN PATIENTS WITH AUGMENTATION CYSTOPLASTY

Ronak Gor, DO¹,²; Matthew Donoghue, BS¹; Shyam Sukumar, MD¹; Jenna R. Katorski, CNP²; Sean P. Elliott, MD, FACS¹,²
¹University of Minnesota, Minneapolis, MN; ²Gillette Lifetime Specialty Healthcare, St. Paul, MN
Presented By: Ronak Gor
Poster #NM92
TRANSVAGINAL MESH INCREASES THE RISK OF BLEEDING, ORGAN SURGICAL SITE INFECTION, AND PULMONARY EMBOLISM IN VAGINAL PELVIC RECONSTRUCTION SURGERY: RESULTS FROM A MULTI-INSTITUTIONAL DATASET

Maxx K. Caveney, BSc¹; Devin Haddad, MD²; Catherine A. Matthews, MD³; Gopal H. Badlani, MD³; Majid Mirzazadeh, MD³
¹Wake Forest School of Medicine; ²Wake Forest School of Medicine, Winston-Salem, NC; ³Department of Urology, Wake Forest School of Medicine, Winston-Salem, NC
Presented By: Maxx K. Caveney

Poster #NM93
CORRELATION BETWEEN VALSALVA EFFORT AND PELVIC ORGAN PROLAPSE: A PILOT OBSERVATION

Woojin Chong, MD; Andrew J. Fantl, MD
Female Pelvic Medicine and Reconstructive Surgery, Obstetrics, Gynecology and Reproductive Science, Mount Sinai Medical Center/Icahn School of Medicine, New York, NY
Presented By: Woojin Chong

Poster #NM94
DEFINING THE PREVALENCE OF ASYMPTOMATIC MICROSCOPIC HEMATURIA AMONG WOMEN WITH PELVIC ORGAN PROLAPSE: IMPLICATIONS FOR RECOMMENDING SUBSEQUENT DIAGNOSTIC EVALUATION

Brian J. Linder, MD; Stephen A. Boorjian, MD; Emanuel C. Trabuco, MD, MS; John Gebhart, MD, MS; John Occhino, MD, MS
Mayo Clinic, Rochester, MN
Presented By: Brian J. Linder

Poster #NM95
SECONDARY COMPARTMENT PROLAPSE OCCURRENCE AFTER OPEN MESH SACROCOLPOPEXY WITH VERY LATE FOLLOW-UP

Connie N. Wang; Alana Christie, MS; Philippe E. Zimmern, MD, FACS, FPRMS
UT Southwestern Medical Center
Presented By: Connie N. Wang

Poster #NM96
TRANSVAGINAL MESH IS NOT ASSOCIATED WITH CARCINOGENESIS

Bilal I. Chughtai, MD¹; Art Sedrakyan, MD, PhD²; Jialin Mao, MD, MSc²; Dominique Thomas, BS³; Karyn Eilber, MD, FPMRS⁴; J. Quentin Clemens, MD, FACS, MSCI⁴; Jennifer T. Anger, MD, MPH, FPMRS⁴
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Presented By: Bilal I. Chughtai
Poster #NM97
VAGINAL PARAVAGINAL DEFECTS: IS REPAIR WITH MESH BETTER?

Nima Shah, MD¹; Babak Vakili, MD²; Howard Goldstein, DO, MPH³; Kristene E. Whitmore, MD³; Emily Saks, MD²
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Presented By: Nima Shah

Poster #NM98
TRENDS IN SURGICAL APPROACH TO APICAL PELVIC ORGAN PROLAPSE IN A NATIONAL SAMPLE

Emily Slopnick, MD; Andrey Petrikovets, MD¹; Robert Abouassaly, MD¹; Simon Kim, MD, MPH¹; Carvell T. Nguyen, MD, PhD¹; Adonis K. Hijaz, MD¹
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Presented By: Emily Slopnick

Poster #NM99
ADOPTION OF ROBOT-ASSISTED SACROCOLPOPEXY: OUTCOMES AND COMPARISON WITH OPEN SACROCOLPOPEXY

James E. Pilkington, MD; Lara N. Hutchinson, BS; Clifton F. Frilot, II, MBA, PE, PhD; Alexander Gomelsky, MD
Louisiana State University School of Medicine, Shreveport, LA
Presented By: James E. Pilkington

Poster #NM100
FEASIBILITY OF SAME DAY DISCHARGE AFTER ROBOTIC ASSISTED PELVIC FLOOR RECONSTRUCTION

Juan M. Guzman-Negron, MD; Jessica C. Lloyd, MD; Elodi Dielubanza, MD; Henry T. Okafor, MD; Howard B. Goldman, MD
Cleveland Clinic Lerner College of Medicine, Cleveland, OH
Presented By: Juan M. Guzman-Negron

Poster #NM101
“PATIENT-TAILORED” MESH GRAFT FOR ANTERIOR COMPARTMENT REPAIR USING VERTESSA LITE MESH: JUST ENOUGH BUT NOT TOO MUCH - TWO YEAR OUTCOMES

Matthew E. Karlovsky, MD
Arizona State Urological Institute, Phoenix, AZ
Presented By: Matthew E. Karlovsky

Poster #NM102
TRANSVAGINAL MESH PLACEMENT AND THE INSTRUCTIONS FOR USE: A SURVEY OF NORTH AMERICAN UROLOGISTS

Kenneth D. Faber, MD; Debra L. Fromer, MD; Gina Kirkpatrick, DO, MPH, MBA
Hackensack University Medical Center
Presented By: Gina Kirkpatrick
Poster #NM103
ROLE OF CONCURRENT VAGINAL HYSTERECTOMY ON OUTCOMES OF MESH-BASED PELVIC ORGAN PROLAPSE SURGERY

James Forde, MD, MSc, FRCS (Urol); Bilal I. Chughtai, MD; Dominique Thomas, BS; Ramy S. Goueli, MD, MHS; Jennifer T. Anger, MD, MPH, FPMRS; Jialin Mao, MD, MSc; Art Sedrakyan, MD, PhD
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Presented By: Ramy S. Goueli

Poster #NM104
DETRUSOR UNDERACTIVITY MAY PRESENT A RISK FACTOR TO PELVIC ORGAN PROLAPSE

Wesly Bass, MD
Southern Illinois University, Carbondale, IL
Presented By: Wesly Bass

Poster #NM105
COMPARISON OF PATIENT CHARACTERISTICS WITH SHORT VERSUS LONG LENGTH OF STAY AFTER MINIMALLY INVASIVE SACROCOLPOPEXY

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Presented By: Zaid Chaudhry

Poster #NM106
Sacrospinous Ligament Fixation Using Tissue Anchoring Systems May Reduce the Procedure Length with Similar Outcomes Compare with Classical Techniques

Javier Pizarro-Berdichevsky, MD; Marco Arellano, MD; Howard B. Goldman, MD
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Presented By: Javier Pizarro-Berdichevsky

Poster #NM107
MULTI-INSTITUTIONAL OUTCOMES FOR URINARY DIVERSION PERFORMED SIMULTANEOUSLY OR AFTER COLOSTOMY: DOES TIMING AFFECT POST-OPERATIVE RECOVERY?

Paholo G. Barboglio Romo, MD, MPH; Yahir Santiago-Lastra, MD; Sean Elliot, MD, MS; Katherine A. Cotter, MD; Piyush Pathak, MD; Jeremy B. Myers, MD; John T. Stoffel, MD
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Presented By: Paholo G. Barboglio Romo
Abstract Listing

Poster #NM108  
EFFECTS OF VENOUS THROMBOEMBOLISM PROPHYLAXIS FOR OBESE PATIENTS IN URETHRAL RECONSTRUCTION

Rachael D. Sussman, MD; F. Cameron Hill, MD; Eric Springer, MD; Elizabeth Timbrook Brown, MD, MPH; Mohan Verghese, MD; Krishnan Venkatesan, MD  
Washington, DC  
Presented By: Rachael D. Sussman

Poster #NM109  
FEMALE URETHRAL DISTRACTION INJURIES: A SYSTEMATIC REVIEW OF THE LITERATURE

Devlin Patel, MD¹; James M. Weinberger, BS¹; Cynthia S.M. Fok, MD, MPH²; Jennifer T. Anger, MD, MPH, FPMRS¹  
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Presented By: Devlin Patel

Poster #NM110  
SURGICAL MANAGEMENT AND OUTCOMES OF ADULT BURIED PENIS: AN INSTITUTIONAL SERIES

Melanie A. Adamsky, MD¹; Andrew Cohen, MD²; J. Riley McGinnis, BA²; Joseph Rodriguez, MD²; William Boysen, MD²; Sarah Faris, MD²; Gregory T. Bales, MD²  
¹University of Chicago Medicine, Chicago, IL; ²University of Chicago, Chicago, IL  
Presented By: Melanie A. Adamsky

Poster #NM111  
MANAGEMENT OF PUBIC OSTEOMYELITIS FOLLOWING PELVIC RADIATION WITH SIMULTANEOUS PUBIC DEBRIDEMENT AND URINARY DIVERSION

Daniel Shapiro, MD¹; David Goodspeed, MD²; Wade Bushman, MD, PhD¹  
¹University of Wisconsin, Department of Urology, Madison, WI; ²University of Wisconsin, Department of Orthopedics, Madison, WI  
Presented By: Daniel Shapiro

Poster #NM112  
THE ROAD TO RECOVERY AFTER TRANSVAGINAL SURGERY FOR SLING EROSION: AN EVALUATION OF PERIOPERATIVE OUTCOMES AND SUBSEQUENT PROCEDURES

Casey Kowalik, MD¹; Patrick Lang, MD²; Andrea Kakos, MD³; Joshua A. Cohn, MD¹; W. Stuart Reynolds, MD, MPH¹; Melissa R. Kaufman, MD, PhD¹; Micke M. Karram, MD²; Roger R. Dmochowski, MD, MMHC, FACS¹  
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Presented By: Casey Kowalik

Poster #NM113  
URINARY-CUTANEOUS FISTULAE FOLLOWING CONSERVATIVE MANAGEMENT OF EXTRAPERITONEAL BLADDER RUPTURES

Niels V. Johnsen, MD; Rachel Sosland, MD; Jason Young, MD; Joshua A. Cohn, MD; W. Stuart Reynolds, MD, MPH; Melissa R. Kaufman, MD, PhD; Douglas F. Milam, MD; Oscar Guillamondegui, MD; Roger R. Dmochowski MD, MMHC, FACS  
Vanderbilt University, Nashville, TN  
Presented By: Rachel Sosland
Poster #NM114
SHOULD WE TREAT ONE PAD INCONTINENCE?

Miriam Greenstein, MD¹; Neil H. Grafstein, MD²
¹New York; ²Icahn School of Medicine at Mount Sinai, New York, NY
Presented By: Miriam Greenstein

Poster #NM115
LONG TERM RESULT OF TRANSURETHRAL ENDOSCOPIC HOLMIUM (TEH) LASER FOR URETHRAL EROSION OF SYNTHETIC SLINGS

Connie N. Wang; Gary E. Lemack, MD; Philippe E. Zimmern, MD, FACS, FPRMS
UT Southwestern Medical Center, Dallas, TX
Presented By: Connie N. Wang

Poster #NM116
TEMPORAL TRENDS IN THE INCIDENCE OF PELVIC FRACTURE-ASSOCIATED URETHRAL DISTRACTION DEFECTS IN THE UNITED STATES

Dennis J. Thum, MD¹; Catherine Bresee, PhD²; Colby P. Souders, MD²; Alex Hannemann, BS³; Jennifer T. Anger, MD, MPH, FPMRS³; George D. Webster, MD³
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Presented By: Dennis J. Thum

Poster #NM117
VESICOVAGINAL FISTULA IS RARELY ASSOCIATED WITH URETERIC INJURY.

Anthony Kiosoglous, MBBS; Hazel Ecclestone, MD, FRCS; Bashir Mukhtar, MB BS; Alice Beardmore-Gray, MB ChB; Mahreen Pakzad, MD, FRCS, MB ChB; Rizwan Hamid, MSc, FRCS (Urol), MB ChB; Jeremy Ockrim, MD, FRCS, MB ChB; Tamsin J. Greenwell, MD, FRCS, MB ChB
UCLH Urology, UCLH, London, UK
Presented By: Hazel Ecclestone

Poster #NM118
PROTECTIVE EFFECT OF PLATELET-RICH PLASMA ON URETHRAL STRICTURE MODEL OF MALE RATS

Hasan H. Tavukcu, MD¹; Aytac O.¹; Fatih Atug, MD¹; Alev B.²; Cevik Ö³; Yarat A.⁴; Cetinel S.⁵; Sener G.²; Haluk Kulaksizoglu, MD¹
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Presented By: Haluk Kulaksizoglu

Poster #NM119
YV-PLASTY FOR REFRACTORY BLADDER NECK CONTRACTURE

Adiel E. Mamut, MD, FRCSC; Kevin V. Carlson, MD, FRCSC; Richard Baverstock, BSc, MD, FRCSC
Vesia [Alberta Bladder Centre] University of Calgary, Calgary AB
Presented By: Adiel E. Mamut
Poster #NM120
RISK OF NEEDING SURGERY FOR VAGINAL MESH EROSION IN PATIENTS WITH A DIAGNOSIS OF BREAST CANCER: A RETROSPECTIVE CASE SERIES

Margaret R. Hines, MD¹; Melissa L. Dawson, DO, MPH²; Howard Goldstein, DO, MPH³
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Presented By: Margaret R. Hines
BIG POTASSIUM CHANNEL (BK) ACTIVITY IN FEMALE MOUSE BLADDER UMBRELLA CELLS IS ENHANCED BY BACTERIAL LIPOPOLYSACCHARIDE: AN ACUTE HOST RESPONSE IN UTI PATHOGENESIS

***Ming Lu, MD; JianRi Li, MD; Yan Li, MD, PhD; Shan Yu, MD; Toby C. Chai, MD
Yale, New Haven, CT
Presented By: Toby C. Chai

Introduction: Lipopolysaccharide (LPS) has been used as a surrogate for E. coli in study of host response to urinary tract infections. We utilized our published method to isolate basal membrane of apical urothelial for patch clamp studies. We measured potassium channel activities in the apical cell and changes in the large conductance potassium channel activity when the urothelium was exposed to LPS. This work highlights the importance of apical cells in acute host response to uropathogens.

Methods: Female C57BL/6 mice 8-12 weeks of age were used. Pure urothelium was dissected out using our published technique. Urothelium was placed luminal-side down and umbrella cells were exposed after removing basal and intermediate cells with a glass micropipette (Fig. 1). Both inside-out and cell attached configurations were used. Urothelium was exposed to 40 µg/ml of LPS for 30 minutes. Blockers of BK (paxilline, iberiotoxin), LPS (polymyxin B), protein kinase A (H89) were also used. RT-PCR was performed to assess expression of BK and LPS-receptors (TLR4, CD14, and MD-2).

Results: Two K conductances were found, 28.3±1pS and 200.6±4pS. The 200pS channel was sensitive to intracellular calcium, voltage and blocked with iberiotoxin and paxilline. RT-PCR and immunofluorescence confirmed presence of BK in urothelium. This suggested that the 200pS channel was the BK channel. LPS significantly increased BK channel activity of NPo from 0.50±0.13 to 1.62±0.31 (p<0.001) (Fig. 2); this effect was abrogated by polymyxin B (Fig. 2) and H89. TLR4, CD14 and MD-2 mRNAs were expressed only in the urothelium and not lamina propria or detrusor smooth muscle.

Conclusion: To our knowledge, this is the first time basal membranes of umbrella cells have been patch clamped. LPS significantly increased BK channel activity. This change in apical membrane activity represents an early host urothelial cell response to UTI. While we did not study the downstream results of increased BK activity, it is likely that this would have shown increased urothelial cytokine release. This BK-dependent cytokine release mechanism has been described in macrophages.

*** 2017 Basic Science Prize Essay Award Recipient: Ming Lu, MD
Podium/Poster #BS1
QUANTIFICATION AND RECONSTRUCTION OF 3D MICROVESSEL ARCHITECTURE BETWEEN THE VAGINA AND BLADDER

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Presented By: Snehal Salunke

Introduction: To investigate the micro-anatomy of the trans-mucosal space between the vagina and the trigone. We hypothesize that a microvessel connection exists between the vagina and the bladder, allowing drugs like estrogen to travel from the vagina to the bladder without entering the systemic circulation.

Methods: A high resolution 3D reconstruction and 2D visualization of the microvessel architecture was created; (1) Tissue was collected from a fresh cadaver (<24h), blocked and stained with CD31 stain to visualize endothelium. (2) The slides were digitized and registered sequentially. (3) The microscopic image data was manually segmented. (4) A 3D mesh reconstruction was created from the segmented image stack.

Results: We were able to accurately model and visualize the micro-anatomy of the trans-mucosal trigone region between the vagina and the bladder using serial histology. Figure 1a illustrates a 2D quantification of the tissue according to microvessel size; Figure 1b shows the resulting 3D model a small microvessel. The microvasculature is less dense and the vessels are smaller in the center of the specimen.

Conclusion: A unique microvascular architecture exists in the region between the vagina and bladder that can be accurately characterized, and is a promising vehicle for minimally invasive drug delivery to the bladder.
THE ROLE OF THE MUCOSA IN MODULATION OF EVOKED RESPONSES IN THE SPINAL CORD INJURED RAT BLADDER

Claire Doyle, PhD¹; Bryan Sack, MD²; Kyle Costa, BSc³; Vivian Cristofaro, PhD⁴; Maryrose Sullivan, PhD⁵; Rosalyn Adam, PhD²
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Presented By: Claire Doyle

Introduction: Mounting evidence indicates that a variety of factors released from the urothelium or suburothelium modulate evoked smooth muscle responses. In normal human and rodent bladders, an unknown inhibitory factor is released from the mucosa in response to stimulation. However, the impact of the mucosa on contractile responses under pathological conditions has not been well studied. Following SCI, there is documented remodeling of multiple bladder structures, including the mucosa. The objective of this study was to determine the impact of the mucosa on neurally evoked responses in SCI tissue compared with control tissue.

Methods: Adult male Sprague-Dawley rats underwent spinal cord transection at T8. At 6 weeks after SCI, bladder tissue was subjected to isometric tension testing. A cohort of control rats was also used. The mucosa was removed from some of the tissue strips by microdissection. After equilibration in oxygenated Kreb’s solution, the contractile response to electrical field stimulation (EFS) was assessed over a range of frequencies (1-64 Hz) in bladder tissue with or without mucosa from control and SCI animals.

Results: The frequency-response curve was right-shifted in control tissue with intact mucosa compared to denuded control tissue, indicating a decreased sensitivity to EFS. In contrast, the response to EFS was significantly higher at all frequencies (1 Hz, p=0.0043; 64 Hz, p=0.0222) in SCI bladder strips with mucosa (n=37) compared to SCI bladder strips without mucosa (n=33). In mucosa-denuded tissue, EFS responses were not different between control and SCI tissues. However, in tissue with intact mucosa, the EFS response at 1 Hz (*p=0.0191), 2 Hz (**p=0.0031) and 4 Hz (*p=0.0101) was higher in SCI bladder tissue compared to the control tissue. There was no difference between groups at higher stimulation frequencies (16, 32 and 64 Hz).

Conclusion: The inhibitory effect of the mucosa on neurally evoked responses is abolished after SCI. The presence of an intact mucosa in the SCI bladder significantly enhanced the contractile response to neurotransmission, suggesting a more prominent contribution of the mucosa to modulating contractility following SCI.
Non-Invasive Electromyographic Estimation of Motor Unit Number in the External Anal Sphincter of the Rat

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Presented By: Yingchun Zhang

Introduction: The external anal sphincter (EAS) is essential in maintaining fecal continence. Neurological disorders and traumatic injury to the muscle and nervous system could lead to EAS denervation. Currently there are no techniques available that can be used to document the global innervation of the EAS in vivo. In this study, a novel approach was developed to non-invasively estimate the number of functioning motor units (MUs) in the EAS and validated with immunostaining results in rats.

Methods: Intra-rectal surface electromyography (EMG) signals of the EAS induced by a series of intra-vaginally delivered pudendal nerve stimulations were recorded and utilized to perform the proposed motor unit number estimation (MUNE) approach, Figure 1 (a-d). Surface EMG responses under different stimulation intensity were recorded, and the variation at each intensity was used to estimate the value of single motor unit potential (SMUP). The EAS MUNE was tested in 7 female rats anesthetized with urethane. Immunostaining of acetylcholine receptors (AChRs) were performed on 3 of the 7 rats as a marker to quantify myofibers in the EAS. Immunostaining results were further used to evaluate the performance of the proposed EAS MUNE technique (Figure 1f).

Results: Compound muscle action potentials (CMAPs) of the EAS were successfully recorded (Figure 1e). The averaged SMUP was calculated as 45.00±17.24 µV, and the mean MU number was calculated as 41±12 among the 7 rats tested. The mean number of successfully identified myofibers was 580±45 myofiber/EAS. Significance of regression between the immunostaining results and the MUNE was confirmed (p<0.05).

Conclusion: This study represents the first effort to non-invasively assess the innervation of the EAS in vivo using the rat as a pre-clinical model. The performance of the proposed EAS MUNE approach was evaluated by comparing against our immunostaining results. This approach can potentially enable future clinical applications for advanced diagnosis and treatment of neurogenic EAS disorders.

Support: This work was supported by the Brown foundation, the Houston Methodist foundation, NIH 5R00DK082644, NIH K99DK082644 and the University of Houston.
Podium/Poster #BS4
QUANTIFICATION OF BLADDER WALL BIOMECHANICS DURING URODYNAMICS: A METHODOLOGIC INVESTIGATION USING ULTRASOUND

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Presented By: Anna S. Nagle

Introduction: The purpose of this study was to develop a novel method to determine detrusor wall biomechanical parameters during urodynamics through the incorporation of ultrasound imaging.

Methods: Individuals with overactive bladder (OAB) underwent ultrasound imaging during urodynamics testing. Fill rate was 10% cystometric capacity (CCap) as determined by an initial fill. Ultrasound images were obtained using a Philips Epiq 7 machine with a 1-5 MHz abdominal probe to capture midsagittal and transverse images at 1 min intervals. Image data and vesical pressure (Pves) were used to calculate detrusor wall tension, stress, compliance, and elastic modulus (Fig. 1). From each cross-sectional image, luminal and wall areas along with inner perimeters were measured. In the sagittal and transverse directions, wall tension was calculated as Pves*luminal area, wall stress as tension/wall area, and strain as the change in perimeter normalized to the perimeter at 10%CCap. Sagittal elastic modulus was calculated as sagittal stress/transverse strain and transverse elastic modulus was the transverse stress/sagittal strain. Real-time bladder sensation (0-100% scale) was continuously recorded.

Results: Data from five individuals with OAB showed that detrusor wall tension, volume, and strain correlated best with real-time bladder sensation. This finding demonstrates that standard Pves and Pdet measurements during urodynamics may not necessarily reflect the underlying state of detrusor wall tension.

Conclusion: This study demonstrates that detrusor wall tension, stress, strain, and elastic modulus can be calculated by adding ultrasound imaging to standard urodynamics. This technique may be useful for improved diagnosis of OAB and other forms of voiding disorders.
Podium/Poster #BS5
BIG POTASSIUM CHANNEL (BK) ACTIVITY IN FEMALE MOUSE BLADDER UMBRELLA CELLS IS ENHANCED BY BACTERIAL LIPOPOLYSACCHARIDE: AN ACUTE HOST RESPONSE IN UTI PATHOGENESIS

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Presented By: Toby C. Chai, MD

Introduction: Lipopolysaccharide (LPS) has been used as a surrogate for E. coli in study of host response to urinary tract infections. We utilized our published method to isolate basal membrane of apical urothelial for patch clamp studies. We measured potassium channel activities in the apical cell and changes in the large conductance potassium channel activity when the urothelium was exposed to LPS. This work highlights the importance of apical cells in acute host response to uropathogens.

Methods: Female C57BL/6 mice 8-12 weeks of age were used. Pure urothelium was dissected out using our published technique. Urothelium was placed luminal-side down and umbrella cells were exposed after removing basal and intermediate cells with a glass micropipette (Fig. 1). Both inside-out and cell attached configurations were used. Urothelium was exposed to 40 µg/ml of LPS for 30 minutes. Blockers of BK (paxilline, iberiotoxin), LPS (polymyxin B), protein kinase A (H89) were also used. RT-PCR was performed to assess expression of BK and LPS-receptors (TLR4, CD14, and MD-2).

Results: Two K conductances were found, 28.3±1pS and 200.6±4pS. The 200pS channel was sensitive to intracellular calcium, voltage and blocked with iberiotoxin and paxilline. RT-PCR and immunofluorescence confirmed presence of BK in urothelium. This suggested that the 200pS channel was the BK channel. LPS significantly increased BK channel activity of NPo from 0.50±0.13 to 1.62±0.31 (p<0.001) (Fig. 2); this effect was abrogated by polymyxin B (Fig. 2) and H89. TLR4, CD14 and MD-2 mRNAs were expressed only in the urothelium and not lamina propria or detrusor smooth muscle.

Conclusion: To our knowledge, this is the first time basal membranes of umbrella cells have been patch clamped. LPS significantly increased BK channel activity. This change in apical membrane activity represents an early host urothelial cell response to UTI. While we did not study the downstream results of increased BK activity, it is likely that this would have shown increased urothelial cytokine release. This BK-dependent cytokine release mechanism has been described in macrophages.
Podium/Poster #BS6
TRPM4 CHANNEL CROSSTALK WITH SARCOPLASMIC RETICULUM IP3 RECEPTOR: NOVEL PHYSIOLOGICAL MECHANISM IN HUMAN DETRUSOR SMOOTH MUSCLE

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Presented By: Georgi V. Petkov

Introduction: The Ca2+-activated transient receptor potential melastatin-4 (TRPM4) channel is permeable for monovalent cations (Na+ and K+) but impermeable to anions and divalent cations, including Ca2+. Using a multidisciplinary experimental approach, our laboratory has recently identified and characterized the TRPM4 channels as critical regulators of detrusor smooth muscle (DSM) function. However, little is known about the mechanisms regulating TRPM4 channel activity in human DSM. We have now directed our attention to a potential new cellular regulatory mechanism involving the inositol trisphosphate (IP3) receptors (IP3Rs), which facilitate the release of Ca2+ from the sarcoplasmic reticulum (SR). Indeed, since the TRPM4 channels are activated by Ca2+, IP3R-mediated Ca2+ release of the SR represents a likely Ca2+ source for TRPM4 channel activation. Therefore, we sought to test the hypothesis that TRPM4 channels are tightly associated with the IP3Rs and are activated by IP3R-mediated Ca2+ release of the SR in human DSM.

Methods: Using clinically-characterized human tissues, we investigated the molecular and functional interactions of the TRPM4 channels and IP3Rs in human DSM cells with the help of in situ proximity ligation assay and amphotericin-B perforated patch-clamp electrophysiology.

Results: We demonstrated close co-localization of the TRPM4 channels and IP3Rs in human DSM cells with the help of in situ proximity ligation assay. As the TRPM4 channels and IP3Rs must be closely located to functionally interact, these findings support the concept of a potential Ca2+-mediated crosstalk between TRPM4 and IP3R in human DSM. To investigate TRPM4 channel regulation by the IP3R activity, we sought to determine the consequences of IP3R pharmacological inhibition on TRPM4 channel-mediated transient inward cation currents. In freshly-isolated human DSM cells, the selective IP3R inhibitor xestospongin C significantly decreased transient inward cation currents. The data suggest that the SR IP3Rs have a key role in mediating the Ca2+-dependent activation of TRPM4 channels in human DSM.

Conclusion: This study reveals that the TRPM4 channels and IP3Rs are spatially and functionally coupled in human DSM allowing for Ca2+-mediated TRPM4 channel regulation by SR IP3Rs. The data provide the fundamentals for further evaluation of the TRPM4 channels as new therapeutic targets for urinary bladder dysfunction.

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Podium/Poster #BS7
ALTERATIONS OF BRAIN FUNCTIONAL CONNECTIVITY IN STRESS INDUCED BLADDER HYPERALGESIA

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Presented By: Melissa T. Sanford

Introduction: Chronic stress plays a role in the exacerbation of lower urinary tract function. It can be viewed as a spectrum of bladder hypersensitivity sharing the common symptoms with interstitial cystitis/bladder painful syndrome (IC/BPS) patients experiencing pain as an additional symptom. Given the significant overlap of the brain circuits involved in stress, anxiety, and micturition, we evaluated the effects of chronic stress had on bladder hyperalgesia, and its effects on regional brain responses.

Methods: 16 adult female Wistar-Kyoto rats were randomized to 10-day water avoidance stress (WAS, n=8) or handled controls (n=8). On day 11, animals were evaluated by visceromotor reflex (VMR) for bladder hyperalgesia under anesthesia. VMR was obtained during isotonic bladder distention (IBD, 0-40 cmH2O) with urethral occlusion. For functional brain mapping, [14C]-iodoantipyrine (100 μCi/kg) was injected. Brains were harvested for image analysis. Autoradiographic images along with 12 [14C] standards were digitized. Regional cerebral blood flow related tissue radioactivity (rCBF) was measured.

Results: During IBD, the area under the curve (AUC) of VMR was measured from both experimental groups. At 10 cmH2O, few VMR was evoked and seen in both groups. At 20 cmH2O, VMR AUC significantly increased in WAS compared to controls suggestive of increase bladder sensitivity. The findings of brain mapping showed significant increases of rCBF in WAS compared to controls in anterior (supplementary) motor cortex, orbital cortex, posterior cingulate cortex, retrosplenial cortex, somatosensory cortex (primary, secondary), posterior insula, striatum, thalamus, anterior hypothalamus, with decreases in rCBF noted in the hippocampus, posterior hypothalamus and amygdala. A broad and significant group difference was noted in the posterior cingulate.

Conclusion: The current study may explain how stress exacerbation of symptoms seen in the majority of patients with IC/BPS may be centrally mediated and gives us anatomic sites to further evaluate the biological mechanisms by which stress may induce or maintain bladder hyperalgesia and urinary frequency as well as a translational model to evaluate the molecular changes behind the brain differences seen in patients with IC/BPS.

Funding Source: NIH Multidisciplinary Approach to the Study of Chronic Pelvic Pain (MAPP, DK082370) Research Network.
MULTIPLE SCLEROSIS PATIENTS WITH BRAIN ATROPHY OR PONS LESIONS HAVE LOWEST FUNCTIONAL CONNECTIVITY BETWEEN RELATED BRAIN AREAS. A FINDING SHOWN BY CONCURRENT FUNCTIONAL MRI AND URODYNAMICS

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Presented By: Aaron Kaviani

Introduction: Urinary problems are common in Multiple Sclerosis (MS) patients. MS is associated with some plaques that may form in any locations in the brain. Lesions in different locations may affect functional connectivity differently. Functional connectivity is the connectivity between brain regions that share functional properties. In this study, we quantified functional connectivity (FC) of entire brain in MS female patients using functional magnetic resonance imaging (fMRI) during the performance of a bladder filling. Healthy females served as controls.

Methods: During the performance of a bladder filling consisting of repetitive fillings, fMRI images were acquired of the entire brain (repetition time three seconds). Functional connectivity analysis was performed using CONN functional connectivity toolbox software (NITRC). Functional connectivity was quantified by T-values for connections between brain regions identified with the SPM brain atlas (version 12). Statistical significance was assumed for a p-value <0.05.

Results: Ten healthy females with mean age of 39 ± 5.7 and 21 MS female patients with the mean age of 47.1 ± 10.5 were included in this study. Three MS patients (mean age of 41.3) were noted to have brain atrophy. Pons lesions was noted in ten patients (mean age of 45.4). No brain atrophy was seen in other 18 MS patients (mean age of 48.1). Total number of 1832, 2085, 982 and 1441 connections were noted in entire brain of healthy volunteers, MS patients with no brain atrophy, with brain atrophy and with Pons lesions respectively. MS patients with brain atrophy showed lowest functional connections in entire brain than patients who did not have brain atrophy (p< 0.05). Among MS patients with no brain atrophy, patients with pons plaques had lowest functional connectivity than patients who had plaques in other brain regions (p<0.05).

Conclusion: Functional MRI at the time of strong desire to void shows MS patients with brain atrophy have lowest FC in entire brain. Among MS patients with no brain atrophy, patients with pons lesions have lowest FC in entire brain.

Funding Source: NIH grant K12 DK0083014
Podium/Poster #BS9
CYCLOPHOSPHAMIDE-INDUCED OVERACTIVE BLADDER VIA DOWNREGULATION OF RELAXATION FACTORS IN DETRUSOR PDGFRα+ CELLS

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Presented By: Haeyeong Lee

Introduction: Morphology and functional role of PDGFRα+ cells have been recently characterized in the detrusor muscle layer. Detrusor relaxation is caused by activation of small conductance Ca2+ activated−K+ (SK) channels and purinergic inhibitory responses in detrusor PDGFRα+ cells. Loss of PDGFRα+ cells or alteration of P2Y receptors and SK channels will affect detrusor excitability. Cyclophosphamide (CYP)−treated animals exhibited overactive bladder (OAB). We hypothesized that the downregulation of P2Y receptors and/or SK channels in PDGFRα+ cells will display the phenotype of CYP-induced OAB.

Methods: CYP was injected intraperitoneally in PDGFRα+/eGFP and SMC/eGFP mice. We harvested the detrusor muscle without urothelium and disperse the cells for the fluorescence activated cell sorting (FACS). Sorted PDGFRα+ cells and smooth muscle cells (SMCs) were used for molecular study to compare the changes in transcripts between CYP−injected and control group. Transcripts were examined included; Pdgfra, P2ry1, P2ry2, P2ry4, Kcnn1, Kcnn2, Kcnn3 and inflammation marker (Il−6). Immunohistochemistry, mechanical contractility and ex vivo cystometry were also performed.

Results: Quantitative analysis of PCR revealed that CYP−injected detrusor muscle increased transcriptional expression of Il−6, but decreased the expression of Pdgfra. Transcriptional changes in CYP−injected sorted PDGFRα+ cells from PDGFRα+/eGFP mice showed Pdgfa, Kcnn3 (SK3), P2ry1, P2ry2 and P2ry4 genes were decreased compared with saline−injected control. Sorted SMCs from SMC/eGFP mice did not show significant expression of those genes and no detectable changes. Immunohistochemistry showed SK3 in PDGFRα immunoreactivity was downregulated in CYP−injected detrusor muscle. Apamin (a SK blocker) sensitivity on spontaneous contractile activity was decreased in CYP−injected mice compared to saline−injected mice. In ex vivo cystometry, increased spontaneous non−voiding contractions and less apamin sensitivity were observed in CYP−injected mice.

Conclusion: These findings are the first report to investigate the role of PDGFRα+ cells in relation to OAB mechanisms. In conclusion, we found that CYP−induced OAB is resulted from down regulation of PDGFRα, P2Y receptors and SK channels in CYP− injected bladder. These results provide novel mechanisms of functional role of PDGFRα+ cells on OAB.

Funding Source: Supported by NIH P20−RR18751
Podium/Poster #BS10

MOLECULAR AND FUNCTIONAL EVIDENCE OF P2X4 RECEPTOR IN DETRUSOR SMOOTH MUSCLE

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Presented By: Vivian Cristofaro

Introduction: Detrusor contractions in response to ATP are predominantly mediated by P2X1 receptors (P2X1R). However, reports that the noncholinergic component of neurogenic contractions are not completely inhibited by P2X1R antagonists implicate the presence of other functionally relevant P2XR subtypes on bladder smooth muscle (BSM). P2X4R has been previously identified in BSM, but whether this receptor plays a functional role in purinergic signaling has not been established. This study examined P2X4R expression in BSM tissue and investigated whether its activation contributes to purinergic detrusor contractions.

Methods: P2X4R gene and protein expression was measured in mouse bladder tissue (without mucosa) and cultured BSM cells by real-time PCR and western blotting respectively. In vitro isometric tension experiments were performed in mouse BSM tissue without mucosa. The purinergic component of BSM contractions was elicited by administration of α-β-methylene-ATP (αβmATP), or by electrical field stimulation (EFS) delivered in the presence of muscarinic receptor antagonist atropine. The inhibitory effect of two different P2X4R selective antagonists, 5-BDBD and BX430, on the αβmATP- and EFS-induced contractions was determined in the presence of P2X1R antagonist NF449. In addition, the effect of a positive modulator of P2X4R ivermectin (IVC) on αβmATP-induced responses was investigated.

Results: P2X4R mRNA was detected in mouse bladder tissue and cultured BSM cells. Immunoreactivity for P2X4R was detected in lysates from both mouse bladder tissue and BSM cells. Functional studies indicated that, although P2X1R activation is largely responsible for purinergic detrusor contractions, a significant portion of the contractile response to both αβmATP (22.3±7%) and EFS (27.5±4% of purinergic component of EFS) was not sensitive to a P2X1R antagonist. This NF449-resistant component was abolished by administration of P2X4R antagonists 5-BDBD or BX430. Moreover, in the presence of NF449, responses to αβmATP were increased significantly by pre-incubation with IVC.

Conclusion: Our data suggest that excitatory purinergic responses in mouse detrusor are attributable to activation of more than one P2XR, and indicate that P2X4R significantly contributes to purinergic signaling in BSM. The identification of a functionally relevant P2X4R may provide an alternate target for treating bladder dysfunctions associated with altered purinergic signaling.
Poster #BS1
HYPERGLYCEMIA INCREASES DETRUSOR SMOOTH MUSCLE ACTIVITY THROUGH A CAVEOLAE DEPENDENT REGULATION OF RHO SIGNALING

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Presented By: Vivian Cristofaro

Introduction: Diabetic bladder dysfunction manifests with an early, compensatory phase characterized by bladder smooth muscle (BSM) hyperactivity. Although the mechanism leading to augmented BSM activity remains unclear, previous studies suggest an upregulation of Rho signaling with diabetes. In other smooth muscle systems, Rho signaling is regulated by caveolae, membrane microdomains. The goal of this study was to investigate whether caveolae are involved in Rho dependent changes in contractility induced by hyperglycemia.

Methods: The effect of high glucose (23mM) on the contractile responses to carbachol was evaluated in mouse BSM strips for eight hours by isometric tension experiments. Appropriate time controls were generated either in normal Kreb’s (11.5mM glucose), or in Kreb’s supplemented with mannitol (11.5mM). In addition, the effect of high glucose on CCh responses was investigated after the depletion of BSM caveolae, achieved by incubation with mβCD (10mM, one hour), as well as in the presence of Rho kinase inhibitor Y27632 (1µM).

Results: Compared to time controls, contractile responses to CCh generated in high glucose conditions exhibited significantly higher amplitudes. Substitution of excess glucose with mannitol did not increase CCh responses. The augmented CCh responses induced by high glucose were completely prevented after the depletion of caveolae by mβCD, as well as in the presence of Rho kinase inhibitor. In contrast, responses to CCh repeated in normal glucose conditions were not affected by either mβCD or Y27632.

Conclusion: The effect of caveolae depletion on the response to CCh under high glucose conditions suggest that hyperglycemia induced BSM hyperreactivity requires caveolae integrity. Moreover, the augmented BSM responsiveness in the presence of high glucose involves activation of Rho pathway. Our findings suggest a potential link between hyperglycemia-induced BSM hyperreactivity and the caveolae-mediated activation of Rho signaling.

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MULTIPLE SCLEROSIS IS ASSOCIATED WITH INCREASED FUNCTIONAL CONNECTIVITY IN LEFT AMYGDALA

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Presented By: Aaron Kaviani

Introduction: Multiple sclerosis (MS) is associated with a range of physical signs and symptoms including urinary problems. The left amygdala plays a role in the conscious processing of emotions. It has been linked to fear as well as general, social and other forms of anxiety disorders. It is involved in suppressing unpleasant conscious sensations such as urgency. In this study, we quantified functional connectivity (FC) of the left amygdala in MS female patients using functional magnetic resonance imaging (fMRI) during the performance of a bladder filling. Healthy females served as controls.

Methods: During the performance of a bladder filling consisting of repetitive fillings, fMRI images were acquired of the entire brain (repetition time three seconds). Functional connectivity analysis was performed using CONN functional connectivity toolbox software (NITRC). Functional connectivity was quantified by T-values for connections between brain regions identified with the SPM brain atlas (version 12). Statistical significance was assumed for a p-value <0.05.

Results: Ten healthy females with mean age of 39 ± 5.7 and 21 MS female patients with the mean age of 47.1 ± 10.5 were included in this study. Three MS patients (41.3±3.21) were noted to have brain atrophy while no brain atrophy was seen in other 18 MS patients (48.1±11.1). Total number of 23, 26 and 66 connections with other brain regions were noted in left amygdala of healthy volunteers, MS patients with brain atrophy and MS patients with no brain atrophy respectively. There was higher functional connectivity in left amygdala in MS patients relative to healthy individuals (p< 0.05). MS patients with brain atrophy had weaker functional connectivity in left amygdala than MS patients with no atrophy (p< 0.05).

Conclusion: Functional MRI at the time of strong desire to void shows left amygdala of MS patients has more functional connectivity than healthy individuals. Among MS patients, MS patients with brain atrophy have fewer functional connectivity in left amygdala than patients with no atrophy.

Funding Source: NIH grant K12 DK0083014
Poster #BS3
SPINAL CORD INJURY AND DETRUSOR PDGFRα+ CELLS

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Reno, NV
Presented By: Haeyeong Lee

Introduction: Neurogenic bladder dysfunction due to spinal cord injury (SCI) poses a significant threat to the well-being of patients. The complications of this condition include but not are limited to incontinence, renal impairment, urinary tract infection, stones, and poor quality of life. Clinical manifestations of SCI involve combination of storage and voiding bladder problems. Although a number of clinical studies have reported overactive bladder (OAB) after SCI, the pathophysiological mechanisms remain unclear. Spinal cord injury (SCI) is widely used to induce neurogenic bladder in rodent models. These animals exhibited dysfunctional condition results in different symptoms, ranging from acute urinary retention to an overactive bladder or a combination of both. There is an abundance of PDGFRα+ cells in detrusor muscles. This cell involves the membrane stabilization via activation of SK channels in detrusor PDGFRα+ cells during filling. Thus we investigate the molecular and protein expression of PDGFRα+ cells from SCI mice to characterize the role of these cells that contributes to development of OAB in SCI.

Methods: SCI was induced by complete compression of T12-L1 spinal cord. Experiments were performed on 24 hours, 48 hours and 72 hours after surgery. We employed molecular approaches and ex vivo cystometry. Pdgfra and Kccn3 transcripts were analyzed for molecular expression. Ex vivo compliance was used for testing SK channel sensitivity in control and SCI mice.

Results: In quantitative analysis of transcripts, Pdgfra and Kccn3 transcripts in SCI detrusor were significantly decreased in a time-dependent manner after SCI surgery compared with control detrusor. In ex vivo cystometry, SCI bladder revealed an increase in the amplitude and frequency of non-voiding pressure responses during filling. Effects of a SK blocker (apamin) and a SK channel activator (SKA31) on non-voiding contractions were reduced in SCI mice compared to control.

Conclusion: These findings support that downregulation of PDGFRα+ cells and SK channels in SCI detrusors might involve the development of OAB from SCI.

Funding Source: NIDDK, RO1 DK098388
Poster #BS4
AGING EFFECTS ON THE CENTRAL MOTOR CONTROL OF THE EXTERNAL ANAL SPHINCTER IN WOMEN

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Presented By: Yingchun Zhang

Introduction: Accumulated clinical evidence has shown that aging is associated with deficits in the central nerve system (CNS) that leads to disruption in descending excitation. Whether this is true in pelvic floor muscles remains unclear. This study aimed to study whether there is evidence of an aging-associated decreasing descending excitation to the motoneuron pool of the external anal sphincter (EAS) in women.

Method: Surface electromyography (EMG) signals of the EAS were acquired from 14 female subjects (38.6±16.6 years, range 20-73 years, no anorectal disorders) during maximum squeeze using a high-density rectal probe (Fig 1a). Motor unit (MU) action potentials were separated using our K-means clustering and convolution kernel compensation algorithm, with the firing rate of each MU obtained. The mean MU firing rate, a key marker to assess the motor control of the CNS, was calculated for all decomposed MUs for each subject. Linear regression analysis was performed to study the impact of aging on the mean MU firing rate.

Results: The mean MU firing rate was 7.4±2.1Hz. Linear regression showed a decreasing, though not significant, trend with advancing age (p=0.10) (Fig 1b), suggesting a possible deficit in the CNS of aged women in driving the lower motoneurons to activate the EAS. Our ongoing recruitment of more aged women will help us consolidate this observation, to offer valuable insights into the mechanism of aging-associated anorectal disorders.

Conclusion: This study represents the first effort to use advanced high-density surface EMG analysis to noninvasively evaluate aging effects on the central motor control of the EAS in women.

Funding Source: NIH 5R00DK082644, NIH K99DK082644 and the University of Houston
Poster #BS5
IDENTIFICATION OF SLOW WAVE PATTERN FROM ANORECTAL SMOOTH MUSCLES

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Presented By: Yingchun Zhang

Introduction: Despite the significance of anorectal smooth muscles in maintaining fecal incontinence, their electrophysiology remains poorly understood and debatable. We studied the characteristic slow wave pattern of anorectal smooth muscles in spinal cord injury (SCI) patients with neurogenic bowel dysfunction using a high-density (HD) surface EMG rectal probe.

Methods: The probe was mounted with a HD surface EMG grid (8 × 8 channels, Fig 1a). Spontaneous EMG signals were acquired from anorectal muscles of ten male SCI patients at rest continuously for 60 seconds. Bandpass filter (0.1–10Hz) was applied to remove high-frequency signals from incomplete muscle relaxation and baseline shift. Visually inspection was performed to identify any slow waves in all EMG tracings.

Results: Characteristic slow waves were identified in all subjects. The amplitude varied from tens of µV to several mV with no particular pattern. However, a significant (p=0.002) descending row-averaged frequency was identified along the anal canal from superficial to deep rows (see Fig 1b) with linear regression analysis (Fig 1c). This pattern agrees with previous manometry finding and rules out breathing effect as the latter should be homogenous across all rows. A possible explanation could be the difference in pace of rhythmic motion of smooth muscles at different depths. Further studies are undergoing to compare this pattern with healthy subjects.

Conclusion: The observed spontaneous slow wave pattern may help explore the effect of SCI on the autonomous innervation of anorectal muscles. Future studies to investigate the exact origin of this recorded activity are required.

Funding Source: This pilot study was supported by in part by Guangdong Provincial Work Injury Rehabilitation Center, NIH 5R00DK082644, NIH K99DK082644 and the University of Houston.
OVARIECTOMIZED MICE PERSIST WITH OVERACTIVE VOIDING BEHAVIOR AFTER REPEATED INTRAVESICAL LIPOPOLYCHARIDE (LPS) EXPOSURE

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Yale, New Haven, CT
Presented By: Marian A. Alvarez

Introduction: A "true" urinary tract infection (UTI) is when pathologic host responses occur, whether biochemical, immunologic or behavioral, in response to uropathogenic bacteria such as E. coli (UPEC). Bladder behavioral responses include urgency, frequency, and dysuria/pain. Intravesical LPS has been used as an UPEC surrogate to study host responses. However, measurement of awake animal voiding behavior after LPS has not been previously reported to our knowledge. We used voiding spot assays (VSA) on filter paper to quantitate voiding behavior. Estrogen has been shown to modify host responses in UTI; therefore, we hypothesized that ovariectomized (OVX) mice would have altered bladder behavior compared to sham, non-OVX mice.

Methods: Female C57BL6/J mice were randomized to sham (n=10) or OVX (n=10) surgery. VSA were performed at presurgery, four weeks post-surgery (just prior to LPS) and after each of three consecutive days of intravesical inoculation of 150 μL of LPS (1 mg/mL). LPS was left to dwell for increasing time each day, 30 minutes on first day, 45 minutes on second day and 60 min on third day. Animals were euthanized at the end and bladders were processed with Gomori trichrome staining.

Results: Fig 1 shows change in total number of urine spots (compared to baseline) at the 4 different time points. OVX itself did not change voiding behavior. However, two and three days after LPS, OVX animals exhibited persistent overactive voiding behavior compared to sham animals (Fig 1), despite similar total voided volumes (data not shown). Gomori trichrome staining showed that OVX mice had flattened rugae (Fig 2A) which is not seen in sham mice (Fig 2B).

Conclusion: After LPS, OVX mice persisted with an overactive voiding behavior whereas the sham mice almost normalized their voiding behavior. Estrogen appears to protect against LPS induced bladder changes, both functionally and anatomically (based on the trichrome staining images). Further investigations using this model will shed light on how estrogen protects the host against LPS induced overactive bladder voiding behavior.

Funding Source: SUFU Pfizer OAB Grant
Poster #BS7

SHARED ALTERATIONS IN URINARY BACTERIAL COMMUNITIES IN PATIENTS WITH INTERSTITIAL CYSTITIS AND OVERACTIVE BLADDER

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Presented By: A. Lenore Ackerman

Introduction: Despite historical assumptions that urine is sterile, accumulating research demonstrates that adult women have diverse bacterial ecosystems resident in the urine. Changes in these communities are associated with benign lower urinary tract conditions, such as overactive bladder (OAB) and interstitial cystitis/painful bladder syndrome (IC/PBS). As there is significant symptomatic overlap between these two conditions, we sought to characterize changes in the urinary microbiome in a spectrum of patients with these bladder hypersensitivity syndromes to clarify potential shared pathophysiologic mechanisms.

Methods: We used high-throughput 16S RNA gene sequencing using Illumina MiSeq next generation sequencing to identify bacterial DNA isolated from catheterized urine specimens obtained from asymptomatic controls (n=14) and subjects with IC/PBS (n=13) or OAB (n=17). After classifying bacterial taxa via alignment to multiple bacterial 16S sequence databases, urinary communities were compared at a population level between experimental groups.

Results: Women with either OAB or IC/PBS demonstrated decreased bacterial diversity at the genus level in comparison to controls, but this difference was more profound in IC/PBS (Figure). Several unique genera were altered in these conditions in comparison to controls. Changes in the levels of Burkholderia, a genus recently identified in association with chronic pelvic pain in males (Nickel et al., 2015), were associated with disease in our population, with a stronger association with OAB than IC/PBS. In addition, alterations in Lactobacillus species were also prevalent in both conditions, but more pronounced in patients with IC/PBS.

Conclusion: Bacterial communities resident within the lower urinary tract are altered in the presence of lower urinary tract symptoms. The microbiomes of urine from patients with OAB and IC/PBS, however, were similar when analyzed in parallel, varying more with symptom severity than with diagnosis. Regardless of diagnosis, greater symptom severity inversely correlated with bacterial diversity. These results support recent propositions that OAB and IC/PBS may represent points on a spectrum of disease sharing a similar pathophysiology.
ALTERATIONS IN THE URINARY FUNGAL MYCOBIOME IN PATIENTS WITH BLADDER PAIN AND URINARY URGENCY

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Presented By: A. Lenore Ackerman

Introduction: To investigate the influence of host-microbe interactions on lower urinary tract symptoms, we characterized changes in urinary fungal communities (the “mycobiome”) associated with urinary urgency and bladder pain. While alterations in the urinary bacterial microbiome are found in interstitial cystitis/bladder pain syndrome (IC/PBS) and overactive bladder (OAB), urinary fungal populations have remained completely uncharacterized, despite recent evidence implicating fungi in association with flare in chronic pelvic pain syndromes.

Methods: Catheterized urine specimens were obtained from IC/PBS (n=12), OAB (n=17), and asymptomatic patients (n=14). After centrifugation, DNA was extracted from the cellular pellet. Following deep sequencing of the ITS1 fungal ribosomal gene, fungal taxa were identified by comparison to multiple fungal sequence databases. Using validated questionnaire data [the Genitourinary Pain Index (GUPI), OAB Questionnaire (OABq) and O’Leary-Sant Indices (ICSI/ICPI)], subjects were separated into tertiles based on symptomatic scores. Fungal community representation for each tertile was then examined while blinding for diagnosis.

Results: Comparison of microbial communities between the subjects with the lowest and highest scores on the GUPI, OABq, and ICSI/ICPI revealed decreased fungal diversity for patients with more severe symptoms, regardless of symptom type. Individual symptoms were associated with distinctive species profiles, regardless of diagnosis (Figure). Patients with severe bladder pain exhibited altered Malassezia spp. composition, while fear of leakage was inversely correlated with detectable Wickerhamomyces spp.

Conclusion: The urinary mycobiome is altered in lower urinary tract symptoms, with loss of diversity correlating positively with symptom severity. Specific fungal community patterns correlated independently with painful bladder and urinary urgency symptoms. These results suggest the intriguing possibility that particular microbial patterns may be associated with specific symptoms, not necessarily diagnoses, which has important implications for future studies of the urinary tract microbiome and the development of diagnostic and treatment algorithms in LUTS.
DECREASED URINARY FUNGAL BURDEN AND DIVERSITY IN OVERACTIVE BLADDER

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Presented By: A. Lenore Ackerman

Introduction: The urinary bacterial microbiome is altered in overactive bladder (OAB) patients in comparison to controls. As bacteria and fungi frequently have a reciprocal relationship, with fungi expanding and contracting inversely with changes in bacterial burden, we examined if alterations in urinary fungal diversity and community composition accompany these bacterial changes to play a role in OAB pathophysiology.

Methods: Urinary fungal and bacterial burdens were examined by quantitative polymerase chain reaction of conserved ribosomal RNA (rRNA) regions. Individual bacterial and fungal species were identified using deep sequencing of the 16S and ITS1 loci, respectively, of genomic DNA from catheterized urine obtained from asymptomatic controls (n=14) and OAB patients (n=17). Bacterial and fungal taxa were identified by alignment to multiple sequence databases. The relative abundances of individual species, overall microbial diversity, and total microbial burdens for each urinary microbial community were compared between OAB and controls and correlated with self-reported symptom severity as measured by the OAB questionnaire (OABq).

Results: OAB was associated with significantly decreased fungal burden, with a nonsignificant increase in overall bacteria. Bacterial community composition at both the species and genus level was not significantly different between OAB patients and healthy controls. In contrast, overall fungal levels were dramatically decreased in OAB, which correlated with a drastically altered mycobiome. Worsening symptom severity (assessed by OABq) was associated with loss of Cladosporium spp. and Malassezia sympodialis and dramatic expansion of Wickerhamomyces anomalus.

Conclusion: While minimal differences could be observed in urinary bacterial communities, overactive bladder was associated with major shifts in urinary fungi, both in overall levels and community composition and diversity. The observation that the loss of urinary fungi is associated with urinary tract symptomatology suggests a crucial role for fungi in bladder homeostasis and implicates several fungal species, such as Wickerhamomyces, as possible pathobionts in the urinary tract.

Funding Source: Urology Care Foundation Grant (ALA)
OPTIMIZATION OF DNA EXTRACTION FROM HUMAN URINARY SAMPLES FOR MICROBIAL COMMUNITY PROFILING

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Introduction: Recent data suggest the urinary tract hosts a microbial community of varying composition even in the absence of infection. Culture-independent methodologies, such as next generation sequencing of conserved ribosomal sequences, provide an expansive look at these communities, identifying both common commensals and fastidious organisms. A fundamental challenge of these approaches has been the isolation of DNA representative of the entire resident microbial community.

Methods: Optimization of fungal DNA yields from standardized urine samples from male and female asymptomatic patients was assessed by amplification of the fungal ITS1 and bacterial 16S sequences. Results of deep sequencing were compared to known sequences in multiple curated fungal databases to identify unique species. We statistically evaluated eight modifications of commonly-used DNA extraction procedures using standardized male and female urine samples and compared results of overall DNA yield, bacterial and fungal rDNA yields, reproducibility, and representation of microbial diversity.

Results: The analysis of ITS1 rRNA gene sequences from standardized urine samples showed that the observed microbial abundances differed significantly depending on the eight methods used (Figure). Methodologies that included multiple additional disruption steps with enzymatic, thermal, and mechanical lyses provided more comprehensive representation of the range of bacterial and fungal species.

Conclusion: Alterations in the methodology of urine preparation and DNA processing can affect microbial community profiling using culture-independent deep sequencing methods. Our optimized protocol for DNA extraction from urine samples, which included small volume processing, bead beating, and enzymatic disruptions steps, provided better bacterial and fungal community representation than methods without them. Based on this evaluation, DNA extraction procedures for analysis of the urinary microbiota should include these steps to provide more comprehensive representation of microbial populations.

Funding Source: Urology Care Foundation Grant (ALA) & Multidisciplinary Approach to the Study of Chronic Pelvic Pain (MAPP) Network (1U01DK103260; JK, JTA, MRF)
Poster #BS11
PROPOSAL FOR STANDARDIZATION AND OPTIMIZATION OF AWAKE CYSTOMETRY IN A MOUSE

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Presented By: Thomas M. Andersen

Introduction: Awake filling cystometry (FC) has been used for a long time to evaluate bladder function in freely moving mice, however, the methods used vary between laboratories. This study provides data in support of FC standardization and proposes possible improvements.

Methods: The effect of tube size and material on pressure recording was assessed. The overnight micturition frequency recording was studied 2, 3, 5, and 7 days post-surgery. Bladders were harvested and evaluated histologically. Improvements to the experimental set-up were evaluated.

Results: The PE10 tubing with inner diameter of 0.011 inch, showed to be superior in transmitting the pressure changes in the bladder while limiting fluid instability. The greatest extent of bladder swelling was observed on day 2 and 3. This correlated with abnormal voiding. Swelling subsided and voiding pattern normalized on day 5. Tube anchoring could be achieved by placing drops of all-purpose hot glue on the tubing at the point of exit on the animal’s back. The movement artifacts were further reduced using a custom designed anchor. Minimizing the weight of metal parts i.e. anchor and tube-protecting sling, allowed better movement and led to more reproducible recordings. Use of metabolic cage funnel affected the accuracy of voided volume recordings. Accuracy of voided volume recordings was increased by placing the animals on top of metal grid secured over a urine collection device which was placed on top of a balance. The presence of researchers in the room affected the data. The artifacts could be reduced by housing the animals in a cage with red walls.

Conclusion: Based on these studies, we propose the following steps to help standardize mouse cystometry: Perform the test on post-operative day 5, use PE10 tubing, and anchor the tubing to avoid any tension on the bladder. Perform voided volume recording using a collecting device underneath the cage with metal grid bottom. FC could be further optimized by using a metal anchor and housing the animal in a red transparent cage, which allows researchers to observe the animal while reducing the visual stimuli as mice do not see through red color.
INTRODUCTION: To perform a pilot epigenome-wide association study using voided urine samples from female patients with interstitial cystitis/bladder pain syndrome (IC/BPS) as compared to age- and race-matched controls.

METHODS: Voided urine specimens were collected from 8 IC/BPS patients and 8 age- and race-matched controls. Inclusion criteria required an Interstitial Cystitis Symptom Index (ICSI) score of >8 for cases and 0 for controls. Exclusion criteria included a history of urinary tract infection in the prior 6 weeks and cystoscopy within 4 weeks. DNA was extracted from pelleted urine sediment and genomic DNA (500 ng) underwent bisulfite conversion followed by generation of quantitative DNA methylation data using the Illumina Infinium MethylationEPIC BeadChip. After quality assessment and pre-processing steps, two-sided paired t-tests were used to compare average methylation (Beta-values) at each CpG site, with the Bonferroni correction used to adjust for multiple comparisons. Analyses were carried out with SPSS version 22.0, and with R version 3.2.3. Research was funded by the Charles B. Hammond Research Fund, Duke University and by National Institute of Diabetes and Digestive and Kidney Diseases, award number K12-DK100024.

RESULTS: Overall, participants had a median age of 43.5 years (IQR 33.8, 65.0) and a median BMI of 27.1 (IQR 22.7, 31.4). The majority of patients were white (16/18, 88.9%). Cases had a median ICSI score of 14 (IQR 12.75, 15). Our median DNA yield was 1332 ng (IQR 974,2391) by PicoGreen assessment and we were able to successfully utilize all samples for analysis. After exclusion of unreliable probes and pre-processing, 688,417 CpG sites remained for analysis. The 2 most differentially methylated CpG sites were more methylated in cases, and the third most differentially methylated CpG site was more methylated in controls, although no CpG sites reached genome-wide significance using a Bonferroni correction (Figure 1).

CONCLUSION: Genomic DNA from voided urine sediment was successfully used for a pilot epigenome-wide association study. Three candidate loci (chr14, chr6, and chr1) may be of interest in appropriately powered future studies examining women with IC/BPS compared to controls.
Poster #BS13

STANDARDIZATION OF RNA PROCESSING FROM URINE SEDIMENT IN A CLINICAL SETTING

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Presented By: Megan S. Bradley

Introduction: To compare RNA quality after extraction from voided urine in a clinical setting between three commercially available extraction protocols.

Methods: Fresh, voided urine samples were collected from 10 female subjects and divided into three 30-ml aliquots. Two of the aliquots were centrifuged and the pellet was suspended with 200 µL of RNAlater. The third aliquot was filtered and combined with RNA buffer supplied as a part of the ZR Urine RNA Isolation kit. The specimens were refrigerated in clinic and then transported to the laboratory on ice. RNA was purified with one of three selected RNA extraction protocols: 1) TRI Reagent Protocol, 2) Absolutely RNA Nanoprep Kit, and 3) ZR Urine RNA Isolation Kit. RNA amount was estimated with Nanodrop absorbance at 260 nm. The one-step real-time PCR reactions with Taqman probes specific for B2M and GAPDH were performed using 20 ng RNA in a 20 µl reaction volume, in duplicate. Ct values were included in analyses if deviation was <0.5 between replicates. Comparisons were performed using the Kruskal Wallis and Mann Whitney U tests. SPSS statistical software version 22.0 was used for analysis. P<0.05 was considered statistically significant. Research was funded by the National Institute of Diabetes and Digestive and Kidney Diseases, award number K12-DK100024.

Results: All subjects were female with median age 53.3 years (IQR 42.75, 64.25) and 8/10 (80%) of subjects were white. In general, the median RNA yield was 288 ng/30 mL of urine (IQR 134.5, 840.5). Figure 1 reveals the distributions of raw Ct values (arithmetic mean of duplicates) of the 10 samples for B2M and GAPDH. There was a statistically significant difference in median Ct value between extraction methods for GAPDH (p<0.01), but not for B2M (p=0.08). For GAPDH, the Ct values were lowest, indicating better quality, in the ZR Urine RNA Isolation Kit [median 22.2 IQR (21.9, 23.0)] as compared to Absolutely RNA Nanoprep Kit [median 26.6 (IQR 24.5, 29.40] and TRI Reagent protocol [median 25.7 (IQR 24.1, 28.2)].

Conclusion: The ZR Urine RNA Isolation Kit provided the highest quality RNA. This kit is especially attractive for the clinical setting as it does not require an initial centrifugation step.
FEASIBILITY OF MEASURING BLADDER URINE OXYGEN TENSION

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Presented By: Megan Brady

Introduction: Bacteria and their hosts are highly dependent on environmental conditions. The objective of this study was to determine the feasibility of measuring women’s bladder urine oxygen tension (BUOT) in a clinical setting.

Methods: Female patients who were willing to undergo transurethral catheterization at their urogynecology clinic visit were eligible for enrollment. Demographics, medical history, oral temperature, pulse oximetry and pelvic exam were recorded. A non-invasive flow-through oxygen sensor with a compact fiber optic oxygen transmitter (Precision Sensing Regensburg, Germany) was attached by stop-cock to a standard 14F straight catheter. The catheter was inserted into the urethra and as the urine flowed by the sensor, the oxygen tension readings occurred at a three to five second intervals.

Results: Thirty women with a mean age of 60 years (range 27-91) were enrolled in the study. By the 14th patient we were obtaining values for BUOT that were consistent among patients. The changes that we made in the procedure were 1.) Measuring BUOT as mm Hg instead of % oxygen, 2.) Using the subject’s oral temperature as a surrogate for urine temperature, by which oxygen tension readings are compensated 3.) Measuring BUOT at three to five second intervals. We observed that the BUOT decreased steadily as the “oxygen contamination” in the measuring system was washed away by the subject’s urine. We observed that BUOT plateaued over time (Figure 1). By Patient 20, we determined that a bladder urine volume of at least 50 mL was required to obtain BUOT values that consistently plateaued. Therefore, the study inclusion criteria was updated to include a bladder urine volume (by ultrasound) 50 ml. Seventeen women with a mean age of 60 had BUOT values that were deemed accurate. The mean BUOT was 28.14 mmHg and ranged from 9.18 to 42.9 mm Hg. These results are consistent with historical values for BUOT using more invasive oxygen sensing devices that cannot be used in a clinical setting.

Conclusion: This study demonstrates that BUOT can be measured in a clinical setting and that the values obtained are consistent with historical values.
PERFORMANCE ASSESSMENT AND VALIDATION OF AN ENHANCED 12-RAT METABOLIC CAGE EQUIPPED WITH A NOVEL 100-GRAM LOAD CELL SENSOR INTERFACE

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Presented By: Amy D. Dobberfuhl

Introduction: The metabolic cage is an important non-invasive tool used to assess ambulatory voiding function in conscious rodents. Other standardized assessments of lower urinary tract (LUT) function in the rat include the 2-hour filter paper test and bladder cystometry, however these tests are labor intensive and represent a single point in time. We sought to validate our enhanced metabolic cage with a novel 12-channel load cell sensor interface, which allows for real-time automated assessment of LUT function.

Methods: LUT function of female Sprague-Dawley rats were assessed at multiple time points with: A) two-hour filter paper test (n=35, 129 samples), B) Metabolic cage (n=35, 129 cage cycles) and C) Anesthetized bladder cystometry (n=6). Twelve rats were simultaneously housed in metabolic cages (Tecniplast, Model 3701M081) during each cage cycle (18 - 24 hours). For the first two hours of each cage cycle, voided volume was measured using filter paper. Urine output for each animal was then measured using twelve 100-gram Wheatstone bridge load cells connected to three 4-channel bridge amplifier USB transducers (Phidgets Inc., Model 1046) and data recorded continuously at one-second intervals (DSP Robotics, FlowBotics Studio v3.0.8). Anesthetized cystometry was then performed using urethane sedation (1.2 g/kg).

Results: Load cell sensor performance was assessed using a micropipette which demonstrated accurate correlation with known droplet weight (sensitivity range 100 - 3,000 µL), as well as urine droplet weight after passing through both clean and dirty metabolic cages (sensitivity range 200 - 3,000 µL). The 2-hour filter paper test demonstrated voided urine droplet volumes which significantly correlated (Pearson r = 0.55, p < 0.001, alpha = 0.05) with daytime voided volumes obtained by metabolic cage. Voided volume demonstrated a non-significant (n = 6) positive correlation with cystometric mean voided volume (Pearson r = 0.48, p = 0.33, alpha = 0.05), and was consistently greater in ambulatory conscious rats (mean 1,014 µL, range 577 - 2,223) compared to anesthetized cystometry (mean 126 µL, range 20 - 211).

Conclusion: Metabolic cage assessment of LUT function correlated with voided volumes using the filter paper test and anesthetized bladder cystometry. Rat bladder function and behavior patterns may be reliably assessed over time with our enhanced metabolic cage, without the need for anesthesia or terminal bladder cystometry.

Funding Source: SUFU Foundation
AMBULATORY AND CYSTOMETRIC RESPONSE FOLLOWING SINGLE VERSUS MULTIPLE ONABOTULINUMTOXINA DETRUSOR INJECTIONS IN A RAT MODEL OF OVERACTIVE BLADDER INDUCED BY INTRAVESICAL ACETIC ACID

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Presented By: Amy D. Dobberfuhl

Introduction: Intradetrusor onabotulinumtoxinA (BTX) chemodenervation is an established therapy for appropriately selected patients who fail first and second-line treatments for overactive bladder. There has been much variability regarding injection patterns and concentration of BTX described in the literature including templates which generally deliver the toxin to the posterior and lateral walls of the bladder. The physiologic effect of different injection patterns deserves further investigation.

Methods: Thirty-six adult female rats were divided into six (n=6) groups. Treatment animals received intradetrusor injection of 7.5 units (in 25 μL saline) BTX to the bladder: intact control (no injection); saline vehicle control (five aliquots); trigone (one aliquot); posterior and lateral walls (three aliquots); whole bladder (five aliquots); unilateral (one aliquot). Animals were acclimated and micturition frequency and volume were assessed using metabolic cages at baseline (day 0, 7) and following injection (day 14, 21, 28). On day 7, animals underwent detrusor injection via midline incision. On day 28, overactive bladder was induced with acetic acid bladder instillation (0.25%, 30-minutes). Bladder function was assessed using anesthetized cystometry before and after acid instillation.

Results: All but one animal survived until final testing. One rat in the trigone group expired during recovery from anesthesia after injection. Ambulatory urinary frequency and mean voided volume show consistent trends, with stable voided volume demonstrated over time in all groups. Each animal demonstrated a consistent voiding pattern at each of the five metabolic cage time points; however there was wide variability from animal to animal. All controls developed obvious detrusor overactivity when challenged with acetic acid. In contrast, BTX resulted in increased threshold pressure immediately prior to spontaneous micturition and was successful in suppressing detrusor overactivity in treated rats that underwent instillation of acetic acid. Overall bladder contractility was preserved to a greater degree in the unilateral single aliquot injection group compared to the multiple injection treatment groups.

Conclusion: With equal total toxin delivery, the various BTX injection patterns did not result in clear physiologic differences in our rat model of overactive bladder. The only exception was that unilateral single aliquot BTX injection appeared to preserve bladder contractility compared to multiple BTX injections.

Funding Source: SUFU Foundation
ABERRANT BLADDER REFLEXES CAN DRIVE HIND LIMB LOCOMOTOR ACTIVITY FOLLOWING COMPLETE SUPRASACRAL SPINAL CORD INJURY

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Presented By: Matthew O. Fraser

Introduction: Many rats with chronic suprasacral spinal cord injury (SCI) demonstrate hind limb locomotor activity (HLLA) in response to external crede or high pressure contractions during cystometry. We propose that this aberrant, pressure-driven bladder reflex pathway may be harnessed to facilitate walking in SCI patients. As a first step in exploring this possibility, we examined the relationship between intravesical pressure (IVP) and HLLA in chronic suprasacral SCI rats.

Methods: Female rats (four weeks post-SCI at T9-10, n=16) were anesthetized with isoflurane and fitted with transvesical catheters and right quadriceps EMG electrodes to monitor bladder and hind limb locomotor activities, respectively. The animals were mounted in Ballman restraint cages to which they had been previously acclimated. The catheter was connected to a pressure transducer, an infusion pump, and a saline-filled reservoir mounted on a metered vertical pole (pressure clamp). After 30 minutes of recovery from anesthesia, the bladder was filled at 0.1 ml/min with saline to verify bladder-to-bladder reflex activity for 30 minutes. IVP was then increased in an interrupted stepwise fashion from 0-120 cmH2O at 10 cmH2O increments. Each step consisted of five minutes: three minutes at the new pressure followed by two minutes at 0 cmH2O. IVP and the number of HLLA events (as defined by rhythmic EMG discharges of 3-10 cycles/event) were recorded for each pressure step. This process was repeated for two more trials for each rat to assess the durability of the reflex. Data were analyzed using ANOVA with repeated measures both within and across pressure escalation trials. P<0.05 was considered significant.

Results: ANOVA revealed that locomotor events increased with increasing intravesical pressure and decreased with the number of escalation trials (P<0.0001 for both effects). The increase in the number of locomotor events with increasing intravesical pressure appeared to plateau at ~50-60 cmH2O (P<0.05 for all). The average of the maximal number of locomotor events for each animal decreased steadily from ~3.0, 2.5 and 1.75 over the three trials.

Conclusion: There is a positive relationship between IVP and HLLA that suggests the emergence of an aberrant bladder-to-hind limb locomotor reflex pathway following SCI. It may be possible to harness this reflex pathway independently of the state of the bladder to facilitate walking in SCI patients.

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THE EFFECTS OF MYRBETRIQ ON DETRUSOR OVERACTIVITY ASSOCIATED WITH SUPRASACRAL SPINAL CORD INJURY (SCI) IN RATS

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Presented By: Matthew O. Fraser

Introduction: β3-adrenoceptor agonists (BARA) represent a novel mechanism of action for direct relaxation of urinary bladder smooth muscle. Myrbetriq (MYR) is an FDA approved BARA developed by Astellas Pharma, and has proven to be very useful for treating overactive bladder. Preliminary data from this laboratory demonstrated a remarkable effect of a rat-specific BARA, CL-316,243 (CL), on the hallmark attributes of neurogenic bladder subsequent to SCI. This included an increase in true bladder capacity (TBC), a decrease in the number and amplitude of non-voiding contractions (NVC) and an increased filling compliance (C). The current report reflects a formalized preclinical study of both the rat specific BARA, CL, and MYR, in order to provide preclinical support for utilization of MYR in treating SCI patients with neurogenic detrusor overactivity.

Methods: Female rats (four weeks post-SCI at T9-10, n=43, 10-11/group) were anesthetized with isoflurane and fitted with femoral vein, ureteral diversion and transvesical catheters. The animals were mounted in Ballman restraint cages to which they had been previously acclimated. Conscious cystometry was performed before and after three repeated vehicles (Veh 1-3) and three escalating 1/2 log doses of either CL or MYR, and their paired repeated vehicle controls (Veh 4-6) at 30-minute intervals. See Figure for testing scheme protocol. Data were analyzed using ANOVA with repeated measures. P<0.05 was considered significant.

Results: Both CL and MYR significantly increased TBC and NVC count, MYR decreased maximal NVC amplitude, and CL increased C, relative to their respective repeated vehicle controls.

Conclusion: The results of these studies support the use BARA for the treatment of NDO secondary to SCI, as at least one of the drugs tested was able to distinguish themselves from their repeated vehicle control groups as having a positive effect for each of the four measures.

Funding Source: IIR grant from Astellas
**Introduction:** Aging is associated with an impairment of lower urinary tract (LUT) function in humans. For instance, elderly patients may present with an overactive bladder, characterized by urgency and nocturia. Alternatively, an underactive bladder may develop in the aged population with signs of detrusor underactivity and an underactive bladder phenotype. Demonstration of a spontaneously occurring LUT dysfunction has been relatively sparse in experimental models, especially in large animals with an LUT physiology that is close to the human condition. To address a research need for large animal models of LUT dysfunction, we have studied the effects of aging on LUT function in non-human primates.

**Methods:** Adult female rhesus macaques (3-11 years old, n=10) and geriatric animals (19-28 years old, n=9) were included. All subjects underwent urodynamic studies under a stable and light plane of ketamine anesthesia administered by constant rate infusion. A transurethral catheter was placed and saline was infused into the bladder for partial bladder filling. Cystometrogram recordings were obtained for evaluations of reflex bladder contractions.

**Results:** The geriatric cohort demonstrated a 57% increase in bladder capacity and a 126% increase in bladder compliance. Voiding efficiency, maximum bladder pressure and post-voiding residual volumes were not significantly different between the groups. A sub-population of the geriatric cohort showed repeat brief bladder contractions, instead of a sustained single contraction, in response to partial bladder filling.

**Conclusions:** Female rhesus macaques develop spontaneous and age-associated changes in lower urinary tract function. This age-related LUT phenotype includes features suggestive of an underactive bladder.

**Funding Source:** Dr. Miriam and Sheldon G. Adelson Medical Research Foundation and the National Institutes of Health (P51 OD011107)
Poster #BS20

MOLECULAR BIOLOGIC STUDY ABOUT THE CIRCADIAN RHYTHMIC CONTROL OF MICTURATION FUNCTION

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Presented By: Su Jin Kim

Introduction: The association with circadian change with micturition is well-known; however, the underlying mechanism is primitive. Therefore, we investigate the relationship between circadian rhythm and water metabolism and expression of circadian clock gene in peripheral bladder and central micturition centers.

Methods: Male normal mouse (C57BL/6J; WT) and circadian gene knock-out mouse (per1-/-per2-/-; PDK) was used. Water intake and urine output according to the circadian rhythm was checked using metabolic cage in 12:12 LD photoperiodic cycle (LD cycle) and constant dark cycle (DD cycle). Circadian clock gene rhythm was evaluated with Per2 promoter expression in the bladder. We also check the circadian expression of clock gene (Bmal1 and Rev-erba) and the rhythmic expression of circadian clock gene according to time in three tissues related with micturition (detrusor smooth muscle, sphincter smooth muscle and urothelium) in both WT and PDK. The expression of clock gene in central micturition center; lumbar spinal cord, pontine micturition center (PMC) and ventrolateral periaqueductal gray (vLPAG) was analyzed.

Results: Water intake and urine output was increased in nighttime of WT in LD cycle and DD cycle study as well. However this tendency was disappeared to PDK which means that circadian rhythm is due to endogenous circadian rhythm not outside environment. We can observe the activation of Per2 promoter approximately 24 hours of rhythm. In case of WT, characteristic circadian expression pattern of clock gene in all three tissues. On the contrary, approximately 24 hours of promoter activated rhythm was not observed in PDK. It represent that bladder peripheral clock was well functioned. In terms of spinal level, unlike PDK, clock gene expression rhythm was observed in WT. But, there was no definite rhythmicity of circadian expression pattern of clock gene in the upper region of central micturition center like PMC and vLPAG.

Conclusion: Endogenous circadian rhythm in water intake and urine output is existed approximately 24 hours. Bladder peripheral clock gene is existed in main functional tissue related with micturition. But in terms of central micturition center, we can find circadian clock gene expression only in lumbar spinal cord. Further study about the reason why absence of circadian clock in upper central micturition center and finding other circadian control mechanism in upper micturition center is needed.
Preventive Effect of Plant Combination on Detrusor Underactivity Induced by Bladder Outlet Obstruction

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Presented By: Woong Jin Bae

Introduction: Detrusor underactivity (DU) is noted in the many patients, however; the preventive and therapeutic methods are lacking. Several recent studies presented that DU induced by bladder outlet obstruction (BOO) is associated with oxidative stress. There is a Korean traditional remedy composed of 6 plants combination used empirically in the patients complaining lower urinary tract symptoms (LUTS) and it showed excellent anti-oxidative effect. Therefore, we studied the preventive effect of plant combination based on Korean traditional remedy on DU induced by BOO.

Methods: Male rats were assigned to three groups: sham-operated (control group), DU induced by BOO (DU group), and DU induced by BOO and administration with the plant combination (WSY-1075, DU-WSY group). Partial BOO was induced in the DU and DU-WSY groups, and partial BOO was maintained for four weeks to induce DU. At the time when partial BOO was made, the daily oral administration of plant combination started and continued for four weeks in the DU-WSY group. After four weeks, cystometrogram (CMG) was performed to evaluate functional change. Masson’s trichrome staining was done to investigate smooth muscle and collagen component in the bladder wall. 8-OHdG and SOD were analyzed to evaluate oxidative stress change in the bladder of three groups. Western blot analysis was done to evaluate M2 and M3 muscarinic receptors.

Results: In the DU group, significantly decreased maximal contraction pressure and increased collagen component were observed, and these findings meant occurrence of DU. Significantly increased 8-OHdG and decreased SOD were noted in the DU group. This meant increased oxidative stress in the DU induced by BOO. Moreover, M3 muscarinic receptor expression was significantly decreased in the DU group compared with the control. After administration with the plant combination, similar pattern of CMG that reflect normal voiding was observed with the control. Significantly decreased 8-OHdG and increased SOD level were noted and these meant reduced oxidative stress. M3 muscarinic receptor expression was higher compared with the DU group.

Conclusion: Based on the results, preservation of voiding function mediated by anti-oxidative effect of the plant combination was observed after administration of the plant combination in DU induced by BOO. Therefore, we suggested the plant combination as one of the new management method to prevent DU.
Poster #BS22  
EFFECT OF PLANT COMBINATION ON DETRUSOR OVERACTIVITY INDUCED BY BLADDER OUTLET OBSTRUCTION MEDIATED BY RHO KINASE PATHWAY  

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Presented By: Woong Jin Bae  

Introduction: Several patients with overactive bladder (OAB) do not show sufficient treatment effect after antimuscarinic medication. Therefore, it needs to find the underlying mechanism in the patient with no effect after antimuscarinic medication and introduce new target that can control OAB. Recent several studies noted that Rho kinase pathway is involved in the control of smooth muscle contraction of the bladder and Rho kinase pathway may be one of new treatment target for OAB. In addition, previously, we observed that a plant combination made of natural plant had a regulatory effect of Rho kinase pathway. Therefore, we studied the effect of a plant combination showing regulatory effect of Rho kinase pathway on OAB.  

Methods: Female rats were assigned as five groups; control (n=6), OAB rat (n=6), OAB rat administered with a plant combination (KH-204, n=6). OAB was induced by two-week partial bladder outlet obstruction (BOO) of the urethra and a plant combination was administered for four weeks. Cystometrogram (CMG) was done after four weeks. M3 muscarinic receptor, RhoA, ROCK-I, and ROCK-II expression were analyzed in the bladder.  

Results: Detrusor overactivity (DO) of the OAB rats was noted by the partial BOO and confirmed by increased contraction pressure and decreased contraction intervals at CMG. In addition, non-voiding contractions (NVD) were increased. Significant deceased contraction pressure, increased contraction intervals, and decreased NVD were observed in the OAB rat administered with a plant combination compared with the OAB rats. The increased expressions of RhoA, ROCK-I, and ROCK-II were observed as well as M3 muscarinic receptor in the OAB rats. Significant decreased RhoA, ROCK-I, and ROCK-II were observed in the OAB rats administered with a plant combination compared with the OAB rats.  

Conclusion: From the results, we observed that the plant combination reduced DO by down regulation of Rho kinase pathway. Therefore, the plant combination may be one of the new treatment options for the OAB mediated by Rho kinase pathway.
Poster #BS23
GLYCINE TRANSPORTER TYPE 2 (GLYT2) INHIBITOR AMELIORATES AUTONOMIC DYSREFLEXIA AND DETRUSOR OVERACTIVITY IN INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME (IC/BPS) RAT MODEL

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Presented By: Jang-Hwan Kim

Introduction: We have investigated whether intrathecal (i.t.) administration of GlyT2 inhibitor (ALX-1393) can inhibit the autonomic dysreflexia and detrusor overactivity in the IC/BPS rat model.

Methods: Animals: Sprague-Dawley female white rats (200-250g) were used. Anesthesia: Intraperitoneal (i.p.) injection of Zoletil (Tiletamine+Zolazepam) 0.1cc/100g and Rompun (Xylazine) 0.025~0.04/100g. IC/BPS Rat model: Twelve rats were divided into 2 groups (Control, n=12 and ALX-1393, n=12, respectively). All rats received Cyclophosphamide (CYP), at a dose of 100mg/kg dissolved in distilled water in a concentration of 40mg/ml. Injection (i.p.) was done three days prior to the experiment to induce inflammation of the bladder. Hydrodistension (HD) and Cystometry: HD was performed at a pressure of 150-170mmHg for 30 seconds with three-minute interval. Autonomic response was quantified as the difference of mean arterial pressure, before and during HD. Awake cystometry was performed by infusing physiological saline at a slow infusion rate (0.04ml/min). Intrathecal administration of ALX-1393: Through the subarachnoid space, a polyethylene catheter was advanced and placed at L6-S1 spinal cord level. Saline or ALX-1393 (3ug/10ul) was injected after first HD, and two more sessions were performed five and 30 minutes after saline or ALX-1393 injection.

Results: A significant increase in blood pressure was observed for three consecutive sessions of HD in control group (21.7±10.3, 20.9±7.8 and 22.9±14.6mmHg) (Figure 1-a)). In ALX-1393 group, significant effect in ameliorating blood pressure increase during HD was observed, at five minutes after ALX-1393 i.t. injection (6.3±7.7mmHg, p<0.01)(Figure 1-b)). On cystometry, inter-contraction interval (ICI) in control group demonstrated little change after saline i.t. (4±7.6sec, p=0.251) (Figure 2-a)), while significantly prolonged ICI was observed after ALX-1393 i.t. injection (72.7±45.6sec, p=0.0056) (Figure 2-b)).

Conclusion: GlyT2 inhibitor (ALX-1393) inhibits autonomic dysreflexia and ameliorates detrusor overactivity in the IC/BPS rat model. These findings suggest that GlyT2 may be a novel therapeutic target for the treatment of IC/BPS.
Poster #BS24
QUANTITATIVE ELECTROMYOGRAPHY OF THE EXTERNAL ANAL SPHINCTER IN A PRIMATE MODEL OF AGING

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Presented By: Evgeniy I. Kreydin

Introduction: There is evidence that external anal sphincter (EAS) denervation and re-innervation occur after childbirth, presumably due to injury of the pudendal nerve [1]. To our knowledge, changes in EAS innervation with aging have not been previously studied. Here we present a pilot study of quantitative electromyogram (qEMG) interference pattern analysis of the EAS in a rhesus macaque model of aging.

Methods: All experiments were carried out in female rhesus macaques (macaca mulatta) under ketamine constant rate infusion sedation. Rectal guarding reflex was elicited by a gentle insertion and removal of a 10 mm rectal probe in ten adult animals (age 6-11), nine geriatric animals (age 19-23), and four advanced aged animals (age 24-28). Evoked EAS EMG activity was analyzed over a 40-second interval.

Results: The visual pattern of EAS EMG for all animals consisted of rapid rise in amplitude with stimulation followed by gradual fall to baseline after stimulation was withdrawn. Time-domain qEMG analysis revealed no statistically significant differences in mean EMG amplitude, EMG integral or EMG maximum among the adult, geriatric and the advanced aged animals. On frequency-domain analysis, adult animals demonstrated higher median (p = 0.022) and peak (p = 0.015) frequencies than advanced aged animals, and higher peak frequency (p = 0.050) than geriatric animals.

Conclusion: Our results suggest that innervation of the EAS in rhesus macaques changes with age. Analysis of EMG interference patterns show age-dependent neuromuscular changes in the frequency domain. Additional studies may determine relative contributions of myogenic and neurogenic components to these changes.

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ANTI-VEGF TREATMENT DECREASES BLADDER PAIN IN CYCLOPHOSPHAMIDE CYSTITIS IN MICE

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Presented By: H. Henry Lai

Introduction: Vascular endothelial growth factor (VEGF) is a pleiotropic cytokine known for its angiogenesis activity. Clinical studies have shown that tissue and urinary levels of VEGF are elevated among patients with interstitial cystitis/bladder pain syndrome (IC/BPS). We investigated whether treatment with anti-VEGF neutralizing antibodies reduced pain and voiding dysfunction in the cyclophosphamide (CYP) cystitis model of bladder pain in mice.

Methods: Adult female mice received anti-VEGF neutralizing antibodies (10 mg/kg intraperitoneal B20-4.1.1 VEGF mAb) or saline (control) prior to receiving CYP (150 mg/kg intraperitoneal). Pelvic nociceptive responses were assessed 5, 48, and 96 hours later by applying von Frey filaments to the lower abdominal/pelvic area. Spontaneous micturition was assessed using the void spot assay. A second paradigm where anti-VEGF treatment was given after CYP cystitis was also investigated.

Results: Systemic anti-VEGF pre-treatment in mice prior to CYP-induced cystitis significantly reduced the pelvic nociceptive response compared to saline pre-treatment (control). As shown in the figure, pelvic hypersensitivity decreased significantly between five and 48 hours post-CYP in the anti-VEGF pre-treatment group (p=0.0051, n=7). By 96 hours post-CYP, pelvic hypersensitivity had decreased by 47.2% from its peak, and was no longer significantly different from the baseline level in mice pre-treated with anti-VEGF (p=0.17). In contrast, pelvic hypersensitivity remained elevated at 5, 48, and 96 hours in the saline pre-treatment group. There was no difference in urinary frequency and mean voided volume between the two groups at 5, 48, and 96 hours. In the second paradigm where anti-VEGF treatment was given after CYP cystitis has been established, pelvic hypersensitivity was still significantly increased at 96 hours compared to baseline (p=0.0007, n=7).

Conclusion: Administration of anti-VEGF neutralizing antibodies reduced pelvic/bladder pain in the CYP cystitis model of bladder pain compared to controls. Further investigation of the use of anti-VEGF antibodies to manage bladder pain or visceral pain in humans is warranted.

Funding Source: NIH/NIDDK
ASSOCIATION OF POST-PROCEDURE ACUTE KIDNEY INJURY FOLLOWING PERIOPERATIVE ADMINISTRATION OF SODIUM FLUORESCEIN

Emmanuel J. Mitsinikos, MD; Davida Becker, PhD; Christopher F. Tenggardjaja, MD
Presented By: Emmanuel J. Mitsinikos

Introduction: In the absence of indigo carmine (IC) to identify the ureteral orifices intraoperatively, sodium fluorescein (SF) has been adopted as a replacement. This has been used previously by ophthalmology for retinal angiography. Prior studies have identified side-effects ranging from mild/common such as nausea to severe/rare like anaphylaxis. In our practice, we have received many inquiries regarding the effect of intravenous SF on post-operative renal function; however there is insufficient existing literature to answer this question. Our objective was to evaluate the feasibility of the use of SF for ureteral orifice and efflux identification and identify any adverse effects associated with acute kidney injury associated with its use.

Methods: After IRB approval, we retrospectively reviewed patients from Kaiser Permanente Southern California medical centers who underwent surgical procedures and received IC or SF from January 2014 through February 2016. Only adult patients with pre-operative creatinine/glomerular filtration rate (GFR) within 30 days of the procedure and post-operative creatinine/GFR within 24 hours following the procedure were included. The IC group served as our historical comparison group. We compared preoperative patient characteristics (age, sex, diabetes status, chronic kidney disease status, Charleston Comorbidity Index) as well as their pre- and post-operative creatinine/GFR. The data was compared using paired and welsh t-test.

Results: Of 1580 records reviewed, 851 received IC and 729 received SF intra-operatively. Only 124 patients charts included both pre- and post-operative creatinine and GFR (90 for IC, and 34 for SF) The pre- and post-operative GFR for the IC group was 76.7 and 77.2 respectively (p=0.7336). The pre- and post-operative GFR for the SF group was 71.6 and 71.0 respectively (p=0.6414). The change in GFR from baseline (ΔGFR) in the IC group was 0.52 and in the SF group was -0.61 (p=0.5731).

Conclusion: We demonstrate the feasibility of using sodium fluorescein in a multicenter retrospective review. Sodium fluorescein was not observed to have an association with post-operative acute kidney injury following intravenous administration, and shows no difference from patients who previously received indigo carmine.
REGULATORY ROLE OF UROTHELIAL P2X3R FOR CONTRACTILE RESPONSES IN PORCINE BLADDER STRIPS

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Presented By: Alvaro Munoz

Introduction: Ionotropic purinergic receptors formed with the P2X3 subunit (P2X3R) are critical for bladder sensory transmission, through ATP activation, to intravesical afferent nerves during bladder filling. The expression of P2X3R has also been found on urothelial cells from rodent and human bladder; nonetheless, their physiological role has not been fully understood. Our objective was to characterize the presence of P2X3R, spontaneous contractions (SC), contractile responses to electrical field stimulation (EFS) and purinergic contractions (PC) in intact and mucosa free porcine bladder strips.

Methods: Urinary bladders were isolated from euthanized female White-Landrace pigs (4-6 months old; 60-80 kg) after serving for training of medical surgeons. Strips were isolated from a total of eight pigs at the middle part of the bladder: one strip used for P2X3R immunohistochemistry; one more for contractile evaluation (intact), and the mucosa layer was removed from the last one (mucosa free). Intact and mucosa free strips were incubated in organ baths filled with oxygenated Krebs to determine responses to SC, EFS, PC, and the effects of P2X3R inhibition on these parameters. Data was acquired with force transducers, digitalized using WinDaq software, and values analyzed with GraphPad Prism.

Results: Bladder biopsies from all pigs show expression of P2X3R in urothelial cells and innervating-like regions in the detrusor. Removal of the mucosa layer prevents the generation of spontaneous contractions. The response to EFS was not affected by muscarinic receptor (M3) blockage, or P2X3R inhibition (using AF-353). However, in intact strips the inhibition of P2X3R prevents the desensitizing effect produced on EFS by M3 receptors. On the other hand, non-specific activation of P2X with alpha-beta-Methylene-ATP generates significantly higher transitory contractions in the mucosa-free strips.

Conclusion: Porcine urothelial cells express P2X3R. Our results suggest that urothelial P2X3R may be important for modulation of spontaneous contractions, desensitization of M3 receptors in the detrusor, and the contractile response to other P2X receptors (i.e. P2X1) in smooth muscle cells. These results will be important for evaluating purinergic targets in an animal model that more closely resembles human physiology.

Funding Source: The Houston Methodist Foundation and the Brown Foundation
Biomechanical Testing of Collagen-Based Gelation Versus Planar Electrochemical Alignment Graft Fabrications of Biotextiles for Pelvic Reconstructive Surgery

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Presented By: Raymond R. Rackley

Introduction: We have previously reported that biotextile devices of fabricated collagen-elastin nanoparticles share similar properties to autografts in promoting functional tissue repair and regeneration. We hypothesize that fabrications techniques using planar electrochemical alignment (ECA) of collagen-based nanoparticles for pelvic devices may have inherent biomechanical characteristics that replicate the biological strength of autografts. Our specific aim of this basic science study was to compare the fracture stress of non-crosslinked collagen sheets fabricated by conventional heat-gelation (CHG) method to those fabricated with the ECA method.

Methods: Graft sheets of biotextile fabrication of dialyzed collagen was either performed by CHG or controlled molecular assembly using planar ECA that moves proteins in a pH gradient produced by the electrolysis of water. Fracture stress, the point at which the biotextile sheet failed, was determined by adding increasing mass attached to the bottom of a collagen sheet, therefore adding increasing force pulling straight down. The cross sectional area of the sample tested was determined, and then mass was added until the biotextile failed. Force was determined as massXgravity and fracture stress equals force/cross-sectional area.

Results: Biotextile graft sheets fabricated with the ECA method had a fracture stress 8.23 times greater than CHG sheets. While the ECA fabricated sheets are thin, they showed excellent tensile strength, as shown by the high fracture stress. Very little deformation was seen before complete failure was noted (completely torn).

Conclusion: Novel collagen-based biotextile sheets can be easily fabricated via ECA using planar electrodes and have excellent biomechanical properties prior to cross-linking considerations. These findings will support the generation of stress-strain curve studies to determine Young's Modulus and be the basis for considering the merits of adding cross-linking manufacturing steps to further enhance the balance between additional biomechanical versus biocompatibility features of biotextiles.

Funding Source: Southwest Research Institute®; Armed Forces Institute of Regenerative Medicine; Biotextiles, LLC
Poster #BS29
AGEING OF THE FEMALE PELVIC FLOOR: THE EXPERIMENTAL EVIDENCE.

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Presented By: Diaa E. Rizk

Introduction: As yet, there is no consensus on the underlying mechanism of urinary and fecal incontinence in old postmenopausal women. Although hypoestrogenism may be causally related, normative ageing could also be responsible. Old laboratory animals following ovariectomy (OVX) provide a unique opportunity to investigate the effect of menopause versus ageing on supportive pelvic floor structures. Anatomy of these structures in rats is sufficiently similar to that of humans to serve as a model for morphological studies. Fisher 344 rats are particularly suitable for ageing research because the survival time is prolonged (30 months) compared to other rat models. Experimental evidence of pelvic floor ageing in this animal model is reviewed.

Methods: Surrogate biomarkers of pelvic floor ageing include the amount and relative proportion of submucosal collagen fibers types I/III in the urethra and anal canal and of isomyosin fibers types I/II as well as cytoplasmic expression of p27kip1 (a protein that normally regulates muscle cell differentiation and apoptosis) in the striated pelvic floor muscles and the number of submucosal vascular plexuses in the urethra and anal canal. Measurement of these biomarkers using Western blot analysis and light microscopy, respectively, before and after OVX and subsequent administration of estrogen and/or anti-ageing drugs, like ghrelin, can be compared between young-adult versus old rats.

Results: There is evidence for a cumulative adverse effect of OVX and ageing. All biomarkers of pelvic floor ageing are significantly increased in old compared to young-adult rats before OVX. OVX significantly increases these changes further in old rats. In young-adult rats, estrogen administration reverses OVX-induced adverse changes. In old rats, these changes are completely reversed by combined estrogen and ghrelin administration but neither by estrogen or ghrelin administration separately, suggesting an independent ageing effect.

Conclusion: OVX exacerbates inherent ageing changes in the pelvic floor of old rats indicating a synergistic, deleterious and independent interaction between hypoestrogenism and normative ageing. Studying the individual contribution of biological versus reproductive senescence on the pelvic floor in animal models may assist in identifying therapeutic strategies to delay or prevent deterioration of continence control in old postmenopausal women.

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Poster #BS30

CYTOKINE EXPRESSION ANALYSIS OF HUMAN MSC AND INJURED RAT TISSUE IN A MODEL OF STRESS URINARY INCONTINENCE INDUCED BY VAGINAL BIRTH TRAUMA

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Presented By: Zhina Sadeghi

Introduction: Human mesenchymal stem cell (hMSC) injections to the periurethral space have shown therapeutic benefit in animal models of post-partum stress urinary incontinence (SUI). We hypothesize hMSC and tissue injury crosstalk modulates cytokine expression of both injured urethral tissue as well as the hMSC themselves. In this experimental analysis we focused on determining cytokine expression changes occurring in injured rat urethral tissue and hMSC in the initial phase of injury.

Methods: To determine cytokine expression changes occurring in injured rat urethral tissue and hMSC we focused on changes in CC-like, CXC-like, growth factors, BMPs, interferons, interleukins, and cytokine receptors in the initial phase of injury (24 hours) with and without the application of hMSC. We injected fluorescent-labeled hMSC into the periurethral space of rats given vaginal distention four hours post injury. Pelvic space was frozen in OTC embedding medium and subsequently sectioned. Fluorescent hMSC was easily distinguished from adjacent rat urethral tissue. Total RNA was prepared from hMSC obtained by laser dissection of tissue sections (or grown in tissue culture) and separately adjacent rat urethral tissue. Gene expression was determined by subsequent rat or human specific microarray.

Results: Fold changes of cytokine and receptor gene expression in hMSC injected into rats given VD compared to cultured hMSC was determined. BMP2, and TGFβ3, and NTF4 had top fold changes. Urethral tissue cytokine expression given VD vs uninjured rat urethral tissue showed CCL2, FGFBP1, and CCL7 were of top fold changes. Injured rat tissue given hMSC compared to uninjured rats showed FGFBP1, CCL3, and CXCL2 of top expression changes. Injured rat urethral tissue cytokine expression upon hMSC exposure compared to uninjured rat urethral tissue showed FGFBP1, NGFRAP1, IL18 had largest fold difference.

Conclusion: We determined several cytokines and receptors are altered in injured tissue: 1) by injury, 2) upon exposure to hMSC. We sought to determine differences in cytokine expression between injured tissue and injured tissue given hMSC therapy, as well as to characterize for the first time changes in cytokine expression observed in hMSC exposed to tissue injury. This work demonstrates the complex nature of vaginal injury resolution with and without hMSC treatments. Further work will focus on perturbations of cytokines expression by both injured tissue as well as by the hMSC used in therapy.
CORRELATION BETWEEN SPINAL CORD INJURY FORCE AND ELECTROMYOGRAPHIC CHARACTERISTICS OF 
THE LOWER URINARY TRACT IN FEMALE RATS: EFFECTS OF INTRAVESICAL P2X3R INHIBITION

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Presented By: Betsy Salazar

Introduction: Impaired bladder function is one of the most prevalent complications in patients with spinal cord injury 
(SCI). Our objectives were to better understand the acute pathophysiology of bladder dysfunction after contusion-SCI in 
rats by 1) Measuring simultaneously bladder pressure (BP) changes and electromyographic (EMG) characteristics of the 
lower urinary tract (LUT) during voiding contractions (VCs); and 2) Assessing the effects of intravesical inhibition of 
purinergic P2X3 receptors (P2X3R) on the EMG activity of the LUT.

Methods: Female Sprague-Dawley rats had a laminectomy at the T8/T9 level for a mild (100 kDynes) or severe (150 
kDynes) force contusion injury using an infinite horizon impactor. Sham rats only had a laminectomy. Post-surgical care 
was equally provided to all animals. Animals were evaluated at two different time points: two weeks and four weeks post 
SCI. Rats were anesthetized with urethane and implanted with a suprapubic catheter for saline infusion and drug delivery. 
Regions of the bladder identified as dome, upper, lower, base, as well as the external urethral sphincter (EUS) were fitted 
with flexible microelectrodes. All electrodes, and BP sensor were connected to an Intan Technologies RHD2000 amplifier. Signals were simultaneously acquired at either 1.25 kHz (BP) or 5 kHz (EMG). Analysis was performed using MATLAB, Excel, and GraphPad Prism 7. 

Results: The 150kDy animals had significant hind leg impairment, bladder dysfunction, and severe spinal damage. The 100kDy group manifested a modest locomotive damage without urine retention. Except for pressure threshold, suggesting reduced sensation, other cystometric properties of sham and 100kDy rats were similar. The 150kDy SCI group showed significantly changes in cystometric properties. EMG activity was reduced throughout the LUT of all SCI rats with respect to the sham group during VCs. Intravesical inhibition of P2X3R with 10 µM AF-353 showed a decreasing trend in 
cystometric properties and EMG activity across all groups.

Conclusion: The electromyographic properties of the LUT may be substantially impaired independent of locomotion 
effects after controlled SCI. Intravesical P2X3R inhibition suggests that attenuation of bladder afferent signals can 
decrease EMG activity in the LUT. Our experimental approach will be valuable for characterizing the physiology of the 
LUT after targeting neuroregeneration after SCI.

Funding Source: The Houston Methodist Foundation and the Brown Foundation
ELECTRICAL SIGNALS IN THE LOWER URINARY TRACT DURING ISOVOLUMETRIC CYSTOMETRY: EFFECTS OF INTRAVESICAL INHIBITION OF MUSCARINIC RECEPTORS

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Presented By: Betsy Salazar

Introduction: Micturition is a rather complex process that requires the coordinated contraction of the detrusor, relaxation of the external urethral sphincter (EUS), as well as neuronal control. The objectives of our study were 1) To understand voiding events using simultaneous EMG recordings of the detrusor and EUS during isovolumetric (ISV) conditions; 2) To study the efficacy of pharmacological intravesical inhibition of muscarinic receptors; and 3) To determine the origin of the recorded EMG signals. During our previous investigations into bladder EMG signaling of rodents, concerns were raised regarding a primarily neurogenic or myogenic signal origin. These concerns are addressed in this study.

Methods: Female Sprague-Dawley rats were anesthetized with urethane, and fitted a suprapubic catheter for saline infusion and drug delivery. Spring-type flexible metallic electrodes were attached at the dome, upper, lower, and base regions of the bladder, as well as the external urethral sphincter. Voiding events were generated by saline or atropine infusion at a rate of 0.1 ml/min. Signals were simultaneously acquired at either 1.25 kHz (bladder pressure) or at 5 kHz (EMG signals). Initially, open cystometry with saline was performed, followed by ISV recordings after the meatus was clamped. Bladder pressure and EMG data was gathered for at least ten ISV contractions. The meatus was then infused with a 5µM atropine solution for approximately 15 minutes. The meatus was clamped once again and at least ten more ISV contractions during muscarinic receptor inhibition were recorded. Data were analyzed with MATLAB, Excel, and GraphPad Prism.

Results: Group analysis showed ISV duration of 27.8 ± 1.4 s, an average peak bladder pressure of 57.7 ± 6.7 cmH2O, and an intercontractile interval (ICI) of 73.8 ± 13.2 s during saline infusion. Atropine infusion decreased contraction duration (22.3 ± 0.5 s), average peak bladder pressure (42.2 ±5.5 cmH2O), and increased the ICI (85.5 ± 16.3 s). In remarkable contrast, no significant differences in the lower urinary tract (LUT) were observed for EMG amplitude or frequency during saline infusion when compared to atropine.

Conclusion: Our data suggests that atropine, a muscarinic receptor inhibitor, has little effect on the EMG activity of the LUT, thus suggesting that the origin of the recorded signals is primarily neurogenic.

Funding Source: The Houston Methodist Foundation and the Brown Foundation
Poster #BS33
HCN1-INTERSTITIAL CELL INTERACTIONS CONTRIBUTE TO SYMPATHETIC RELAXATION OF MOUSE DETRUSOR

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Presented By: Phillip P. Smith

Introduction: Sympathetic relaxation of the bladder wall permits low pressure urine storage and central regulation of afferent sensitivity to volume. Sympathetic dysregulation could contribute to volume sensory disorders underlying urinary problems prevalent in old age. We hypothesize that an inward cation current due to Hyperpolarization-activated cyclic nucleotide–gated (HCN) channels expressed by interstitial cells may be an age-sensitive mediator of sympathetic regulation of detrusor tone.

Methods: There were 2-3 month C57BL/6 mice used. Western blots, qPCR and immunohistochemistry directed at HCN isoforms were conducted. Mid-bladder transverse intact strips from ten wild type (WT) and 6 HCN1 knock-out (KO) females were suspended at a constant length and initial tension of ~10 mN in Ca-containing buffer. Following pre-tensioning with carbachol and washout, isoproterenol-induced relaxation was recorded in buffer and buffer+HCN block (CsCl or ZD7288) in WT and KO tissues. Effects on mean tension and power spectral analysis under each condition were compared.

Results: In WT bladders, qPCR and WB confirmed the presence of HCN1>HCN2>>HCN3/4. IHC colocalized HCN1 with ENTPDase2. Isoproterenol induced relaxation in both WT and KO bladders in the absence of HCN block (p<0.05). However, in WT, isoproterenol induced a 13% relaxation vs. Buffer, and in the presence of an HCN blocker, a 3.5% relaxation (p=0.0063), whereas in KO, 7.7% relaxation in the presence of HCN blocker did not significantly differ from 10% relaxation in buffer (p=0.14). Power spectral analysis of 0.1-0.3 Hz micromotional activity showed no significant change in frequency of maximum power under all conditions in WT and KO bladders, however area under the curve (AUC) of this spectrum was significantly less in isoproterenol than buffer in the absence of HCN blockade in WT bladders (p=0.033).

Conclusions: HCN1 is expressed by bladder interstitial cells in mice. Most of the isoproterenol-induced relaxation in this model is linked to HCN1 activation and may be attributed to decreased micromotional activity. HCN is thus proposed as a molecular contributor to interstitial cell regulation of detrusor activity. HCN expression changes with aging in other tissues, suggesting that altered HCN function may mediate changes in volume sensory transduction in the aging bladder contributing to symptoms and dysfunction.

Funding Source: UConn IBACS Seed Grant; NIA Beeson/K76 AG054777
FLOW CHARACTERISTICS OF URETHRAL CATHETERS OF THE SAME CALIBER VARY BETWEEN MANUFACTURERS

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Presented By: Carrie A. Stewart

Introduction: Clean intermittent catheterization (CIC) is frequently prescribed for bladder dysfunction. Little objective information is available to guide catheter selection. We propose that catheters of the same labeled diameter do not exhibit the same flow characteristics, which may have implications during catheter selection.

Methods: Twenty-two male pediatric urinary catheters from 9 manufacturers were tested (11 straight tip, 11 coude tip); five had hydrophilic coating and all shared a 10 French outer diameter. For each, microscopic imaging and a precision caliper were used to measure the inner diameter (I.D.) and tip inlet. A hydraulic system was used to simulate bladder catheterization. Measurement of each catheter was repeated 5 times using three different static hydraulic pressures (20, 40 and 50 cmH2O). The friction factor derived from the Darcy-Weisbach equation was used to describe real flow resistance imposed by the inlet tip.

Results: Catheter geometry and flow rate measurements are presented in the table. Variation between manufacturers in (I.D.) and inlet/tube opening ratio (O.R.) led to variability in flow. The maximum difference from the manufacturer average is 22% for I.D., 166% for O.R., and 1.5% for outer diameter. The result of experiments reflected the fluctuations in geometry. For example, the maximum difference of the flow rate is 48% and the friction factor of the inlet tip is 108%. The average deviation of each catheter experiment (n=5) was 2.2%. Flows with higher hydraulic pressure (>40 cmH2O) tended to reach a transition regime, 2000<Re<4000, where the linear relationship of pressure and flow rate in laminar flow (Poiseuille equation) no longer applied.

Conclusion: The design of some brands of urinary catheters does not optimize urinary flow. The inner diameter and the O.R. are two critical parameters, limiting the rate. Currently, it is not possible to predict the actual flow rate of urinary catheters based on the packaging information. The wide fluctuation of these two parameters between manufacturers should either be regulated or be listed on product packaging along with the outer diameter, to assist physicians and families in selecting the optimal urinary catheter for CIC.
Poster #BS35
FIBROTIC RESPONSE TO SYNTHETIC MIDURETHRAL SLING MESH IN WOMEN WITH COMPLICATIONS

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Presented By: Lauren E. Tennyson

Introduction: Two of the most common complications of transvaginal meshes are exposure and pain; however, the mechanisms of the host-tissue response as it relates to these complications have not been well delineated. The host response to mid urethral slings (MUS) has been even less studied. The purpose of this study was to define and compare pathological tissue fibrosis in patients with synthetic MUS removed for pain vs. exposure.

Methods: Thirty-three mesh-vagina complexes (exposure, n=20; pain, n=13) were compared to 14 full thickness vaginal biopsies. TGF-β levels were measured by ELISA (R&D Systems, Minneapolis, MN), and histologic comparisons were performed with H&E, Masson’s trichrome and PSR stains. PSR slides were analyzed under polarized light microscopy by applying custom threshold color filters to quantify areas of red, orange, yellow and green, consistent with thickness of collagen fibers in close proximity to mesh fibers. Statistics were performed using Student’s t-test and Pearson’s correlation coefficient.

Results: Age was independently associated with TGF-β, where decreasing levels were observed with increasing age (p=.001). TGF-β was higher in mesh-vagina explants compared to control tissue (p=.004), but was not significantly different between exposure and pain groups (p=.56). We found a moderate negative correlation with time of implantation (R=-.422, p=.057). There was significant inflammatory infiltrate at the host-tissue/biomaterial interface on H&E and trichrome stains in both groups. Analysis of PSR slides demonstrated a greater area of green (thin) fibers in the exposure group (p=.039) and red (thick) fibers in the pain group (p<.001). We also calculated a ratio of area green/(yellow + orange + red) and found that the mean value was significantly greater in the exposure group (p=.01). There was a moderate positive correlation between the area of orange (thick) fibers and length of mesh implantation (R=.504, p<.02), as well as total collagen and length of implantation (R=.512, p=.02), supporting collagen deposition and maturation over time.

Conclusion: In women with complications, MUS induce an inflammatory tissue response characterized by elevated TGF-β levels, which also appear to be correlated with length of implantation. Patients who had mesh removed for pain had thicker collagen fibers compared to those with exposure, which supports progressive fibrosis as a potential mechanism contributing to pain.
A NOVEL MECHANISM FOR DETRUSOR UNDER-ACTIVITY MEDIATED BY MYOSIN LIGHT CHAIN PHOSPHORYLATION AND AMP-DEPENDENT KINASE

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Presented By: Randy Vince

Introduction: Detrusor smooth muscle (DSM) contraction is induced by muscarinic receptor activation (Carbachol, CCh) leading to a rapid rise to a peak force, followed by gradual decrease in force despite continued presence of CCh. The mechanism behind the decrease in force over time is not understood. The purpose of this experiment was to test the hypothesis that this fade is due to delayed activation of AMP-dependent kinase (AMPK) causing a reduction in myosin light chain phosphorylation (MLCp).

Methods: There were 3 mm rings of DSM obtained from mouse bladders place in an organ bath connected to a force transducer. We gradually stretched the each ring by 1.5 mm and performed a contraction at each interval. This was repeated to find the optimal length at which the force of contraction was highest (Lref). After obtaining Lref each ring was set at 95% Lref. The first ring was frozen at a basal state; the other three rings were exposed to 10uM CCh and frozen after exposure at 5, 30 or 180 seconds respectively. Biochemical analysis and western blotting was performed to detect the levels of AMPk and MLCp.

Results: This experiment was repeated for an N=3. We noted a gradual increase in AMPk of 3-5 fold when comparing the basal rate to the three-minute exposure (fig.1). MLCp also gradually increased corresponding to the increase in force of contraction but was noted to have a decrease at the three-minute interval, which also correlated to a decrease in force. (Fig. 2).

Conclusion: AMPK is activated by metabolic stress (increase in the AMP/ATP ratio), and in some tissues, is noted to increase catabolic pathways and inhibit biosynthetic pathways as a means of reducing ATP consuming and increasing O2 supply. This has clinical relevance because patients who have bladders that undergo prolonged ischemia or hypoxic insult (i.e. poor vascularity via atherosclerosis or high PVRs causing decreased bladder perfusion) can ultimately have decreased contractility that may be a result of elevated AMPk activity.
Introduction: Urinary tract infections (UTIs) account for one third of all hospital-acquired infections. The majority of hospital-acquired UTIs are catheter-associated UTIs (CAUTIs), which are associated with increased morbidity and mortality in patients, with 13,000 attributed deaths annually. CAUTIs are also associated with increased length of hospital stays and 0.4-0.5 billion USD in annual healthcare costs, as well as unnecessary antimicrobial use. The formation of biofilms (groups of bacterial cells that adhere to one another and to a fixed surface) on catheters is critical to the development and persistence of CAUTI, as biofilms function as both barriers to antibiotics and reservoirs of microbes. The purpose of this study was to determine the natural history of biofilm formation on urinary catheters. In particular, we were interested in the starting location(s) of biofilm formation, and whether biofilms predominated proximally or distally on catheters, and their timing and manner of progression. We also sought to determine whether catheter biofilm formation was predominantly extraluminal or intraluminal.

Methods: Foley catheters (n=25) were collected from outpatient and inpatient clinics at a large university medical center from post-surgical patients at 1 to 28 days indwelling time. Each catheter was sectioned and stained, and biofilms were quantitated using spectrophotometric analysis.

Results: Short-term catheters (indwelling <1 week) displayed predominant biofilm formation at the proximal (bladder-exposed) end, whereas long-term catheters (indwelling 3-4 weeks) displayed significant biofilm formation throughout all segments. Biofilm growth on short-term catheters was predominantly extra-luminal, whereas long-term catheters demonstrated significant extra- and intra-luminal biofilm staining.

Conclusion: The results of this preliminary study inform approaches to developing novel strategies to prevent and eradicate bacterial biofilms from urinary catheters. For example, this study suggests that catheter-coating techniques targeting the extraluminal surface of the proximal end of the urinary catheter may contribute to a delay of biofilm formation, and reduce the overall risk of CAUTI. Efforts are under way to further investigate biofilm progression with larger sample sizes, and to determine how a reduction in biofilm formation and progression may contribute to reduced CAUTI risk.

Funding Source: Stony Brook SOM (AN, GTW); NIH NRSA F30 (GTW).
OVERACTIVE BLADDER IS MORE STRONGLY ASSOCIATED WITH FRAILTY THAN AGE IN OLDER INDIVIDUALS

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Presented By: Anne M. Suskind

Introduction: Over half of older individuals suffer from overactive bladder (OAB) and the incidence of OAB rises with advancing age. While frailty, a decrease in physiologic capacity, also increases with age, the association between frailty and OAB has not been examined. The objective of this study is to investigate this association.

Methods: This is a prospective study of men and women ages 65 and over presenting to an academic non-oncologic urology practice between December 2015 and July 2016. All patients had a timed up and go test (TUGT), a parsimonious measure of frailty, on intake. Based on the TUGT, individuals were categorized as not frail (≤10 sec), intermediately frail (11-14 sec) and frail (≥15 sec). The TUGT and other clinical data were abstracted from the electronic medical record using Clarity software. We then used logistic regression to examine the relationship between frailty and the diagnosis of OAB, adjusting for other patient characteristics.

Results: Our cohort included 226 with individuals with OAB and 1137 individuals without OAB. Individuals with OAB tended to have a higher TUGT (13.4 ± 7.8 sec) than their non-OAB counterparts (10.9 ± 5.2 sec), p<0.0001, with 30.1% and 11.0% of OAB and non-OAB individuals being categorized as frail with a TUGT ≥15 sec. In multivariate analysis, frailty was a significant predictor of OAB [adjusted OR 2.0 (95% CI 1.5-2.7)]. Age, however, was not associated with OAB (global p value of 0.255).

Conclusion: Patients with a diagnosis of OAB symptoms are significantly more frail than individuals seeking care for other non-oncologic urologic diagnoses. Frailty, but not age, has a statistically significant association with a diagnosis of OAB. Elucidation of the mechanisms behind this association and the impact of frailty on OAB-related outcomes warrants further investigation.

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***2017 Clinical Science Prize Essay Award Recipient: Anne M. Suskind, MD, MS
Podium #1
CLINICAL ASSESSMENT OF A NOVEL OLIGONUCLEOTIDE PROBE-BASED RAPID DIAGNOSTIC TOOL TO DETECT, IDENTIFY AND ASSESS ANTIBIOTIC SUSCEPTIBILITY OF UROPATHOGENS

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Presented By: Seth A. Cohen

Introduction: As multi-drug antibiotic resistance looms in its ever-increasing presence, our group sought to assess the ability of an oligonucleotide probe-based rapid diagnostic tool for identification and susceptibility testing of uropathogens in clinical urine specimens.

Methods: Under the auspices of an IRB-approved prospective study, we collected 40 urine specimens from a clinic, in cases where it was presumed patients had urinary tract infection based on their symptoms and point-of-care urine dipstick assessments. Utilizing a novel oligonucleotide probe-based diagnostic tool, we attempted to both detect and identify Gram-negative uropathogens and to determine their antimicrobial susceptibility in less than 120 minutes.

Results: We tested 39 urine specimens and 2 contained only Gram-positive organisms. Of the remaining 37, we correctly assessed the presence (13/14) or absence (22/23) of bacteria in 35/37 specimens and correctly identified the bacterial species in 10/14 positive urine specimens within 30 minutes. Two specimens containing P. mirabilis were not identified. Antimicrobial susceptibilities correlated with the clinical microbiology lab results in 95.3% of cases (results obtained within 120 minutes). Sensitivity to fluoroquinolones and cefazolin correlated 100% of the time with clinical microbiology lab results.

Conclusion: This pilot study demonstrates the ability of this rapid diagnostic technology to correctly detect and identify uropathogens and to determine antibiotic susceptibilities within 120 minutes, directly from clinical urine specimens. It holds great promise to change our current strategy of empiric antibiotic therapy and reduce future multi-drug antimicrobial resistance. Future studies should include methods for detection of Gram-positive organisms and for improved detection of P. mirabilis.

Funding Source: The Ruby Winston Diagnostic Microbiology Lab at UCLA is supported by donations from benefactors supporting the group’s mission of preserving antibiotics for future generations.
Podium #2

USE OF A BODY PAIN MAP TO CHARACTERIZE UROLOGIC CHRONIC PELVIC PAIN SYNDROME – A MAPP RESEARCH NETWORK STUDY

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Presented By: H. Henry Lai

Introduction: Patients with urologic chronic pelvic pain syndromes (UCPPS, interstitial cystitis or chronic prostatitis) suffer pelvic pain and pain in other areas of the body. The distribution of this pain in the body and its association with other factors has not been systematically studied. We characterized the location and distribution of pain among men and women with a body map and compared urinary symptoms, non-urological factors, and psychosocial measures between UCPPS patients who reported “pelvic pain only”, “pelvic pain and beyond”, and widespread body pain.

Methods: There were 233 women and 191 men with UCPPS enrolled in a multi-center, one-year observational study completed a battery of measures at study entry, including a body map to report the location and distribution of their pain during the past week. They were categorized as having “pelvic pain only” if they reported pain in the abdomen and pelvis only, or “pelvic pain and beyond” if they reported pain outside the abdomen and pelvis. Those who reported “pelvic pain and beyond” were sub-grouped into the numbers of broader body regions affected by pain (1-2 regions versus 3-7 regions or “widespread body pain”).

Results: Twenty-five percent reported “pelvic pain only” the remainder reported pelvic pain and beyond. Persons with widespread body pain (3-7 regions) had more severe non-urologic pain (p<0.0001), more sleep disturbance (PROMIS, p=0.035), worse quality of life (SF-12 physical component: p=0.021; SF-12 mental component: p=0.001), more depression (HADS-D, p=0.005), higher anxiety (HADS-A, p=0.011), higher psychological stress (PSS, p=0.005), and higher negative affect scores (PANAS, p=0.0004, all 3-group comparisons using Jonckheere’s trend test) compared to persons who reported pelvic pain only. Women (but not in men) with widespread pain also reported more fatigue (PROMIS, p<0.0001) than those with pelvic pain only. For both men and women, there was no difference between the three groups in terms of their urinary symptoms (e.g., severity of pelvic pain, urinary frequency, urgency to urinate, pain composite score, and urinary composite score).

Conclusion: Among MAPP participants, three out of four men and women with urologic chronic pelvic pain syndromes (UCPPS) also report pain outside the abdomen and pelvis. Widespread body pain was associated with worse quality of life and psychosocial impacts but not worse urinary symptoms.

Funding Source: NIH/NIDDK
Podium #3
LONG-TERM EFFICACY OF ENDOSCOPIC ABLATION OF THE HUNNER’S LESION IN PATIENTS WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME

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Presented By: Kyu-Sung Lee

Introduction: We evaluated the efficacy of endoscopic ablation of the Hunner’s lesion (HL) in patients with interstitial cystitis/bladder pain syndrome (IC/BPS).

Methods: IC/BPS patients with the HL were enrolled and underwent endoscopic ablations. We repeated endoscopic ablation when HL was recurred during follow-up period. The primary outcome was the recurrence-free survival. Secondary outcome measurements were pain visual analogue scale (VAS), and several questionnaires.

Results: Total of 89 patients were analysed. The mean follow-up period was 25.1±9.9 months. After primary ablation treatment, recurrence rate of HL was 75.3% (67/89) and mean recurrence-free survival time was 16.9±1.3 months. Among 67 recurred patients, 59 patients underwent second ablation treatment. Recurrence rate after second operation was 37.3% (22/59) and mean recurrence-free survival time was 18.5±1.9 months. There were significant improvement in the pain VAS, O’Leary-Sant IC symptom and problem index, and pelvic pain and urgency/frequency patient symptom scale after primary ablation treatment (Figure1).

Conclusion: While recurrence rate after primary endoscopic ablation for HL were high, symptoms including pain were dramatically improvement. However, recurrence rate was decreased and recurrent free survival time was increased after secondary ablation. Endoscopic ablation is effective treatment of IC patients with HL.
Podium #4

FRAILTY AND THE ROLE OF OBLITERATIVE VERSUS RECONSTRUCTIVE SURGERY FOR PELVIC ORGAN PROLAPSE; A NATIONAL STUDY

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Presented By: Anne M. Suskind

Introduction: There are many surgical options for pelvic organ prolapse (POP) repairs spanning from obliterative procedures, such as colpocleisis, to reconstructive options including open abdominal, vaginal, and laparoscopic/robotic colpopexy. In theory, obliterative POP repairs would be ideally suited for frail older individuals due to their reported shorter operative time, lower blood loss, and faster recovery; however, this has yet to be demonstrated on a large national sample of women. The objective of this study was to determine whether frailty predicts the type of POP surgery performed (i.e., obliterative versus reconstructive) and the odds of postoperative complications among all types of POP procedures.

Methods: This is a retrospective cohort study of women undergoing obliterative and reconstructive surgery for POP in the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) from 2005 to 2013. We quantified frailty using the NSQIP Frailty Index (NSQIP-FI) and used logistic regression models predicting type of procedure (colpocleisis) and odds of post-operative complications.

Results: We identified a total of 12,731 women undergoing POP repairs, 5.3% of which were colpocleisis procedures, from 2005-2013. Among women undergoing colpocleisis, the average age was 79.2 years and 28.7% had a NSQIP-FI of 0.18 or higher, indicating frailty. Women undergoing colpocleisis procedures had higher odds of being frail (OR 1.9 95% CI 1.4-2.6 for NSQIP-FI 0.18 compared to NSQIP-FI 0) and were older aged (OR 486.2 95% CI 274.5-861.3 for age 85+ compared to <65). For all types of POP procedures, frailty increased the odds of complications (OR 1.5 95% CI 1.2-1.9 for NSQIP-FI 0.18 compared to NSQIP-FI 0), after adjusting for age and type of POP procedure.

Conclusion: For POP surgery, age is more strongly associated with the selection of a colpocleisis procedure than frailty; however, frailty is more strongly associated with postoperative complications than age for all types of POP procedures. Furthermore, surgeons may be basing their selection of type of POP procedure on age, whereas frailty may be a better predictor of outcomes. Furthermore, incorporating frailty into preoperative decision-making is important for improving expectations and outcomes among older women considering all types of POP surgery.

Funding Source: NIDDK K12 DK83021-07; Pepper Center Research Career Development Core Advanced Scholar Award
Podium #5

HEALTH LITERACY, COGNITION AND URINARY INCONTINENCE AMONG GERIATRIC INPATIENTS DISCHARGED TO SKILLED NURSING FACILITIES

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Presented By: Joshua A. Cohn

Introduction: The etiology of and disease burden associated with incontinence in the elderly is multifactorial. We aimed to investigate the association between health literacy and cognition and urinary incontinence in a geriatric inpatient population transitioning to a skilled nursing facility (SNF).

Methods: Health literacy, depression and cognition were assessed via the Brief Health Literacy Screen (BHLS), Geriatric Depression Scale 5-item (GDS) and Brief Interview for Mental Status (BIMS), respectively. Multivariate logistic regression controlling for demographic and clinical factors was performed to determine the association between BHLS score and incontinence by: 1) nursing report of urinary incontinence during hospitalization and 2) patient self-reported “bladder accidents” in the post-enrollment study interview.

Results: There were 1556 hospitalized patients aged 65 and older who met inclusion criteria, of whom 922 (59.3%) were women and 1480 had available BHLS scores. 464 (29.8%) patients had urinary incontinence by nursing report and 515 (33.1%) by patient report. On average, incontinent patients by nursing report were older (p<0.001) and had higher GDS scores (p<0.001), fewer years of education (p=0.034) and lower BHLS (8.8 vs. 10.9, p<0.001) and BIMS scores (12.2 vs. 13.6, p<0.001) relative to continent patients. On multivariate analysis, nursing-reported incontinence was significantly associated with lower BHLS (i.e. poorer health literacy) (OR 0.93, 95% CI 0.89-0.99) and BIMS (i.e. poorer cognition) (OR 0.90, 95% CI 0.83-0.97) total scores and need for assistance with toileting (OR 7.08, 95% CI 2.16-23.21). Patient-reported incontinence was significantly associated with lower BHLS (i.e. poorer health literacy) (OR 0.93, 95% CI 0.89-0.99) and BIMS (i.e. poorer cognition) (OR 0.90, 95% CI 0.83-0.97) total scores and need for assistance with toileting (OR 7.08, 95% CI 2.16-23.21). Patient-reported incontinence was significantly associated with female sex (OR 1.62, 95% CI 1.19-2.21), increased GDS score (i.e. greater likelihood of depression) (OR 1.22, 95% CI 1.10-1.36) and need for assistance with toileting (OR 2.46, 95% CI 1.26-4.79). Nursing and patient-reported incontinence were discordant in 25.8% of patients.

Conclusion: Poorer health literacy and cognition are independently associated with an increased likelihood of nursing-reported urinary incontinence among geriatric inpatients transitioning to a SNF. Practitioners should be aware of the potential for urinary incontinence to be present or develop in hospitalized patients with poorer health literacy and cognition even if not patient-reported.

Funding Source: Department of Health and Human Services Centers for Medicare & Medicaid Services grant #1C1CMS331006
Podium #6

THE RISK OF SUICIDALITY AND DEPRESSION FROM 5-ALPHA REDUCTASE INHIBITORS: A POPULATION BASED COHORT STUDY

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Presented By: Blayne Welk

Introduction: There have been regulatory and patient concerns regarding the potential mental health side effects of 5-alpha reductase inhibitors. Our objective was to determine if there is an increased risk of suicide, self-harm, or depression among older men starting a 5-alpha reductase inhibitor for prostatic enlargement.

Methods: Population-based, retrospective, matched cohort study using linked administrative data from Ontario, Canada (2003 through 2013). 93,197 men ≥66 years of age who initiated a new prescription for a 5-alpha reductase inhibitor during the study period were matched (based on numerous covariates representing medical comorbidities, medication usage, and healthcare system utilization) to an equal number of men not prescribed a 5-alpha reductase inhibitor. The primary exposure was the duration of finasteride or dutasteride usage. The primary outcome was suicide. Secondary outcomes were self-harm behavior and depression. Stratified Cox proportional hazards models were used.

Results: Men who used 5-alpha reductase inhibitors were not at a significantly increased risk of suicide (HR 0.88, 95% CI 0.53 to 1.45). Risk of self-harm was significantly increased during the initial 18 months after 5-alpha reductase inhibitor initiation (HR 1.88, 95% CI 1.34 to 2.64), but not thereafter. Incident depression risk was elevated during the initial 18 months after 5-alpha reductase inhibitor initiation (HR 1.94, 95% CI 1.73 to 2.16), and continued to be elevated, but to a lesser degree for the remainder of the follow-up period (HR 1.22, 95% CI 1.08 to 1.37). The absolute increase in the event rates for these two outcomes were 17/100,000 patient years and 272/100,000 patient years respectively. The type of 5-alpha reductase inhibitor (finasteride or dutasteride) did not significantly modify the observed associations with suicide, self-harm and depression.

Conclusion: In a large cohort of men ≥66 years of age, we did not demonstrate an increased risk of suicide associated with 5-alpha reductase inhibitor use, which should be reassuring to patients and regulatory agencies. However, the risk of self-harm and depression were increased compared to unexposed men. This is in keeping with post-marketing experience and patient concerns, and discontinuation of the medication in these circumstances may be appropriate.
THE IMPACT OF DETRUSOR UNDERACTIVITY ON PATIENT SATISFACTION AFTER HOLEP: A PROSPECTIVE STUDY

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Presented By: Young Ju Lee

Introduction: To evaluate the impact of bladder contractility on outcomes of Holmium laser enucleation of the prostate (HoLEP) in objective and subjective parameters.

Methods: From December 2009 to December 2015, 797 patients with LUTS/BPH were prospectively enrolled in the Seoul National University Benign Prostatic Hyperplasia Database Registry, and underwent HoLEP by a single surgeon. Preoperative evaluation included International Prostate Symptom Score (IPSS), Overactive Bladder Symptom Score (OABSS), urgency perception scale (UPS), PSA, PVR (postvoid residual volume) and urodynamic study. At postoperative 6 months, IPSS, OABSS, uroflowmetry, PSA and self-administered questionnaires regarding satisfaction to treatment questions (STQ), overall response assessment (ORA) and willingness to undergo the surgery again question (WUSAQ) were obtained. Bladder contractility was classified as weak, normal and strong according to the bladder contractility index (BCI) of <100, 100−150 and >150. Detrusor underactivity (DUA) was defined as BCI<100. Subjective and objective parameters were compared according to the degree of contractility.

Results: Among 768 patients, 351 (45.7%) had DUA and 63 (7.9%) had strong contractility. Mean age, preoperative IPSS, QoL, Qmax and prostate volume were 69.3 years, 19.2, 4.2, 9.2mL/sec and 70.8mL, respectively. Patients having stronger bladder contractility tended to be younger, have larger prostate volume, higher preoperative OABSS, UPS, bladder outlet obstruction index and larger PVR with significant tendency according to the contractility. However, preoperative Qmax and IPSS were not different among 3 groups. At postoperative 6 months, Qmax, IPSS voiding and QoL were significantly improved as the degree of contractility increases, whereas OABSS, PVR and UPS were not different among 3 groups. Overall, 93.9% of patients were satisfied after the surgery and 99.0%, 94.2% of patients reported improvements and willingness in ORA and WUSAQ, respectively. Patient satisfaction was not different by the degree of contractility. Multiple logistic regression analysis showed that the history of neurologic disease (OR 0.23; 95% CI 0.10−0.50, p<0.001) was the only risk factor for decreased satisfaction.

Conclusion: Patients having DUA tended to have less improvement in voiding symptoms postoperatively than those without DUA. However, patient satisfaction was not affected by the degree of bladder contractility.
MINIMALLY INVASIVE PROSTATIC URETHRAL LIFT (PUL) EFFICACIOUS IN A LARGE PERCENTAGE OF TURP CANDIDATES: A MULTICENTER GERMAN STUDY AFTER TWO YEARS

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Presented By: Karl-Dietrich Sievert

Introduction: Successful outcomes have been reported for treatment of lower urinary tract symptoms (LUTS) with the prostatic urethral lift (PUL) procedure in a number of clinical investigations, all of which have used strict patient selection criteria. Our aim was to investigate the outcome of PUL in patients treated in a normal clinical setting without the rigid exclusion criteria used in previous studies.

Methods: This was a multicenter prospective observational study in patients from five German centers. All candidates submitted for transurethral resection of the prostate (TURP) received information on PUL and were given the choice of procedures. The only exclusion criterion was a prominent median lobe. No patients were excluded because of high post void residual (PVR), prostate volume (PV), history of retention, or oral LUTS therapy. Maximum urinary flow (Qmax), PVR, and the International Prostate Symptom Score (IPSS) with the Quality of Life questionnaire were assessed at baseline and 3, 6, 12, 18 and 24 months after surgery.

Results: Of 212 candidates submitted for TURP, 85 chose PUL. Patient age was 38-85y (65.29 ±11.9); PV 17-111 (42.95±18.00) ml, with no obstructive median lobe. A total of 31 patients (36%) had severe BPH obstruction and would have been denied PUL utilizing previously reported study criteria. A mean of 3.8 implants per patient (SD, 1.41; range, 2-7) were placed over 35-90 (55.12±12.0) min under general or local anesthesia. Of the 85 patients, 67 (96%) reported substantial symptom relief within 1 month, with significant improvements in Qmax, PVR, IPSS, and QoL (p<0.001) that were maintained or further improved within the time of follow-up. Sexual function including ejaculation was unchanged or improved. No serious adverse events occurred. Eleven patients (12.94%) without severe obstruction but related to their high PVR underwent retreatment: two had successful additional PUL and 9 (with PVR values of 90 - 280ml) underwent TURP, of which four did not significantly improve further and one remained with a suprapubic catheter.

Conclusion: PUL is a promising surgical technique and may alleviate symptomatic BPH, even in patients with severe obstruction.

Funding Source: None
Poster #M1
IS INITIAL RETENTION AFTER MACROPLASTIQUE® INJECTION A PREDICTOR OF SUCCESS?

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Presented By: Himanshu Aggarwal

Introduction: To examine if initial postoperative urinary retention after transurethral Macroplastique® (MPQ) bulking agent injection for female stress urinary incontinence (SUI) is a predictor of success.

Methods: Following IRB approval, a prospective database of non-neurogenic women who underwent MPQ injection for SUI due to intrinsic sphincter deficiency under light anesthesia, and were followed for >6 months was reviewed. Postoperative retention was defined as inability to void after injection requiring a catheter for 24-48 hours, or difficulty voiding immediately postoperatively (post void residual >200 ml by bladder scan) as charted in the recovery room electronic medical record. Women on self-catheterization, with a supra-pubic tube, those who had a concomitant procedure, or with follow up < 6 months were excluded. Success was defined as patient reporting sufficient continence for not desiring any additional therapy, ie dry or with rare leakage at last visit. Patients were divided into Group 1: Retention post-operatively and Group 2: no retention postoperatively.

Results: From August 2011 to December 2013, 68 of 92 women met all inclusion criteria. Overall 24/68 (35%) patients had retention after surgery. Similar baseline demographics for Group 1 (N=24) and Group 2 (N=44) are shown in Table 1. Success was 88% for Group 1 (21/24) versus 23/44 (52%) in Group 2 (p<0.008) at median follow-up of 25 (7-52) months in Group 1 and 24 (7-53) months in Group 2. Similarly there was significantly higher number of patients who were completely dry in Group 1 (19/24) than in Group 2 (8/24) (p< 0.0001). Patients in Group 2 needed significant higher number of repeat endoscopic injections compared to Group 1 (p<0.002)

Conclusion: Postoperative transient retention was seen in nearly one third of women immediately after MPQ injection. At a median follow-up of two years, these women remained dry or were markedly improved, and did not desire additional SUI therapy more so than those who voided well initially.
Factors Associated with Durability of Therapeutic Botulinum Toxin A Injection for Overactive Bladder

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Presented By: Jay Vance

Introduction: Patients suffering from overactive bladder (OAB) without response to behavioral and pharmaceutical intervention may opt for third-line therapy with botulinum toxin A injection. Botulinum injections have shown success in treating OAB urinary symptoms, but require repeat injections at an interval of 4-12 months. This study seeks to identify factors associated with the durability of this therapeutic effect.

Methods: Patients undergoing treatment for OAB at Lahey Hospital and Medical Center between 2004 and 2016 were identified. Demographic, clinical and treatment data were extracted from patient charts. Patients were included if they had at least 1 botulinum injections. Time from initial to second botulinum injection was defined as therapeutic durability; time from initial injection to last clinic follow-up was defined and time to event analyses were employed: univariate analysis via log-rank method and multivariate Cox proportional hazards were used to identify associations with therapeutic durability. The multivariate Cox model comprised univariate factors with p values below 0.1 and a priori clinical variables. Significance was defined at the α= 0.05 level.

Results: Of the available patients, 54 patients met inclusion criteria. Median time to repeat injection for those who had a second injection was 259 days (8.6 months). Kaplan-Meier survival estimated that 50% of patients required reinjection at 330 days (11 months). On univariate analysis, history of spinal cord injury (p = 0.041), prostate cancer (p < 0.001), history of stroke/CVA (p=0.037), and history of UTI (p=0.013) were significantly associated with lower therapeutic durability. On multivariate analysis, only prostate cancer (OR 50.2, 95% CI 2.95-854, p = 0.0068) and history of UTI (OR 4.11, 95% CI 1.10-15.3, p = 0.035) were associated with lower therapeutic durability.

Conclusion: Botulinum injection showed a median durability of roughly 9 months. Patients with prostate cancer or a history of UTI had a statistically significantly lower durability of botulinum injection. Further study is warranted to identify further etiologic origins of these connections or elucidate other associated cofactors.
NON-SURGICAL MANAGEMENT OF DETRUSOR LEAK POINT PRESSURES ABOVE 40 CM H2O IN ADULTS WITH CONGENITAL NEUROGENIC BLADDER

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Presented By: Giulia I. Lane

Introduction: Poorly compliant neurogenic bladders (NGB) with detrusor leak point pressures above 40 cm H2O (dLPP>40) have been associated with deterioration of renal function in children. As such, dLPP>40, despite clean intermittent catheterization (CIC) and anticholinergics, often mandates augmentation or diversion. While we recommend augmentation cystoplasty or diversion to appropriate patients, many elect for non-surgical management. We describe renal function outcomes with non-surgical management consisting of rigorous urodynamic (UDS) and renal ultrasound (RUS) follow-up, paired with adjustments to CIC routine to keep bladder volumes below that volume at which dLPP>40, adjustments to anticholinergics, and intradetrusor botulinum toxin Type A (BTX).

Methods: We retrospectively reviewed the charts of all patients at our Gillette Lifetime adult congenital urology clinic undergoing UDS from January 2011 to June 2016. Patients with dLPP>40 who opted for non-surgical management were included; this study was noted as their “index UDS” for calculation of follow-up. The primary endpoint was deterioration of renal function as evidenced by change in chronic kidney disease (CKD) stage, progression to CKD-III, or new/worsening hydronephrosis.

Results: Of 210 patients who underwent UDS, 45 had dLPP>40. After exclusions for incomplete data (n=7) or augmentation cystoplasty (n=11), 27 were the subject of study. 15/27 (56%) were women and all 27 were Caucasian. Median age was 29 years (IQR 25, 35). 21 (78%) had NGB due to spina bifida. Median dLPP on index UDS was 47 cm H2O (IQR 42, 60). The most common intervention for dLPP>40 were adjustment to anticholinergics (n=17, 69%), modification of CIC schedule (n=14, 52%), and BTX (n=4, 15%). Last median follow-up was 1.2 years for repeat UDS, 2.5 years for glomerular filtration rate (GFR), and 2.4 years for RUS. There was a median 2.3 mL/min/1.73 m2 decrease in GFR (IQR -17, 7.5). No patients advanced their CKD stage. Repeat UDS demonstrated dLPP>40 resolved in 16/28 (59%) patients. New, mild hydronephrosis was seen in one patient.

Conclusion: A carefully tailored non-surgical treatment protocol for patients with NGB and dLPP>40 is safe and effective in patients with rigorous follow-up. Selecting patients for augmentation cystoplasty requires a balanced assessment of a multitude of patient-specific factors.
THE NEUROGENIC BLADDER SYMPTOM SCORE (NBSS): AN ASSESSMENT OF ITS EXTERNAL VALIDITY AND ABILITY TO DETECT CHANGE

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Presented By: Blayne Welk

Introduction: The Neurogenic Bladder Symptom Score (NBSS) has been validated as a tool to assess bladder quality of life and symptoms. The objective of this study was to externally validate the NBSS and assess responsiveness (ability of a questionnaire to detect change).

Methods: Data from the “Patient reported outcomes for bladder management strategies in spinal cord injury” study was used. Adult SCI patients were eligible for enrollment through direct recruitment or an open online portal. At the initial visit, patients provided an extensive medical history, and completed the NBSS. Responsiveness was assessed in a separate prospective cohort of patients undergoing their first injection of onabotulinum toxin. Medians, interquartile range (IQR), and Pearson correlation coefficient (r) are reported.

Results: There were 609 who patients had complete NBSS scores. Median age was 48 (IQR 36-57), and 67% were male. The majority had thoracolumbar lesions (51%) and managed their bladder by CIC (63%). The median NBSS total score was 22 (IQR 15-30, possible range 0 (no symptoms) to 74 (severe symptoms)), and median quality of life was “mixed”. The Cronbach’s alpha of the total score was 0.85, and 0.93, 0.76, and 0.49 for the incontinence, storage/voiding, and consequences domains respectively. All item to domain correlations were moderate to strong (r≥0.3) aside from 3/7 of the items from the consequences domain. Moderate correlations between the NBSS consequences domain and the number of prior urinary infections (r=0.51, p<0.01) and an alternative patient reported outcome tool for bladder complications (r=0.50, p<0.01) were observed. There was no significant correlation between overall quality of life and prior hospitalizations for urinary infections, or incontinence pad usage. A separate cohort of 15 patients with neurogenic bladder competed the NBSS pre and post onabotulinum toxin injection, and the mean change in the total NBSS score was -12 (IQR -2 to -25). The mean change of the incontinence domain was -9 (IQR -1 to -15) and -3 (IQR -2 to -5) for the storage/voiding domain. The change scores had a large to moderate effect size (total NBSS (0.91), incontinence domain (1.03), storage/voiding domain (0.69)) suggesting clinically relevant responsiveness.

Conclusion: The NBSS demonstrated good validity in a large cohort of SCI patients. Similarly, the total NBSS score and relevant domains were responsive to change, and can be used to assess the impact of an intervention.
Poster #M5
URODYNAMIC FINDINGS IN PATIENTS WITH BRAIN TUMOR CLASSIFIED BY LOCATION OF AFFECTED AREA

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Presented By: Hee Seo Son

Introduction: The effect of brain function on the lower urinary tract has been studied for a recent few decades, and with advanced brain imaging technique, several studies had been introduced to solve the role of each territory of brain on the micturition, with normal brain parenchyma. However, the effect of intracranial space occupying lesions on bladder and urethra is not clearly demonstrated until now. We have evaluated urological symptoms and urodynamic findings, with brain tumor patients, and made comparison the urological pattern according the affected brain area.

Methods: Brain tumor patients with urological symptom who received urodynamic test at our tertiary referral center from April 2007 to January 2016 were evaluated. To assess pure brain effect, patients with diabetes mellitus, accompanying degenerative neurological disorders, spinal cord injury, histories of pelvic cavity surgery were excluded. The localization of brain tumor was based on the Magnetic Resonance Imaging or Computed Tomography imaging taken same time of urodynamic study.

Results: Finally, thirty three patients (male 18, female 15) were assessed. Out of them, 25 patients had primary brain tumor and 8 patients had metastatic brain tumor of other origin. The median age at urodynamic study was 46.7(17.1~76.5) years old, and the median latency of brain tumor was 11.8(0.6~213.0) months. 19 (57.6%) patients complained of storage disorder, and 14(42.4%) had emptying disorder. The involuntary detrusor contraction was observed in 20(60.6%) patients, detrusor sphincter dyssynergia was observed 5 (15.2%), and the acontractile detrusor was observed in 8 (24.2%) patients. The low bladder compliance less than 20ml/cmH2O was observed only in 1(3.0%) patient with cerebellar tumor. The distribution of urological symptom and urodynamic findings showed some difference according to the affected territory (Table 1).

Conclusion: We could observe diverse urological patterns of brain tumor according the affected area. Our results suggest complexity of micturition circuit in central nervous system. The correlation with functional imaging study with normal brain, and larger cohort study might solve the mysterious role of brain on bladder.
Poster #M6
INTRA-DETRUSOR AND INTRA-AUGMENT INJECTION OF ONABOTULINUM TOXIN A IMPROVES REFRACTORY STORAGE SYMPTOMS AFTER AUGMENTATION CYSTOPLASTY

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Presented By: Laura M. Martinez

Introduction: Augmentation cystoplasty has been used in the treatment of refractory overactive or neurogenic bladder. In a very small number of patients symptoms persist or recur after the surgery. There is little guidance on the management of these patients. In this study, we reviewed the efficacy of intra-detrusor and intra-augment Onabotulinum Toxin A (BTX-A) injections in this setting.

Methods: Billing codes were used to identify 135 patients who underwent BTX-A injections in the clinic or the operating room between 2013–2015 by three neurourologists. Charts were reviewed to determine which of those patients underwent prior augmentation cystoplasty. Charts of these patients were retrospectively reviewed for findings before and after BTX-A injections.

Results: A total of 13 (nine females, four males) patients with the mean age of 31.61 (±16.71 years) and history of prior augmentation cystoplasty were identified. The indications for BTX-A injections were urinary incontinence and refractory storage (irritative) symptoms in 12 (92.3%) and one (7.6%) patients respectively. All patients completed urodynamic studies (UDS) prior to BTX-A injections. Average bladder capacity was 304.46 cc (± 127.93). Bladder capacity was less than 300 cc in seven (54%) patients. Decreased compliance and detrusor overactivity were noted in six (46%) and seven (54%) patients respectively. Intra-detrusor and intra-augment injections were done in ten patients. Three patients just received intra-detrusor injections. All patients received 200 units of BTX-A. Follow up is available in ten patients. Nine patients (90%) reported improvement in all subjective parameters (frequency, urgency, incontinence). One patient with history of ileocystoplasty and Mitrofanoff appendicovesicostomy continued to have incontinence per urethra. UDS following BTX-A injections showed detrusor overactivity, decreased compliance, and hourglass configuration. She underwent a repeat augmentation cystoplasty.

Conclusion: Intra-detrusor and intra-augment injection of BTX-A can improve refractory storage symptoms and continence after augmentation cystoplasty in the majority of patients. Prospective studies are needed to better evaluate the efficacy and ideal sites of injection of BTX-A in the setting of augmentation cystoplasty.

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Poster #NM1
DOES UREAPLASMA UREALYTICUM HAVE AN ACTIVE ROLE IN FEMALE LOWER URINARY TRACT SYMPTOMS?

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Presented By: Daniel T. Pucheril

Introduction: Ureaplasma Urealyticum has been implicated as a source of non-gonococcal urethritis and urethral syndrome in men. The contribution of this infection to lower urinary tract symptoms (LUTS) in women is not clear and guidelines regarding screening are lacking. We sought to evaluate the prevalence of this infection in women with symptomatic LUTS in an outpatient setting.

Methods: IRB approval was obtained for a retrospective EMR review of all female patients with LUTS tested for ureaplasma from January 2013 to December 2015 in a single provider’s (HA) clinic. Patient characteristics considered were age, race, BMI, hemoglobin A1C, marital status, and urinary quality of life/symptoms instruments prior to management (AUASS, QOL, M-ISI). Statistical significance of the association of these characteristics with a positive culture were examined with the t-test for continuous characteristics (age, BMI, hemoglobin A1C, AUASS), and with a chi-square test for categorical variables.

Results: Ninety women with LUTS and negative urine cultures were screened for ureaplasma infection. All patients were enrolled in behavioral modification and pelvic floor physical therapy; patients with positive cultures were treated with doxycycline. Forty women had a positive culture demonstrating a prevalence of 44.4%. Women with a positive culture were significantly younger, slightly heavier, and more likely to be African-American. More single women had a positive culture, although this difference was statistically marginal. There was no difference in quality of life measures between women with positive and negative cultures. Considering the variables with significance level <0.10 in univariate analysis, only age and race remained independent predictors of a positive culture, age OR=0.95 95% CI (0.91, 0.99), and African-American vs. Caucasian OR=4.23 95% CI (1.61, 11.11).

Conclusion: This study demonstrates a 44% prevalence of ureaplasma infection in women presenting with LUTS. This estimate is higher than a contemporary series, which identified 30% positive test result in symptomatic women, but is in the lower end of prevalence among asymptomatic sexually active women. Given the high prevalence of this infection in symptomatic women, screening and treatment for ureaplasma infection may be warranted in the management of LUTS. Further studies evaluating the cost effectiveness of evaluation and treatment are needed.
Low Incidence of Clean Intermittent Catheterization with OnabotulinumtoxinA in Diverse Age Groups of Overactive Bladder Patients with Substantial Improvements in Treatment Response

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Presented By: Victor W. Nitti

Introduction: The potential need for clean intermittent catheterization (CIC) is known to increase in overactive bladder (OAB) patients (pts) after onabotulinumtoxinA (onabotA) treatment. We determined the risk of CIC, and efficacy and quality of life (QOL) outcomes after treatment with onabotA in different age groups in a post hoc analysis of a large cohort of OAB pts.

Methods: Data from two onabotA randomized, placebo-controlled phase 3 trials and a post-marketing study were pooled for analysis (N=1177). Pts treated with onabotA 100U in treatment 1 and placebo pts who received open-label onabotA in treatment 2 were grouped by age: <40 (n=90), 40-49 (n=156), 50-59 (n=263), 60-69 (n=343) and ≥70 (n=325) years. Assessments at week 12 after treatment were: incidence and duration of CIC, mean and % change from baseline (BL) in urinary incontinence (UI) episodes, proportions of pts with ≥50% UI reduction, positive response (urinary symptoms 'improved'/‘greatly improved’) on the treatment benefit scale (TBS), and change from BL in Kings Health Questionnaire (KHQ) Social Limitations and Role Limitations domains. Adverse events (AEs) were assessed.

Results: CIC rates after onabotA treatment were lowest in the <40 group (1.1%) and increased slightly with age (3.2%, 5.3%, 5.3% and 7.2% in the 40-49, 50-59, 60-69 and ≥70 groups, respectively). Mean (median) CIC duration in the <40 and 40-49 groups was 3 (3) and 44 (26) days and ranged from 78 (68) to 88 (74) days in the other groups. Mean UI episodes/day at BL were 3.9, 4.8, 5.2, 5.7 and 6.0 in the <40, 40-49, 50-59, 60-69 and ≥70 y groups. A robust treatment response was noted in all groups including substantial reductions in UI episodes/day (-2.4, -2.6, -3.1, -3.6 and -2.9) and % change in UI (-60.8%, -50.4%, -62.4%, -64.4% and -46.8%). High proportions of pts in all groups achieved ≥50% UI reduction (range: 58.2%-71.1%), a positive TBS response (range: 66.2%-73.8%) and improvements from BL in KHQ domain scores ~3-6x the minimally important difference (~5 points). Urinary tract infection was the most common AE in all groups.

Conclusion: In this large cohort of onabotA-treated OAB pts, CIC risk increased slightly with age but was low in all age groups and accompanied by substantial reductions in UI, improvements in QOL and treatment benefit. The <40 group had the lowest rate of CIC (1.1%) with a duration of three days. OnabotA was well tolerated in all age groups.

Funding Source: Allergan, plc
STAGED APPROACH TO SLING REMOVAL IN WOMEN PRESENTING WITH PAIN ONLY

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Presented By: Carlos Finsterbusch

Introduction: There is a debate on the need for complete or partial removal of midurethral slings (MUS) in women presenting with pain only after sling placement. We reviewed our staged approach to determine the rates of success after each procedure.

Methods: Following IRB approval, a prospectively maintained database of women requiring suburethral sling removal (SSR) for pain only between 2005 and 2015 was queried. Data reviewed by a third party investigator not involved in patient care from an electronic medical record included: demographics, type of MUS, onset and location of pain, evaluation (including imaging), surgical findings, and short and long term outcomes, including additional procedures for additional mesh sling arm removal (retropubically for TVT/SPARC and groin dissection for TOT). Pain was ranked by self-report as no pain, improved, same or worse. SSR was performed vaginally with the goal of excising just the suburethral portion of the MUS.

Results: Of 47 patients, 21 (44.6%) were rendered pain-free after SSR alone (Table 1. Flow chart). Among those with residual pain (26), 12 elected conservative management while seven opted for a secondary retropubic arms removal and another seven for a secondary translabial obturator arm dissection. None were found to have infected slings. Among the 14 who underwent a secondary procedure for residual pain after SSR, five (36%) were rendered pain-free, three (21%) improved, five (36%) reported the same amount of pain and one (7%) had worse pain. Of those pain free or improved five/seven (71%) had an obturator sling removal and only three/seven (43%) a retropubic sling removal. After this secondary procedure, six women opted for PMR management. Ultimately, despite staged approach and PMR management, one (7%) remained with invalidating pain.

Conclusion: Nearly half of women operated for pain only after MUS placement find durable relief after an SSR procedure alone, whereas another 30% elected additional removal of residual mesh arms either suprapubically or in the obturator area.
Poster #NM4
WHAT’S WRONG WITH UAB PATIENTS?

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Presented By: Phillip P. Smith

Introduction: Underactive Bladder (UAB) is receiving increased attention as a contributor to urinary bother. An emerging definition of UAB focuses on voiding symptoms suggestive of urodynamic detrusor underactivity. Objective dysfunctions associated with UAB symptoms remain unclear. We therefore sought to describe the urodynamic observations associated with voiding symptoms consistent with UAB.

Methods: A retrospective review of 500 consecutive urodynamic studies conducted by one urodynamicist in one clinical laboratory. Charts of patients with known neurologic disease, prior bladder or urethral surgery, and charts lacking symptom descriptions were excluded. Age, sex, primary and secondary symptoms, urodynamic variables and observations (UO) were logged. Three groups were identified for analysis and comparison: Primarily UAB symptoms (UAB1), any UAB symptoms (UAB), and no UAB symptoms.

Results: 421 charts were suitable for abstraction. Of 132 patients with any UAB, 100 were UAB1. Of the remainder 16 were primarily storage/OAB symptoms, and 14 were primarily incontinence. Average age of UAB patients was 56+/−1.5 yrs, vs. 57.4+/−1.0 for non-UAB (n.s.). UAB1 patients were 59.1+/−1.8 yrs old vs. 54.7+/−2.4 yrs for UAB (n.s.). For UAB1 and UAB, BOO was the most common UO, 35/40% of patients having outlet obstruction (BOO), 25/25% had detrusor underactivity (DU), 20/26% were dysfunctional voiders (DV), 12/13% had detrusor overactivity, 5/8% had SUI, and 3/5% had volume hypersensitivity. UAB1 was more prevalent in men, 54m/46f, however overall 76 females vs. 56 males had any UAB. DU was more common in women than men (21f/12m) with UAB, but BOO was more common in men (37m/13f). Overall, UAB had higher volume sensations thresholds than non-UAB (p<0.05), however less consistently for UAB1 and for UAB patients with BOO, DU, or dysfunctional voiding. Watts Factor did not differ by UAB, BOO, or DU, but PVR was greater in UAB1, UAB, BOO and DV patients with UAB vs. non-UAB patients (p<0.05). For DU, PVR in UAB patients was 376+/−50 vs. 255+/−37ml for nonUAB, p=0.06. Patients with BOO and DU were older, but did not differ by age according to the presence/absence of UAB.

Conclusion: Urodynamic observations related to impaired voiding (BOO, DU, DV) but not impaired contractility account for most urodynamic dysfunctions in UAB patients. An elevated PVR and diminished volume sensations contribute to the occurrence of UAB.
Poster #NM5
INFLUENCE OF LOWER URINARY TRACT SYMPTOMS ON PROFICIENCY OF URINARY INCONTINENCE KNOWLEDGE

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Presented By: Sophia D. Delpe

Introduction: Urinary incontinence (UI) is a prevalent condition with significant adverse effects on a women’s physical, social, and emotional well-being. Insufficient knowledge is thought to be a significant barrier to care. In this study, our objective was to determine if the presence of urinary symptoms influences women’s knowledge about UI.

Methods: We conducted a multicenter, cross-sectional survey of women presenting for care in their first and third trimesters and postpartum. Knowledge and symptoms were assessed using the validated Prolapse and Incontinence Knowledge Questionnaire (PIKQ) UI scale scores and the Urinary Distress Inventory-6 (UDI-6). UI was defined as a ‘yes’ answer to one or more of the UDI-6 questions inquiring about leakage with urgency, coughing, sneezing or laughing or small amounts of urine leakage. UI scales scores were stratified using a cut off of >80% to define knowledge proficiency.

Results: Surveys were completed by 385 racially and socioeconomically diverse women with a mean age of 28.5 ± 6.0. Of these, 151 women (39.2%) reported UI. There was no difference in UI knowledge proficiency between women with and without UI (p=0.11). Women reporting frequent urination or urgency incontinence were more likely to demonstrate knowledge proficiency (p=0.02 and p=0.006, respectively). An inverse relationship was found between UI knowledge proficiency and African-American and Hispanic race/ethnicity (OR= 0.25, CI 0.06 - 1.07 and OR = 0.17, CI 0.04 -0.77, respectively) and having one (OR 0.11, CI .03 -.42) or two (OR = 0.21, CI .0392 - 1.08) prior deliveries.

Conclusion: Women with urinary frequency and urgency incontinence are significantly more likely to demonstrate UI knowledge proficiency. As pregnancy is a major risk factor for UI, routine preconceptual counseling and intrapartum education should be implemented. This may enhance the use of early preventative treatment strategies and decrease barriers to care for this high risk population.
Are There Any Modifiable Risk Factors for Urinary Tract Infection Following OnabotulinumtoxinA Injection for Overactive Bladder?

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Presented By: Rachel Sosland

Introduction: Urinary tract infection (UTI) may affect as many as one third of patients undergoing intradetrusor onabotulinumtoxinA (BTX-A) injection for overactive bladder (OAB). We aimed to identify potentially modifiable risk factors for post-operative UTI in patients with non-neurogenic OAB undergoing their first intradetrusor injection with 100 U of BTX-A.

Methods: Patients with idiopathic overactive bladder (OAB) initiating third-line therapy with 100U BTX-A injection between 3/2004 and 7/2013 were included in the analysis. UTI was defined as initiation of antibiotics following the procedure based upon clinician assessment of symptoms and urine culture results. Statistical comparison of preoperative patient characteristics and multivariate logistic regression were utilized to identify predictors of UTI in our patient population.

Results: The population was comprised of 101 patients, of whom 35% were male, with an overall mean age of 63.4 (95% CI 60.6-66.2). Injections were primarily performed in the operating room (70.3%) and with a rigid scope (67.3%). 18 patients (17.8%) had a post-procedural UTI. Patients treated for a UTI were more likely to be female (24% vs. 5.7%, p=0.03) and require catheterization for postoperative retention (39.2% vs. 9.6%, p<0.01). UTI tended to occur more frequently in patients undergoing injection with a rigid vs. flexible scope (23.5% vs. 2.9%, p=0.05) and injection in the operating room (42.2% vs. 2.8%, p=0.09), however these differences were not significantly different. No differences were identified in age, body mass index, diabetes, Qmax or Pdet at Qmax for patients with and without UTI. On multivariate analysis adjusting for age, sex, diabetes, preoperative postvoid residual, location of procedure and postoperative retention, only female sex (OR 5.64, 95% CI 1.04-30.6) and postoperative retention (OR 8.14, 95% CI 2.0-33.0) were significant predictors of UTI, although clinic injection trended towards being protective (OR 0.21, 95% CI 0.04-1.19).

Conclusion: Risk of UTI after initial 100U BTX-A injection for OAB is increased in women and in patients experiencing postoperative retention. The risk may also be increased with injection in the operating room, which could be related to decreased comorbidity of patients undergoing injection in clinic or potentially modifiable factors, such as preoperative antibiotic regimen or the type of scope used, and requires further study.

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ADVERSE EVENTS AFTER INTRADETRUSOR ONABOTULINUMTOXINA INJECTION IN IDIOPATHIC DETRUSOR OVERACTIVITY

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Presented By: Jason P. Gilleran

Introduction: The literature reports rates of transient urinary retention requiring catheter use after intradetrusor onabotulinumtoxinA ranging from 4 to 43%. We evaluated the rate of and factors predicting catheter use and adverse events after this treatment.

Methods: Retrospective review of patients who underwent intradetrusor onabotulinumtoxinA injection from January 1, 2010 to September 1, 2015, excluding patients with a history of neurologic diagnosis. History, procedural details, and post-procedure data were reviewed. Descriptive statistics and Wilcoxon rank sum test were performed.

Results: There were 126 patients identified with mean age of 65.6 ± 16.2 yr, 22% had a history of diabetes, and pre-procedure post-void residual was 37 mL. 87 patients had urodynamics. Mean follow-up was 236.9 days. 100U of toxin was injected in 110/124 (88.7%) of patients, 150U in 12 (9.7%), and 200U in two (1.6%). Our general algorithm was to initiate catheter use when the PVR was > 350cc or at a lower volume if the patient was symptomatic. Mean post-procedure PVR was 152.7 ± 192 mL (range 20 – 1000 mL). Within two weeks, 20/124 (16.1%) of patients were started on catheterization, 16 for elevated PVR and four for symptoms. Seven had an indwelling catheter and 13 started self-catheterization. All patients requiring catheterization received 100U. No relationship was found between urodynamic detrusor overactivity (DO), mean cystometric capacity, or Qmax and the need for catheterization. Adverse events included 8/124 (6.5%) with gross hematuria (GH) and 13/124 (10.5%) with a UTI. Patients with GH received a mean of 138 ± 52U vs. 111 ± 37U in those without GH (p = 0.023). Increased risk of catheterization was seen with history of previous Interstim (10/20 patients catheterized had prior Interstim vs. 22/101 not requiring catheter had prior Interstim, p = 0.009) as well as having a functioning, “on” Interstim (4/14 (28.6%) “on” pts catheterized vs. 8/86 (9.3%) “off” pts, p = 0.06).

Conclusion: Our catheterization rate after intradetrusor onabotulinumtoxinA in neurologically normal patients with idiopathic overactive bladder was 16%. Need for catheter was associated with history of prior Interstim and with Interstim “on” vs. “off.”
Poster #NM8
COST-EFFECTIVENESS OF BEST SUPPORTIVE CARE VS. ONABOTULINUMTOXINA, ORAL THERAPIES, PERCUTANEOUS TIBIAL NERVE STIMULATION, AND SACRAL NERVE STIMULATION FOR TREATING OVERACTIVE BLADDER–CLINICAL ASPECTS

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Presented By: Roger R. Dmochowski

Introduction: Patients with overactive bladder (OAB) who are inadequately managed by an oral anticholinergic therapy have a number of treatment options including onabotulinumtoxinA (onabotA) injection, other oral therapies, percutaneous tibial nerve stimulation (PTNS), or an implantable sacral nerve stimulation (SNS) device. We assessed the cost-effectiveness of onabotA compared with best supportive care (BSC) and other treatment options for OAB in adult patients from the US payer perspective.

Methods: The health economic model evaluated treatment with BSC compared to onabotA, anticholinergics (solifenacin 5 mg or 10 mg, tolterodine ER), mirabegron (25 mg, 50 mg), PTNS, or SNS. Efficacy and safety of onabotA and BSC were from individual patient-level data from phase 3 and long-term extension studies, while efficacy/safety data for the oral therapies, PTNS, and SNS were obtained from published studies. Resource utilization, discontinuation rates, and unit cost data came from publically available sources or market research. OAB progression was modeled based on daily urinary incontinence episodes (UIE). Outcomes included UIE per year and quality-adjusted life-years (QALY), a measure of health incorporating length and quality of life. Incremental cost-effectiveness ratios (ICER), calculated in US$ (cost of a treatment option – BSC cost)/(QALYs of a treatment option – QALYs of BSC), were used to assess cost-effectiveness.

Results: The estimated number of UIE per patient per year, based on a ten-year model, were 1076 with onabotA vs 1480 with BSC, and lower with onabotA than all other evaluated treatment options (1271 - 1472 UIE). This translated into the largest gain in QALYs with onabotA, indicating onabotA had the greatest treatment benefit of all evaluated treatments. Total costs for OAB management, factoring in treatment discontinuation, ranged from $12,776 (tolterodine ER) to $27,823 (SNS) vs $11,460 for BSC. Treatment with onabotA was the most cost-effective, with the lowest estimated ICER ($32,680/QALY) of all assessed treatments.

Conclusion: In this analysis of OAB therapies, onabotA is the most cost-effective treatment option based on reductions of UIE and provides the greatest treatment benefit compared with PTNS, SNS, solifenacin, tolterodine, and mirabegron for patients with OAB who were inadequately managed by oral anticholinergic therapy.

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USE OF ELECTRONIC QUESTIONNAIRES TO PROVIDE PATIENT-CENTRIC HEALTHCARE IN OVERACTIVE BLADDER

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Presented By: Cristina J. Palmer

Introduction: Overactive bladder (OAB) syndrome is defined as urinary urgency, usually accompanied by frequency and nocturia, with or without urgency urinary incontinence, in the absence of urinary tract infection (UTI) or other obvious pathology. Electronic questionnaires have been used in few specialties with hopes of improving treatment outcomes and patient satisfaction. However, they have not been widely utilized in the urological field. The primary objective was to evaluate how well the electronic questionnaires are preferred over paper versions. The secondary objective was to look at preference in relation to age, education, and iPad familiarity.

Methods: We performed a prospective evaluation of Laborie’s iList® electronic questionnaire application, to patients presenting to UC Irvine’s Urology clinic with OAB. 72 patients with OAB completed both the OABSS and PPBC questionnaires. One group randomized to the electronic format on an iPad and the other to a paper format. Variables potentially associated with the outcomes of interest included demographic data, questionnaire method preference, patient response rate, and iPad use familiarity.

Results: From November 2015 to August 2016, 72 patients were enrolled, ages 39-87. 53% were female, 47% were 65 years or younger. We used a two-sided Z-test to determine whether the proportion of patients who considered iPad to be the same, better, or much better than paper was significantly greater than 50%. A two-sided chi-square test was used to assess whether the intervention effect was significantly different among the demographic subgroups. Those who considered iPad to be the same or better than paper was 80.6% (95% CI, p<0.0001). The percentage of patients who considered iPad to be the same or better than paper ranged from 74% to 96% regardless of age, gender, and education subgroups, as well as among those with any familiarity with iPad (all p < 0.004). Among those with no iPad familiarity (N=19), 42% preferred the electronic questionnaire (p = 0.4913).

Conclusion: We found that the proportion of patients who consider electronic questionnaires to be equivalent or better to paper versions is higher than those who prefer paper questionnaires, regardless of age, gender, or education level. To our knowledge, this is the first integration of electronic questionnaires in the treatment of OAB.

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INCREASED PULSE-WAVE VELOCITY AS A RISK FACTOR FOR LOWER URINARY TRACT SYMPTOMS IN MEN

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Presented By: Ji-Yeon Han

Introduction: Vascular risk factors frequently coexist with lower urinary tract symptoms (LUTS) in men, suggesting that atherosclerosis and endothelial dysfunction may play a major role in the development of LUTS. Arterial stiffness owing to decreased arterial compliance is one of a powerful indicator of atherosclerosis. The objectives for this study investigated the association of arterial stiffness and LUTS in men.

Methods: We retrospectively reviewed and analyzed the medical records of patients ≥ 40 years old who received health screening program including prostate check-up at the Heath Promotion Center. We excluded the patients with a history of taking a medication for LUTS (including α-blockers, 5-α-reductase inhibitors or anticholinergics) or other urological condition (cancer, urologic surgery, neurogenic bladder, urinary tract infection). For prostate check-up in our institute, the patients were assessed by serum PSA, prostate volume measured via transrectal ultrasound and International Prostate Symptom Score (IPSS). They were also assessed for risk factors of atherosclerosis such as serum lipid profile and free testosterone. The arterial stiffness was measured using Brachial-ankle pulse wave velocity (baPWV). We compared the risk factors between the men without and with LUTS. LUTS was defined as IPSS greater than 7.

Results: We enrolled 57 without LUTS and 48 with LUTS. There were no significant differences in age, prostate volume, PSA, body mass index and serum lipid profile between two groups. The baPWV value was 1468.44±303.57cm/s with LUTS group and 1376.47±170.80cm/s without LUTS group, which was statistically significant (p = 0.045). The baPWV value increased as severity of LUTS, which was not statistically significant.

Conclusion: The present study found the association of baPWV and LUTS in men. Atherosclerosis-related vascular risk factors are also known to be related to LUTS and both disorders may have pathogenic interactions.

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IMPACT OF GENDER ON TREATMENT JOURNEY FOR PATIENTS WITH OVERACTIVE BLADDER

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Presented By: Amanda S.J. Chung

Introduction: Overactive bladder (OAB) is a common clinical condition affecting both male and female patients, causing significant impact on quality of life. Due to diagnostic and treatment complexities for LUTS in male patients, with benign prostatic obstruction (BPO), OAB or mixed BPO and OAB, being common differential diagnoses, men with OAB symptoms may experience a less straightforward clinical care pathway compared to female counterparts. The objective of this study is to evaluate the impact of gender on treatment journey for patients with OAB.

Methods: A review of all patients who attended a single urological institution (Urology of Virginia) between July 1, 2014 and June 30, 2015, and diagnosed with OAB, was conducted. Demographics, clinical features, investigations, medical and procedural treatments, and attrition were recorded. Outcomes among the male group of patients were analyzed and compared to outcomes among the female group of patients. Statistical analyses were performed in Microsoft Excel 2016.

Results: 3493 patients (53% male, mean age 69 years; 47% female, mean age 65 years) with OAB attended our institution between July 1, 2014 and June 30, 2015. 16% (287/1837) of men had a primary diagnosis of OAB. Mean number of urology clinic visits per patient per year was 1.6 encounters. Mean number of clinic visits per year for a male patient was 1.4; mean clinic visits per year for a female patient was 1.8. Rate of penetrance to third-line treatment was lower for male patients compared to female patients; 2% (36/1837) versus 5% (81/1656) respectively. Of the male patients who progressed to third-line treatments, 17% of men received onabotulinum toxin A intravesical injections, 6% underwent sacral neuromodulation (SNM), and 78% had posterior tibial nerve stimulation (PTNS). Of the female patients, 25%, 4% and 72% received onabotulinum toxin A, SNM and PTNS, respectively.

Conclusion: It appears that there are differences in patient progression through the OAB clinical care journey between male and female genders. A slightly greater proportion of patients seeking treatment for OAB symptoms were male. The frequency of clinic visits per year and rate of penetrance to third-line treatment was less in men compared to women. A challenge of unisex OAB care pathways will be to foster an equitable health experience for both genders.
CORRELATION BETWEEN SYMPTOM SEVERITY, BOTHER AND SEVERITY OF THE UNDERLYING CONDITION IN PATIENTS WITH LOWER URINARY TRACT SYMPTOMS

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Presented By: Jerry G. Blaivas

Introduction: Most treatment algorithms for lower urinary tract symptoms (LUTS) begin with an assessment of patient bother. If there is little bother, reassurance & follow-up are advised. The assumption behind this is that 1) the worse the symptoms, the greater the bother, 2) the worse the symptoms, the greater the severity of the underlying condition and 3) if there is little bother, the underlying condition does not warrant further investigation. The aim of this study is to determine the extent to which these hypotheses are true.

Methods: This is a retrospective study of patients with LUTS who completed two validated symptom scores: the LUTS score (LUTSS) and/or American Urological Association symptom score (AUASS) on a mobile app. Spearman’s correlation coefficients between the total LUTSS/AUASS, the subscores and bother scores were calculated. Subscores include storage, voiding, overactive bladder (OAB), incontinence and nocturia. The main cause of LUTS bother, uroflow (Q) and post-void residual (PVR) was obtained from the EMR. The Institute of Bladder and Prostate Research provided funding.

Results: There were 135 patients that completed the LUTSS & 86 of these completed the AUASS. There were 89 men and 46 women ranging from ages 20 to 90 (mean = 55 yrs). Clinical data and Spearman’s correlation coefficients are depicted in the table. 8/37 (22%) of patients with no or little bother (0 or 1) had moderate to severe symptoms/conditions requiring medical treatment & close follow-up, eg severe prostatic obstruction. 7/60 (12%) of patients with high bother (3 or 4) had only minor symptoms. Although there was a relatively high correlation between both the total LUTSS & AUASS and bother, the correlation was not as high as one might expect; and there were some specific symptoms, like nocturia, in which the correlation was very weak. Further, there was no meaningful correlation at all between Q, PVR and symptom severity.

Conclusion: The correlation between patient bother, symptom severity and the severity of the underlying LUT condition is inexact. Some patients with little bother and few symptoms have serious underlying conditions; others are bothered severely by symptoms of mild severity.
THE EFFICACY OF SACRAL NEUROMODULATION FOR TREATMENT OF MALE VOIDING DYSFUNCTION

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Presented By: Rachel Barratt

Introduction: Sacral neuromodulation is an established treatment for controlling symptoms of overactive bladder especially in females. It is increasingly being utilized to treat other lower urinary tract symptoms including male voiding dysfunction with non-neurogenic etiologies. We reviewed our experience with this technique in this group.

Methods: We reviewed our prospectively collected database to identify male patients with voiding dysfunction undergoing trial of sacral neuromodulation over the last 18 months. All presented with voiding dysfunction including poor flow and incomplete emptying with some in urinary retention requiring self-intermittent catheterization (SIC). All patients underwent video-urodynamic studies (VCMG) for confirmation of the diagnosis with some undergoing urethral pressure profile studies (UPP). A neurological cause was excluded in all with clinical examination and cross sectional imaging.

Results: We identified 16 patients. The mean age was 44 years old. Eight patients were performing SIC. One had a suprapubic catheter and remaining seven voiding with straining. VCMG revealed no detrusor overactivity in any with ten demonstrating acontractile detrusor and six a high pressure low flow system consistent with high tone non relaxing sphincter (HTNRS). All underwent a trial of tined lead for a minimum of four weeks. There was no significant benefit in 12/16 and the tined lead was removed. A successful outcome was demonstrated in 4/16 (25%) and permanent pulse generator was implanted. It stopped working after few months in one patient and he is back on SIC 7-8/day. One needed to be explanted within two months due to infection. Currently, 2/16 patients have a working implant.

Conclusion: It appears sacral neuromodulation is not an optimal therapy for treatment of non-neurogenic voiding dysfunction in male patients in contrast to females where it has been shown to be efficacious. We feel further studies are required with a larger cohort of patients to evaluate its role in this particular condition.
A CROSS SECTIONAL STUDY OF THE CATHETER MANAGEMENT OF NEUROGENIC BLADDER AFTER TRAUMATIC SPINAL CORD INJURY

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Presented By: Giulia I. Lane

Introduction: This cross sectional study describes the motivations driving transitions in the catheter management of neurogenic bladder (NGB) in patients with traumatic spinal cord injury (tSCI).

Methods: From 2014-15, patients with tSCI who utilized either intermittent catheterization (IC), urethral (UC) or suprapubic catheters (SP) were offered a voluntary, anonymous survey at their annual Veteran’s Administration SCI exam. The survey focused on current and past catheter management of NGB.

Results: One hundred patients completed the survey, 94% male and 90% Caucasian, with median age of 61 (Q1 50; Q3 67). The median age at injury and years since SCI were 32 (Q1 23; Q3 40) and 20.5 (Q1 7; Q3 32), respectively. The median time with current modality was 11 years (Q1 20; Q3 20). 54 patients utilized IC, 21 UC and 25 SP. Patients with SP or UC were older than those utilizing IC (p=0.002). Patients with SP had more cervical SCI than those with UC or IC (p=0.02). There was no difference in age at injury, time since injury, years with modality, gender, race or complete SCI between IC, UC or SP groups. 27 patients reported at least one transition between catheter type. 22 patients with UC or SP had prior use of IC. The most common reasons to stop IC were inconvenience (n=5), clinician advice (n=5) and dislike of IC (n=4). 15 patients with SP and ten patients using IC previously used UC. Clinician advice (n=10), infections (n=6) and urethral erosion (n=6) were the most common reasons for discontinuing UC. Four patients with UC and four using IC previously had SP. Dislike of SP (n=4) was the most common reason for discontinuing SP. 53% (n=24) of patients with UC or SP had never tried IC and cited lack of discussion about IC (n=7), dependence on others (n=6) and inconvenience or dislike of IC (n=6) as reasons for never attempting. On a five-point Likert scale, patients with SP (median 5) were more satisfied with their current modality than those with UC or IC (both median 4) (p=0.046). There was no relationship between age or SCI level with satisfaction.

Conclusion: The transition to between IC, UC and SP in patients with NGB secondary to tSCI was most often motivated by patient preferences and clinician advice.
Poster #NM15

IMPROVEMENT IN PATIENT-REPORTED TREATMENT BENEFIT AND HEALTH-RELATED QUALITY OF LIFE FOLLOWING TREATMENT WITH SER120 AMONG PATIENTS WITH NOCTURIA

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Presented By: Eric S. Rovner

Introduction: A new patient-reported outcome (PRO) measure, the ten-item Impact of Nighttime Urination (INTU) questionnaire (scaled from 0=least impact to 100=worst), was developed and validated in accordance with FDA PRO guidance using input from patients (pts) with nocturia. The INTU, which captures the patient-reported overall impacts of nocturia, was the first of the secondary efficacy endpoints in a phase 3 safety/efficacy study of SER120, a very low-dose intranasal desmopressin formulation. Additional analyses evaluated the robustness of INTU results as a measure of clinical benefit.

Methods: The phase 3 randomized, double-blind, placebo-controlled, multicenter study evaluated two doses (0.75mcg and 1.5mcg) of SER120 vs placebo in pts ≥50 y of age with ≥2 nocturic episodes/night for ≥6 months. Assessments were: mean changes in INTU Overall, Daytime and Nighttime Impact scores between screening and treatment periods (prespecified); individual item-level analyses; and cumulative distribution function (CDF) plots of the proportion of pts achieving various thresholds of change in INTU scores. Also assessed were INTU scores vs the validated Treatment Benefit Scale (TBS), a measure of pts’ perception of treatment effect, as an anchor.

Results: INTU improvements were statistically greater with SER120 1.5 mcg vs placebo for Overall Impact (-14.1 vs -11.5; p=0.02), with similar numerical trends in the Daytime Impact score (-10.3 vs -8.6; p=0.11). All ten INTU items showed numerical benefit for 1.5mcg vs placebo; three were statistically significant. CDF plots by treatment arm showed clear differentiation between 1.5mcg and placebo for the Overall and Nighttime Impact scores. Pts with “somewhat improved” symptoms on the TBS had a mean improvement of 10.38 points in INTU Overall Impact score, with 55.1% vs 41.4% of pts in the 1.5mcg vs placebo arm achieving at least this magnitude of improvement. Corresponding values for the Nighttime and Daytime Impact scores were -13.85 and -6.91, respectively, with 57.6% (1.5mcg) vs 42.2% (placebo) achieving this level of improvement for the Nighttime Impact score, and 51.9% (1.5mcg) vs 44.6% (placebo) for the Daytime Impact score.

Conclusion: The INTU demonstrated meaningful improvements in health-related quality of life following treatment for nocturia with SER120.

Funding Source: Allergan, plc; Serenity Pharma, LLC
HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN ADULT PATIENTS WITH NOCTURIA – USE OF A NEW NOCTURIA-SPECIFIC PATIENT-REPORTED OUTCOME (PRO) MEASURE

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Presented By: Benjamin M. Brucker

Introduction: Nocturia (interruption of sleep to void) affects an estimated 15% of men and 20% of women in the USA. We examined the association between nocturia episodes per night (EPN) and HRQoL among patients enrolled in a California health network, using the Impact of Nighttime Urination (INTU), a validated nocturia-specific PRO, to measure HRQoL. The INTU questionnaire consists of ten items representing Overall, Daytime (six items), and Nighttime (four items) impacts. The Overall, Daytime, and Nighttime impact scores range from 0 (least impact) to 100 (worst impact).

Methods: Adult patients enrolled in Davita Medical Group with nocturia for ≥6 months were recruited based on claims with ICD-9 codes for nocturia, overactive bladder (OAB) or benign prostatic hyperplasia (BPH). Demographics, treatment history, presence and frequency of nocturia (>1 EPN), and HRQoL (INTU) data were obtained through patient questionnaires. The association between mean INTU scores and nocturia frequency (<2, ≥2 EPN) was assessed in all patients and in four subgroups: age<65 years, age ≥65 years, women, and men. Mean scores were adjusted using backward stepwise beta regression against possible confounders, including education, employment status, and comorbidities.

Results: There were 899 patients enrolled (41% female, mean age=71 years; retired=71%). Comparing those with ≥2 EPN vs <2 EPN, the Overall impact score was significantly worse in patients <65 years (26.5 vs 18.5, P< .026) and in women (22.3 vs 19.6, P=.033). The mean Nighttime score was significantly worse in those with ≥2 EPN vs <2 EPN overall (19.4 vs 14.9, P<.001) and in all subgroups: patients <65 years (28.8 vs 16.4, P<.001); patients ≥65 years (16.9 vs 12.9, P=.021); women (23.0 vs. 18.8, P<.001); and men (16.3 vs. 12.0; P=.012).The mean Daytime score was significantly worse in those with ≥2 EPN vs <2 EPN only in women (22.2 vs 19.5, P=.049). Sensitivity analyses in patients with <3 and ≥3 EPN showed greater differences in scores than those seen in patients with <2 and ≥2 EPN.

Conclusion: Patients with more frequent nocturia EPN had a reduced HRQoL as measured by the INTU, a nocturia-specific PRO measure. This association was particularly notable among patients <65 years and among women, for whom Daytime, Nighttime and Overall scores were significantly worse.

Funding Source: Allergan, plc
INTRAVESICAL INJECTION OF HIGHLY PURIFIED BOTULINUM TOxin [INCobOTULINUMTOXIN A (XEOMIN)] FOR NEUROGENIC BLADDER

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Presented By: Denise A. Asafu-Adjei

Introduction: Botulinum toxin detrusor injection can provide symptom relief for patients with neurogenic bladder (NGB) or severe detrusor overactivity (DO). Currently onabotulinumtoxin A (Botox®) is the only form approved for use in the bladder. There are now alternative botulinum toxins available for other indications. Incobotulinumtoxin A (Xeomin®) is a purified form of the toxin with no complexing proteins, allowing room temperature storage, decreased immunogenicity and lower cost. The safety and efficacy of incobotulinumtoxin A for neurogenic detrusor overactivity has not been studied.

Methods: A retrospective study was performed with adult patients who received intravesical incobotulinumtoxin A injections for NGB from 2013 to 2016. Baseline characteristics were collected. Outcomes included UDI-6 and IIQ-7 scores, daily incontinence episodes, daily pad use and post-procedure complications. Summary statistics were calculated and paired t-tests were used with significance defined p<0.05.

Results: Fourteen patients underwent incobotulinumtoxin A injection. All were male and all had NGB with DO and incontinence on urodynamics. Mean age was 59.8±16.9 years. At baseline, 79% were on anticholinergic therapy, 50% performed clean intermittent catheterization (CIC), 21% had indwelling catheters and 29% had received previous onabotulinumtoxin A injections >6 months prior. Initial injection doses were 300 units for 29% (n=4), 200 units for 64% (n=9) and 100 units for 7% (n=1). 36% (n=5) received multiple treatments (2.8±0.4) with mean 9.0±4.1 months between sessions. After treatment, there were trends toward improvement in mean daily pad use (5.0±6.5 to 2.6±6.3, p=0.33), incontinence episodes (2.7±1.9 to 1.6±2.3, p=0.74), episodes of daytime frequency (7.8±2.7 to 6.6±7.0, p=0.60), CIC volumes (341.7±67.1 to 450±70.7 mL, p=0.05) and UDI-6 scores (43.0±30.2 to 18.0±28.1, p=0.19). IIQ-7 scores significantly decreased (46.4±34.6 to 10.1±18.2, p=0.03). 14% (n=2) experienced culture-proven urinary tract infections within 30 days and 7% (n=1) developed urinary retention.

Conclusion: This is the first study to demonstrate safety and efficacy of incobotulinumtoxin A in NGB. This drug may be an alternative to onabotulinumtoxin A for intravesical injection. Small sample size limits our findings, however early results suggest improvements in incontinence, quality of life and bladder dynamics. A larger, prospective study is required to validate these findings.
THE ADULT SPINA BIFIDA PATIENT: DOES A DELAY IN REFERRAL IMPACT URODYNAMIC FINDINGS AND CLINICAL OUTCOMES? RECOMMENDATIONS FOR TRANSITION OF CARE.

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Presented By: Catherine J. Harris

Introduction: Improvements in the management of children with myelomeningocele have resulted in an influx of such patients, many of whom have complex neurogenic bladder conditions, to adult urologists. We reviewed the presenting symptoms, urodynamic findings, and changes in clinical management of adults with spina bifida, specifically focusing on the relationship between the delay in urological follow-up and clinical outcomes.

Methods: All patients with neurological conditions that presented for urologic evaluation at a tertiary referral center have been prospectively entered into a database since 2000. Data from patients with spina bifida including, urodynamic findings (UDS), surgical interventions and upper tract imaging were analyzed.

Results: Of the 1110 patients in the database, 60 patients with spina bifida were identified (51.7% male, 48.3% female). Median age at presentation was 33 (16-64). The majority of patients presented for symptom evaluation (75%) vs. establishing care (25%). The most common presenting symptoms were incontinence (n=18, 30%), and urinary tract infection (UTI) (n=15, 25%). The interval to presentation was assessed in patients with documented prior urologic evaluation (n=53). Patients were classified as having their last evaluation within the preceding 12 months (n=23, 43.3%), between 12 and 24 months (n=17, 32%), between two and five years (n=11, 20.8%) or greater than five years (2, 3.8%). Patients were significantly more likely to present within 12 months of their last evaluation if they were symptomatic (p=0.022). Patients presenting more than one year from their last evaluation were more likely to have DO (p=0.0215), though neither altered compliance nor DESD was associated with delay in diagnosis. As seen with children, the UDS diagnosis of impaired compliance was significantly associated with abnormal imaging findings (p=0.0328). Overall, 42% of this cohort required intervention following referral, and urologic workup including UDS altered clinical management in 58.9% of patients.

Conclusion: Spina Bifida patients require close surveillance into adulthood, and this evaluation must include urodynamic testing. Additionally, there is indication that patients who delay care are more likely to have UDS abnormalities that might necessitate changes in management strategies. We advocate follow-up of less than 12 months between adult urology clinics or within one year after pediatric surveillance has terminated.
Poster #NM19
DIFFERENCES IN BLADDER-RELATED QUALITY OF LIFE AFTER SPINAL CORD INJURY

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Presented By: Sara M. Lenherr

Introduction: Neurogenic bladder (NGB) management has a significant impact on the daily lives of patients after spinal cord injury (SCI) however we know very little about NGB-related quality of life (QoL). We describe QoL related to NGB after SCI.

Methods: A multicenter prospective observational study was conducted to ask SCI patients about their QoL related to NGB management. Participant demographics were obtained via interview. Validated Neurogenic Bladder Symptom Score (NBSS), SCI-QOL Bladder Management Difficulties and SCI-QOL Bladder Complications were administered electronically.

Results: There were 609 participants that completed baseline interview and electronic questionnaires. Mean age for the cohort was 47 ± 14.1 years with mean 32.3 ± 15 years since SCI. 33% of the cohort was female. 49% of participants were identified via a clinic and 44% remotely. SCI level is: 47% paraplegia, 45% tetraplegia, and 8% unknown or other. Current bladder management was identified as: 23% chronic catheter or stoma, 5% condom catheter, 63% clean intermittent catheterization (CIC), and 9% spontaneous voiding. Those currently using CIC were significantly younger than those using other NGB management methods (p<0.001) and those using spontaneous voiding had the longest mean time since injury (p<0.001). There was no significant difference between the four bladder management methods when asked the NBSS QoL question: "If you had to live the rest of your life with the way your bladder (or urinary reservoir) currently works, how would you feel?" (p=0.22). Distribution of QoL from NBSS is shown in Figure. There was a significant difference across NGB management methods when asked both the SCI-QOL bladder management difficulty (p=0.007, spontaneous voiding had most difficulty) and SCI-QOL bladder complication (p<0.001, chronic catheter or stoma had most complications) questions.

Conclusion: Cross-sectional quality of life is variably impacted by bladder management method in a large cohort of people with SCI, depending on measurement tool. Further characterization of this cohort will enable patients and providers to understand more about QoL related to NGB management after SCI.

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POSTER #NM20
PERMANENT CUTANEOUS VESICOSTOMY URINARY DIVERSION IN ADULTS WITH MYELOMENINGOCELE

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Presented By: Whitney R. Smith

Introduction: The cutaneous vesicostomy is an effective means of achieving temporary urinary diversion in pediatric patients that reliably decompresses the upper tracts. Vesicostomies are typically used for temporary bladder drainage until continent reconstruction is performed. We review our experience with adults in whom an incontinent cutaneous vesicostomy had been preserved up until the time of transition to our adult center.

Methods: A search of our database of 162 adult patients with congenital and pediatric acquired urologic disorders referred for ongoing urologic care identified 11 with urinary diversion accomplished by permanent vesicostomy. Ten patients had myelomeningocele and one had suffered a CVA at age five. Upper tracts were evaluated by serial ultrasounds during routine follow up.

Results: Cutaneous vesicostomy was performed at a median age of 0.4 years (range 0.3-17.6). Mean subject age at last follow-up was 29.9 years (range 24.8-40.3), six of 11 patients had developmental delay (55%). Vesicostomy revision was required in one patient secondary to stenosis. Four (36%) of patients had recurrent upper tract calculi in seven renal units requiring intervention and five (45%) had bladder calculi. Bladder augmentation with creation of a catheterizable stoma was performed in one patient. One patient died of complication following surgery for thyroid carcinoma, and the remaining nine patients have preserved vesicostomies with stable upper tracts.

Conclusion: Urinary continence is a difficult goal to achieve in some patients with neurogenic bladder dysfunction. In selected patients, cutaneous vesicostomy is durable technique that maintains the upper urinary tracts avoiding the multiple complications associated with bladder reconstruction with gastrointestinal segments. The high rate of stone formation is similar to what has previously been reported in patients undergo bladder augmentation with a catheterizable channel. We believe that permanent cutaneous vesicostomy is an acceptable alternative to reconstructive surgery in patients who are not willing or able to maintain a regimen of intermittent catheterization.

Funding Source: None
Poster #NM21
ADULT MYELOMENINGOCELE PATIENTS WITH CHILDHOOD AUGMENTATION CYSTOPLASTY ARE AT HIGH RISK FOR RENAL ABNORMALITIES AND REQUIRE CLOSE UROLOGIC SURVEILLANCE

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Presented By: Catherine J. Harris

Introduction: Augmentation cystoplasty is a commonly utilized procedure in the pediatric myelomeningocele population that has led to improved quality of life and continence in these patients. There is little data on how these patients progress into adulthood with regard to renal function, urodynamic findings and future interventions.

Methods: All patients with neurological conditions that presented for urologic evaluation at a tertiary referral center have been prospectively entered into a database since 2000. Demographic data from patients with myelomeningocele and prior augmentation cystoplasty including bladder management, chief complaint, urodynamic findings (UDS), surgical interventions and upper tract imaging were analyzed.

Results: Of the 1110 patients in the database, 17 patients with spina bifida and augmentation cystoplasty were identified (41.2% male, 58.8% female). Median age at presentation was 24 (16-41). The majority of patients presented for symptom evaluation (58.8%) vs. establishing care (41.2%). Abnormal imaging findings were noted in 64% of patients, including stones, hydronephrosis and renal scarring. Loss in renal function (eGFR <60) was documented in one of the 11 patients (9.1%) evaluated. The average serum bicarbonate was normal at 25 mmol/L (21-32) of the 12 tested. UDS were carried out in 12 patients. Detrusor overactivity was the most common diagnosis (n= 4, 33.3%) with one patient having detrusor overactivity with incontinence (8.3%), impaired compliance and stress urinary incontinence were each found in two patients. Stone procedures were the most commonly performed after presentation with four undergoing bladder stone removal (36.4%) and one requiring upper tract stone removal (9.1%).

Conclusion: Patients with spina bifida undergoing augmentation cystoplasty in childhood continue to be at risk for renal abnormalities into adulthood. Significant UDS abnormalities persist despite augmentation, and surgical intervention (stone management) is common. Spina bifida patients with prior bowel augmentation require close ongoing urologic surveillance with renal function monitoring, urodynamic testing and cystoscopy.
SELF REPORTED ANCILLARY BENEFITS FROM BLADDER CHEMODENERVATION IN SPINAL CORD INJURY (SCI) PATIENTS

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Presented By: Brandon Haynes

Introduction: Bladder chemodenervation is very effective in managing detrusor overactivity in SCI patients with neurogenic bladder. Anecdotal reports also indicate that there are additional benefits other than those related to the amelioration of bladder symptoms. We conducted a survey to identify other symptoms that may be improved with bladder chemodenervation.

Methods: We enrolled 21 SCI patients between March and December 2015, who were scheduled to undergo bladder chemodenervation with onabotulinumtoxinA (200u) to treat bothersome detrusor overactivity refractory to oral medications. We asked them a series of questions about symptoms unrelated to detrusor activity, immediately prior to their procedure, and again between six and 12 weeks afterwards.

Results: Of the 21 patients, three were women. The mean age was 45 years (range 21-69). There were 12 cervical injuries, eight thoracic injuries, and one lumbar injury. Bladder management was divided between ten using chronic catheters and 11 performing clean intermittent catheterization. All patients reported improvement in symptoms related to detrusor overactivity following bladder chemodenervation. Fifteen patients had previously experienced autonomic dysreflexia (AD). Of those, 11 reported that their AD symptoms were improved following the procedure, either in severity or frequency or both. Fifteen patients reported muscle spasms at least daily within three months prior to the procedure, two reported having spasms a few times per month, and four reported never having muscle spasms in that period. In the follow up period, 13 patients reported having muscles spasms at least daily, one reported having spasms a few times per week, and seven patients reported never having spasms. A total of 14 of 21 patients experienced some improvement of non-bladder related symptoms, in addition to bladder symptom relief.

Conclusion: In a majority of SCI patients in this study, there were subjective improvements in non-bladder related SCI symptoms following bladder chemodenervation. While the neurophysiology explaining these improvements is undefined, this intervention may offer additional benefit to SCI patients beyond treatment of detrusor overactivity.

Funding Source: W.E.Bradley Family Foundation
Podium #1
CLINICAL ASSESSMENT OF A NOVEL OLIGONUCLEOTIDE PROBE-BASED RAPID DIAGNOSTIC TOOL TO DETECT, IDENTIFY AND ASSESS ANTIBIOTIC SUSCEPTIBILITY OF UROPATHOGENS

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Presented By: Seth A. Cohen

Introduction: As multi-drug antibiotic resistance looms in its ever-increasing presence, our group sought to assess the ability of an oligonucleotide probe-based rapid diagnostic tool for identification and susceptibility testing of uropathogens in clinical urine specimens.

Methods: Under the auspices of an IRB-approved prospective study, we collected 40 urine specimens from a clinic, in cases where it was presumed patients had urinary tract infection based on their symptoms and point-of-care urine dipstick assessments. Utilizing a novel oligonucleotide probe-based diagnostic tool, we attempted to both detect and identify Gram-negative uropathogens and to determine their antimicrobial susceptibility in less than 120 minutes.

Results: We tested 39 urine specimens and 2 contained only Gram-positive organisms. Of the remaining 37, we correctly assessed the presence (13/14) or absence (22/23) of bacteria in 35/37 specimens and correctly identified the bacterial species in 10/14 positive urine specimens within 30 minutes. Two specimens containing P. mirabilis were not identified. Antimicrobial susceptibilities correlated with the clinical microbiology lab results in 95.3% of cases (results obtained within 120 minutes). Sensitivity to fluoroquinolones and cefazolin correlated 100% of the time with clinical microbiology lab results.

Conclusion: This pilot study demonstrates the ability of this rapid diagnostic technology to correctly detect and identify uropathogens and to determine antibiotic susceptibilities within 120 minutes, directly from clinical urine specimens. It holds great promise to change our current strategy of empiric antibiotic therapy and reduce future multi-drug antimicrobial resistance. Future studies should include methods for detection of Gram-positive organisms and for improved detection of P. mirabilis.

Funding Source: The Ruby Winston Diagnostic Microbiology Lab at UCLA is supported by donations from benefactors supporting the group’s mission of preserving antibiotics for future generations.
USE OF A BODY PAIN MAP TO CHARACTERIZE UROLOGIC CHRONIC PELVIC PAIN SYNDROME – A MAPP RESEARCH NETWORK STUDY

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Presented By: H. Henry Lai

Introduction: Patients with urologic chronic pelvic pain syndromes (UCPPS, interstitial cystitis or chronic prostatitis) suffer pelvic pain and pain in other areas of the body. The distribution of this pain in the body and its association with other factors has not been systematically studied. We characterized the location and distribution of pain among men and women with a body map and compared urinary symptoms, non-urological factors, and psychosocial measures between UCPPS patients who reported “pelvic pain only”, “pelvic pain and beyond”, and widespread body pain.

Methods: There were 233 women and 191 men with UCPPS enrolled in a multi-center, one-year observational study completed a battery of measures at study entry, including a body map to report the location and distribution of their pain during the past week. They were categorized as having “pelvic pain only” if they reported pain in the abdomen and pelvis only, or “pelvic pain and beyond” if they reported pain outside the abdomen and pelvis. Those who reported “pelvic pain and beyond” were sub-grouped into the numbers of broader body regions affected by pain (1-2 regions versus 3-7 regions or “widespread body pain”).

Results: Twenty-five percent reported “pelvic pain only” the remainder reported pelvic pain and beyond. Persons with widespread body pain (3-7 regions) had more severe non-urologic pain (p<0.0001), more sleep disturbance (PROMIS, p=0.035), worse quality of life (SF-12 physical component: p=0.021; SF-12 mental component: p=0.001), more depression (HADS-D, p=0.005), higher anxiety (HADS-A, p=0.011), higher psychological stress (PSS, p=0.005), and higher negative affect scores (PANAS, p=0.0004, all 3-group comparisons using Jonckheere’s trend test) compared to persons who reported pelvic pain only. Women (but not in men) with widespread pain also reported more fatigue (PROMIS, p<0.0001) compared to those with pelvic pain only. For both men and women, there was no difference between the three groups in terms of their urinary symptoms (e.g., severity of pelvic pain, urinary frequency, urgency to urinate, pain composite score, and urinary composite score).

Conclusion: Among MAPP participants, three out of four men and women with urologic chronic pelvic pain syndromes (UCPPS) also report pain outside the abdomen and pelvis. Widespread body pain was associated with worse quality of life and psychosocial impacts but not worse urinary symptoms.

Funding Source: NIH/NIDDK
Podium #3
LONG-TERM EFFICACY OF ENDOSCOPIC ABLATION OF THE HUNNER’S LESION IN PATIENTS WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME

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Presented By: Kyu-Sung Lee

Introduction: We evaluated the efficacy of endoscopic ablation of the Hunner’s lesion (HL) in patients with interstitial cystitis/bladder pain syndrome (IC/BPS).

Methods: IC/BPS patients with the HL were enrolled and underwent endoscopic ablations. We repeated endoscopic ablation when HL was recurred during follow-up period. The primary outcome was the recurrence-free survival. Secondary outcome measurements were pain visual analogue scale (VAS), and several questionnaires.

Results: Total of 89 patients were analysed. The mean follow-up period was 25.1±9.9 months. After primary ablation treatment, recurrence rate of HL was 75.3% (67/89) and mean recurrence-free survival time was 16.9±1.3 months. Among 67 recurred patients, 59 patients underwent second ablation treatment. Recurrence rate after second operation was 37.3% (22/59) and mean recurrence-free survival time was 18.5±1.9 months. There were significant improvement in the pain VAS, O’Leary-Sant IC symptom and problem index, and pelvic pain and urgency/frequency patient symptom scale after primary ablation treatment (Figure1).

Conclusion: While recurrence rate after primary endoscopic ablation for HL were high, symptoms including pain were dramatically improvement. However, recurrence rate was decreased and recurrent free survival time was increased after secondary ablation. Endoscopic ablation is effective treatment of IC patients with HL.
Podium #4
FRAILTY AND THE ROLE OF OBLITERATIVE VERSUS RECONSTRUCTIVE SURGERY FOR PELVIC ORGAN PROLAPSE; A NATIONAL STUDY

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Presented By: Anne M. Suskind

Introduction: There are many surgical options for pelvic organ prolapse (POP) repairs spanning from obliterative procedures, such as colpocleisis, to reconstructive options including open abdominal, vaginal, and laparoscopic/robotic colpopexy. In theory, obliterative POP repairs would be ideally suited for frail older individuals due to their reported shorter operative time, lower blood loss, and faster recovery; however, this has yet to be demonstrated on a large national sample of women. The objective of this study was to determine whether frailty predicts the type of POP surgery performed (i.e., obliterative versus reconstructive) and the odds of postoperative complications among all types of POP procedures.

Methods: This is a retrospective cohort study of women undergoing obliterative and reconstructive surgery for POP in the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) from 2005 to 2013. We quantified frailty using the NSQIP Frailty Index (NSQIP-FI) and used logistic regression models predicting type of procedure (colpocleisis) and odds of post-operative complications.

Results: We identified a total of 12,731 women undergoing POP repairs, 5.3% of which were colpocleisis procedures, from 2005-2013. Among women undergoing colpocleisis, the average age was 79.2 years and 28.7% had a NSQIP-FI of 0.18 or higher, indicating frailty. Women undergoing colpocleisis procedures had higher odds of being frail (OR 1.9 95% CI 1.4-2.6 for NSQIP-FI 0.18 compared to NSQIP-FI 0) and were older aged (OR 486.2 95% CI 274.5-861.3 for age 85+ compared to <65). For all types of POP procedures, frailty increased the odds of complications (OR 1.5 95% CI 1.2-1.9 for NSQIP-FI 0.18 compared to NSQIP-FI 0), after adjusting for age and type of POP procedure.

Conclusion: For POP surgery, age is more strongly associated with the selection of a colpocleisis procedure than frailty; however, frailty is more strongly associated with postoperative complications than age for all types of POP procedures. Furthermore, surgeons may be basing their selection of type of POP procedure on age, whereas frailty may be a better predictor of outcomes. Furthermore, incorporating frailty into preoperative decision-making is important for improving expectations and outcomes among older women considering all types of POP surgery.

Funding Source: NIDDK K12 DK83021-07; Pepper Center Research Career Development Core Advanced Scholar Award
Podium #5
HEALTH LITERACY, COGNITION AND URINARY INCONTINENCE AMONG GERIATRIC INPATIENTS DISCHARGED TO SKILLED NURSING FACILITIES

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Presented By: Joshua A. Cohn

Introduction: The etiology of and disease burden associated with incontinence in the elderly is multifactorial. We aimed to investigate the association between health literacy and cognition and urinary incontinence in a geriatric inpatient population transitioning to a skilled nursing facility (SNF).

Methods: Health literacy, depression and cognition were assessed via the Brief Health Literacy Screen (BHLS), Geriatric Depression Scale 5-item (GDS) and Brief Interview for Mental Status (BIMS), respectively. Multivariate logistic regression controlling for demographic and clinical factors was performed to determine the association between BHLS score and incontinence by: 1) nursing report of urinary incontinence during hospitalization and 2) patient self-reported “bladder accidents” in the post-enrollment study interview.

Results: There were 1556 hospitalized patients aged 65 and older who met inclusion criteria, of whom 922 (59.3%) were women and 1480 had available BHLS scores. 464 (29.8%) patients had urinary incontinence by nursing report and 515 (33.1%) by patient report. On average, incontinent patients by nursing report were older (p<0.001) and had higher GDS scores (p<0.001), fewer years of education (p=0.034) and lower BHLS (8.8 vs. 10.9, p<0.001) and BIMS scores (12.2 vs. 13.6, p<0.001) relative to continent patients. On multivariate analysis, nursing-reported incontinence was significantly associated with lower BHLS (i.e. poorer health literacy) (OR 0.93, 95% CI 0.89-0.99) and BIMS (i.e. poorer cognition) (OR 0.90, 95% CI 0.83-0.97) total scores and need for assistance with toileting (OR 7.08, 95% CI 2.16-23.21). Patient-reported incontinence was significantly associated with lower BHLS (i.e. poorer health literacy) (OR 0.93, 95% CI 0.89-0.99) and BIMS (i.e. poorer cognition) (OR 0.90, 95% CI 0.83-0.97) total scores and need for assistance with toileting (OR 7.08, 95% CI 2.16-23.21). Patient-reported incontinence was significantly associated with female sex (OR 1.62, 95% CI 1.19-2.21), increased GDS score (i.e. greater likelihood of depression) (OR 1.22, 95% CI 1.10-1.36) and need for assistance with toileting (OR 2.46, 95% CI 1.26-4.79). Nursing and patient-reported incontinence were discordant in 25.8% of patients.

Conclusion: Poorer health literacy and cognition are independently associated with an increased likelihood of nursing-reported urinary incontinence among geriatric inpatients transitioning to a SNF. Practitioners should be aware of the potential for urinary incontinence to be present or develop in hospitalized patients with poorer health literacy and cognition even if not patient-reported.

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THE RISK OF SUICIDALITY AND DEPRESSION FROM 5-ALPHA REDUCTASE INHIBITORS: A POPULATION BASED COHORT STUDY

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¹ICES Western; ²University of Toronto; ³Western University

Presented By: Blayne Welk

Introduction: There have been regulatory and patient concerns regarding the potential mental health side effects of 5-alpha reductase inhibitors. Our objective was to determine if there is an increased risk of suicide, self-harm, or depression among older men starting a 5-alpha reductase inhibitor for prostatic enlargement.

Methods: Population-based, retrospective, matched cohort study using linked administrative data from Ontario, Canada (2003 through 2013). 93,197 men ≥66 years of age who initiated a new prescription for a 5-alpha reductase inhibitor during the study period were matched (based on numerous covariates representing medical comorbidities, medication usage, and healthcare system utilization) to an equal number of men not prescribed a 5-alpha reductase inhibitor. The primary exposure was the duration of finasteride or dutasteride usage. The primary outcome was suicide. Secondary outcomes were self-harm behavior and depression. Stratified Cox proportional hazards models were used.

Results: Men who used 5-alpha reductase inhibitors were not at a significantly increased risk of suicide (HR 0.88, 95% CI 0.53 to 1.45). Risk of self-harm was significantly increased during the initial 18 months after 5-alpha reductase inhibitor initiation (HR 1.88, 95% CI 1.34 to 2.64), but not thereafter. Incident depression risk was elevated during the initial 18 months after 5-alpha reductase inhibitor initiation (HR 1.94, 95% CI 1.73 to 2.16), and continued to be elevated, but to a lesser degree for the remainder of the follow-up period (HR 1.22, 95% CI 1.08 to 1.37). The absolute increase in the event rates for these two outcomes were 17/100,000 patient years and 272/100,000 patient years respectively. The type of 5-alpha reductase inhibitor (finasteride or dutasteride) did not significantly modify the observed associations with suicide, self-harm and depression.

Conclusion: In a large cohort of men ≥66 years of age, we did not demonstrate an increased risk of suicide associated with 5-alpha reductase inhibitor use, which should be reassuring to patients and regulatory agencies. However, the risk of self-harm and depression were increased compared to unexposed men. This is in keeping with post-marketing experience and patient concerns, and discontinuation of the medication in these circumstances may be appropriate.
Podium #7
THE IMPACT OF DETRUSOR UNDERACTIVITY ON PATIENT SATISFACTION AFTER HOLEP: A PROSPECTIVE STUDY

Young Ju Lee; Bum Sik Tae; Seung-June Oh, MD, PhD
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Presented By: Young Ju Lee

Introduction: To evaluate the impact of bladder contractility on outcomes of Holmium laser enucleation of the prostate (HoLEP) in objective and subjective parameters.

Methods: From December 2009 to December 2015, 797 patients with LUTS/BPH were prospectively enrolled in the Seoul National University Benign Prostatic Hyperplasia Database Registry, and underwent HoLEP by a single surgeon. Preoperative evaluation included International Prostate Symptom Score (IPSS), Overactive Bladder Symptom Score (OABSS), urgency perception scale (UPS), PSA, PVR (postvoid residual volume) and urodynamic study. At postoperative 6 months, IPSS, OABSS, uroflowmetry, PSA and self-administered questionnaires regarding satisfaction to treatment questions (STQ), overall response assessment (ORA) and willingness to undergo the surgery again question (WUSAQ) were obtained. Bladder contractility was classified as weak, normal and strong according to the bladder contractility index (BCI) of <100, 100−150 and >150. Detrusor underactivity (DUA) was defined as BCI<100. Subjective and objective parameters were compared according to the degree of contractility.

Results: Among 768 patients, 351 (45.7%) had DUA and 63 (7.9%) had strong contractility. Mean age, preoperative IPSS, QoL, Qmax and prostate volume were 69.3 years, 19.2, 4.2, 9.2mL/sec and 70.8mL, respectively. Patients having stronger bladder contractility tended to be younger, have larger prostate volume, higher preoperative OABSS, UPS, bladder outlet obstruction index and larger PVR with significant tendency according to the contractility. However, preoperative Qmax and IPSS were not different among 3 groups. At postoperative 6 months, Qmax, IPSS voiding and QoL were significantly improved as the degree of contractility increases, whereas OABSS, PVR and UPS were not different among 3 groups. Overall, 93.9% of patients were satisfied after the surgery and 99.0%, 94.2% of patients reported improvements and willingness in ORA and WUSAQ, respectively. Patient satisfaction was not different by the degree of contractility. Multiple logistic regression analysis showed that the history of neurologic disease (OR 0.23; 95% CI 0.10−0.50, p<0.001) was the only risk factor for decreased satisfaction.

Conclusion: Patients having DUA tended to have less improvement in voiding symptoms postoperatively than those without DUA. However, patient satisfaction was not affected by the degree of bladder contractility.
MINIMALLY INVASIVE PROSTATIC URETHRAL LIFT (PUL) EFFICACIOUS IN A LARGE PERCENTAGE OF TURP CANDIDATES: A MULTICENTER GERMAN STUDY AFTER TWO YEARS

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Presented By: Karl-Dietrich Sievert

Introduction: Successful outcomes have been reported for treatment of lower urinary tract symptoms (LUTS) with the prostatic urethral lift (PUL) procedure in a number of clinical investigations, all of which have used strict patient selection criteria. Our aim was to investigate the outcome of PUL in patients treated in a normal clinical setting without the rigid exclusion criteria used in previous studies.

Methods: This was a multicenter prospective observational study in patients from five German centers. All candidates submitted for transurethral resection of the prostate (TURP) received information on PUL and were given the choice of procedures. The only exclusion criterion was a prominent median lobe. No patients were excluded because of high post void residual (PVR), prostate volume (PV), history of retention, or oral LUTS therapy. Maximum urinary flow (Qmax), PVR, and the International Prostate Symptom Score (IPSS) with the Quality of Life questionnaire were assessed at baseline and 3, 6, 12, 18 and 24 months after surgery.

Results: Of 212 candidates submitted for TURP, 85 chose PUL. Patient age was 38-85y (65.29 ±11.9); PV 17-111 (42.95±18.00) ml, with no obstructive median lobe. A total of 31 patients (36%) had severe BPH obstruction and would have been denied PUL utilizing previously reported study criteria. A mean of 3.8 implants per patient (SD, 1.41; range, 2-7) were placed over 35-90 (55.12±12.0) min under general or local anesthesia. Of the 85 patients, 67 (96%) reported substantial symptom relief within 1 month, with significant improvements in Qmax, PVR, IPSS, and QoL (p<0.001) that were maintained or further improved within the time of follow-up. Sexual function including ejaculation was unchanged or improved. No serious adverse events occurred. Eleven patients (12.94%) without severe obstruction but related to their high PVR underwent retreatment: two had successful additional PUL and 9 (with PVR values of 90 - 280ml) underwent TURP, of which four did not significantly improve further and one remained with a suprapubic catheter.

Conclusion: PUL is a promising surgical technique and may alleviate symptomatic BPH, even in patients with severe obstruction.

Funding Source: None
ASSOCIATION BETWEEN EARLY POSTOPERATIVE URINARY RETENTION AND OUTCOMES AFTER ADVANCE SLING INSERTION FOR TREATMENT OF MALE STRESS URINARY INCONTINENCE

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Presented By: Amanda S.J. Chung

Introduction: Male stress urinary incontinence (SUI) is a common sequela of radical prostatectomy and occasionally benign prostatic hyperplasia surgery, causing significant impact on quality of life. The AdVance sling has been described as a safe and effective minimally-invasive treatment for male SUI, but early postoperative urinary retention (EPUR) is not uncommon, although often self-limiting. This study evaluates the outcome of patients who have EPUR post insertion of AdVance sling for treatment of SUI. Our hypothesis is that although EPUR can be concerning, it is usually transient and may be associated with favorable continence outcomes.

Methods: A review of all men with SUI treated with an AdVance sling by a single surgeon during the period of January 1, 2006 through July 1, 2012, was performed. Perioperative, continence, complications (including urinary retention, infection, mesh erosion and need for reoperation) and patient satisfaction outcomes were assessed. Outcomes of men who experienced EPUR were compared with men who did not experience EPUR. Statistical analysis was performed in Microsoft Excel 2016.

Results: There were 231 men (mean age 68 years) who underwent insertion of an AdVance sling for SUI during the study period. Mean follow up was 26 months; three men were lost to follow up. Overall, success rate was 83%, with 44% (189/228) of men reporting complete continence and 36% (83/228) reporting improvement only. Overall, the mean number of pads used per patient per day improved from 4.1 pre-AdVance sling to 1.2 post-AdVance sling insertion. 15% (34/228) of patients experienced EPUR which was treated with reinsertion of indwelling Foley urethral catheter and repeat void trial. Most cases of urinary retention resolved within weeks; one patient required explantation of the AdVance sling due to ongoing urinary retention beyond three months. In the group of patients who had EPUR, success rate was 97%, with 59% of men achieving complete continence and 38% reporting improvement only. By comparison, in the group of patients who did not have EPUR, success rate was 80%, with 41% of men reporting complete continence and 39% of men stating improvement only.

Conclusion: Insertion of an AdVance sling for treatment of male SUI was complicated by EPUR in 15% of men. Most cases of EPUR were transient. The success rate in the group of men who experienced EPUR was significantly better than in the group of men without EPUR (97% versus 80%, p<0.05).
Podium #10
ARTIFICIAL URINARY SPHINCTER REVISION WITH QUICK-CONNECTORS VERSUS SUTURE-TIE CONNECTORS: DO THE DIFFERENT TECHNIQUES MAKE A DIFFERENCE?

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Presented By: Joseph Scales

Introduction: While artificial urinary sphincter placement remains the gold standard treatment option for men with stress urinary incontinence, the device has a known reoperation rate. These are oftentimes secondary to failure in which revision of a single component may be indicated without replacement of the entire device. The current literature dogma states that these reoperation cases must be done with suture-tied connects and not Quick-Connects® (QC). Despite this warning, since the introduction of QC to the market in 1996, our institution has used the QC almost exclusively for most revisions. Here, we evaluate the reliability and efficacy of QC versus suture-tie connectors for artificial urinary sphincter revision procedures.

Methods: A total of 1,802 male patients with stress urinary incontinence underwent artificial urinary sphincter procedures from 1983 to 2011 at our institution, of which 1,082 were primary placements. Of these patients, 125 experienced mechanical device malfunction and underwent revision. Prior to 1996 all revision cases were performed with suture-tie connects. After 1996 essentially all revision cases utilized QC. Multiple clinical and surgical variables were evaluated for a potential association with device malfunction including the type of connector used.

Results: At a median follow up of 4.2 years (IQR 0.8, 7.9) 125 patients experienced device malfunction. A total of 46 patients underwent single component revision and 71 had their entire device replaced (8 patients were excluded given insufficient operative details). Connections were performed using suture-tie connectors in 56 (48%) of these cases and the remaining 61 (52%) cases using QC. There was no association between connector type with the risk of urethral atrophy (HR 1.46, p=0.64), device infection/urethral erosion (HR 0.39, p=0.14), repeat mechanical failure (HR 0.78, p=0.59), or overall device failure (any tertiary surgery; HR 0.69, p=0.28). Most importantly, there was no significant difference in 10 year device survival between suture-tie versus QC (37% vs 57%, p=0.27) and no documented mechanical failures of the QC used in revision cases.

Conclusion: The use of QC for artificial urinary sphincter revision is safe, efficient and reliable compared to the traditional suture-tie technique.
Comparative Urinary Function and Interventions for Voiding Dysfunction After Radical Perineal Prostatectomy Versus Robotic-Assisted Laparoscopic Prostatectomy

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Presented By: Alyssa K. Greiman

Introduction: Radical perineal prostatectomy (RPP) is an alternative to minimally invasive procedures such as robotic-assisted laparoscopic prostatectomy (RALP) that has been shown to be associated with lower mean health care expenditure and similar oncologic outcomes. The purpose of the study is to compare functional voiding outcomes and interventions after RPP vs RALP.

Methods: Following IRB approval, we performed a review of patients who underwent RALP or RPP from 2009-2015 at a single institution. One surgeon performed all RPPs and 4 surgeons performed all RALPs. We compared baseline demographics, perioperative data, and post-operative outcomes including International Prostate Symptom Score (IPSS), quantitative pad use, continence rates defined as no pad use on follow-up visit, and voiding dysfunction interventions at 3, 6, 9, 12, 24 and 60 months.

Results: There were 256 men that underwent RALP and 157 RPP. Mean follow-up was 26 months for RALP and 27 months for RPP with follow up as follows: 86% at 3 months, 75% at 6, 65% at 9, 72% at 12, 49% at 24, and 14% at 60 months. Baseline clinical data was similar between groups, except BMI, which was greater in RPP (29.9 vs 28.7, p=0.002). Prostate cancer parameters were similar between groups with no difference in Gleason score, margin status, recurrence or salvage radiation noted. RPP patients were noted to have higher rate of seminal vesical invasion (p=0.00001). Patients who underwent RALP had larger average gland size (46.1 vs 40.3 grams, p=0.0008). Average operative time was shorter in RPP vs RALP (153 vs 313 min, p=<0.00001). At baseline, mean IPSS scores were similar. At all post-operative time points, IPSS scores were lower for RPP than RALP. Continence rates were greater for RPP vs RALP at all time points except 60 months, with lower mean pad use for RPP vs RALP. There was no significant difference between RPP and RALP in medical or surgical interventions for voiding dysfunction including anticholinergic use (25% vs 22%), cystoscopy (12% vs 11%), sling (1% vs 4%), or artificial urinary sphincter (1% each). Bladder neck contracture (BNC) rates were similar (4% each), as were urethral stricture rates (1% vs 2%).

Conclusion: RPP had a more complete and rapid recovery of continence in the first two years compared to RALP; however, overall rates of interventions for voiding dysfunction were similar for RPP and RALP, and no differences in continence persisted at five years.
Podium #12
VALSALVA LEAK-POINT PRESSURE (VLPP) GREATER THAN 70 CM H2O IS AN INDICATOR FOR SLING SUCCESS: A SUCCESS PREDICTION MODEL FOR THE MALE TRANSOBTURATOR SLING

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Presented By: Divya Ajay

Introduction: Urodynamic studies are often performed in the evaluation of post-prostatectomy stress urinary incontinence (PPSUI). The male transobturator sling (TOS) is a minimally invasive treatment for PPSUI. Our objective was to determine the relationship of the pre-operative VLPP on the success rate of the male TOS. We hypothesized that the preoperative VLPP may better predict successful outcomes in these patients.

Methods: We retrospectively reviewed patients undergoing a male TOS placement from 2006 to 2012 at our institution. Patients who underwent TOS placement were identified using our patient data portal (DEDUCE). Demographic, urodynamic, and follow-up data were extracted by chart review. Post-operative success was defined by the use of 0 or 1 security pad, a negative stress test on exam, or pad weight of less than 8 g per 24 hours. Cox regression model and Kaplan Meier Survival analysis were performed.

Results: There were 290 patient included. All patients had undergone a radical prostatectomy for prostate cancer and presented with PPSUI. Average age at surgery was 66.3 (± 7.4) years and 84% were Caucasian. Median time to follow-up was 5 months (IQR 1-15). Figure 1 shows an inverse prediction curve for sling failure versus VLPP. The hazard ratio for failure with a VLPP of ≤ 70 cm H2O compared with a VLPP of >70 cmH2O, adjusted for pelvic radiation and 24 hour pad weight was 0.5 (95%CI 0.27-0.98).

Conclusion: There have been numerous papers written on the importance of patient selection for male TOS. We also know that men prefer a sling over an AUS. In our cohort of patients with PPSUI, those with a pre-procedural VLPP of > 70 cmH2O were 50% less likely to fail after TOS placement versus those with a VLPP ≤ 70 cmH2O. In our practice, we use this data to support the use of VLPP cut off of 70 cm H2O as an indicator for success to help in the evaluation and counselling of patients.
OUTCOMES WITH LIMITED ANTIBIOTIC USE FOLLOWING ARTIFICIAL URINARY SPHINCTER PLACEMENT ACCORDING TO AUA BEST PRACTICE POLICY

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Presented By: Temitope Rude

Introduction: Artificial urinary sphincter (AUS) is the gold standard for the treatment of male stress urinary incontinence (SUI); however, device infections and erosions remain a concern. Many urologists utilize an extended course of post-operative antibiotics to minimize risk. In 2008, the AUA released its Best Practices on antibiotic use and recommended ≤24 hours of peri-operative antibiotics for urologic surgeries involving implants. We present the first description of infection rates using the recommended limited use of antibiotics.

Methods: All AUS implants and revisions by a single surgeon were reviewed from 6/2010 to 9/2016. All uncomplicated patients received a limited course of < 24 hours of antibiotics according to AUA guidelines, with vancomycin or cephalosporin + an aminoglycoside. Our primary outcome was any peri-operative infection; thus only patients with > 30 days of follow-up and full data integrity were used for this analysis. Secondary outcomes were delayed infections of 90 days and 2 years. Descriptive statistics were calculated with Microsoft Excel.

Results: A total of 150 patients were identified who received limited antibiotics and had >30 days follow-up and 135 patients were identified with at least 90 days follow-up. Seven patients (5.2%) developed simple infection, a urinary or superficial skin infection successfully managed with antibiotics in the first 90 days; five of these seven occurred within 30 days. Of the four patients (2.9%) who developed device infection within 90 days, only one patient (0.7%) experienced this within 30 days of surgery. Over the study period, with an average of 23 months follow-up in the primary cohort, nine patients (6%) experienced a device infection with urethral erosion. All device infections were associated with urethral erosion and managed with explanation.

Conclusion: These data provide support for the use of limited antibiotics according to AUA Best Practice given the low risk of serious infection requiring explanation. In our cohort, there were no occurrences of device infection without urethral erosion; we speculate that urethral erosion is the antecedent event to device infection in these cases. Further prospective study is required to further elucidate this relationship.
URODYNAMICS PARAMETERS AND OUTCOMES IN WOMEN VOIDING BY VALSALVA UNDERGOING SLING PLACEMENT

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Presented By: Casey Kowalik

Introduction: Valsalva voiding is reported to be present in up to 50% of women and may contribute to voiding dysfunction following sling placement. Our objective was to compare urodynamic parameters in women with and without Valsalva voiding who underwent sling placement for stress urinary incontinence (SUI).

Methods: Women presenting with mixed urinary incontinence (MUI) or SUI who underwent urodynamic studies during evaluation for sling placement were included in the analysis. Patients with ≥grade 2 anterior prolapse or prior incontinence surgery were excluded. Valsalva voiding pattern was defined as elevated abdominal pressures during the voiding phase with no perceptible detrusor contraction. Urodynamic parameters were compared between women voiding by Valsalva (VV) and those voiding by detrusor contraction with no increase in abdominal pressure (DC). Voiding efficiency (VE) was calculated as the percentage of pre-void bladder volume voided. Short term retention was defined as the need for a foley or intermittent catheterization between 7-30 days post-operatively.

Results: We identified 752 women eligible for analysis of whom 66 (8.8%) were VV and 532 (70.7%) DC. Age, body mass index, or rate of MUI versus SUI did not differ between the VV and DC groups. Compared with the DC group, women in the VV group had lower voided volumes (260±133 mL vs. 341±154 mL, p-value <0.0001) and lower VE (86.3±22% vs. 94.2±14%, p-value 0.007). Additionally, the VV group was more likely to have post void residual (PVR) ≥100 mL (13.6 v. 6.2%, p-value 0.026) and maximum urinary flow rate (Qmax) ≤12 mL/sec (46.4% v. 17.7%, p-value <0.0001). At an average follow up of 23.5 months there was no difference in SUI cure rates (VV: 87.9% v. DC: 79.1%, p=0.093), nor in rates of short term post-operative retention (VV:1.5% v. DC: 4.5%, p=0.251) or sling incision/urethrolysis (VV:0% v. DC: 1.5%, p=0.608) between the VV and DC groups.

Conclusion: In a population of women undergoing sling placement, VV had lower voided volumes and decreased voiding efficiency. PVR ≥100 mL and Qmax ≤ 12 mL/sec occurred more frequently in women voiding by Valsalva only. These observations may have clinical implications for pre-operative evaluation and counseling of patients prior to sling placement. However, in this cohort, there was no increased rate of short-term post-operative retention or subsequent sling incision/urethrolysis associated with Valsalva voiding.

Funding Source: None
Podium #15
CAN URODYNAMIC PARAMETERS PREDICT SLING REVISION FOR VOIDING DYSFUNCTION IN WOMEN UNDERGOING SYNTHETIC MIDURETHRAL SLING PLACEMENT?

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Presented By: Brian J. Linder

Introduction: To evaluate the utility of urodynamic studies, performed for primary midurethral sling placement for stress urinary incontinence, in predicting the need for subsequent sling release for voiding dysfunction.

Methods: The medical records of women managed with primary synthetic midurethral sling placement at Mayo Clinic, Rochester, MN from January 1, 2002 through December 31, 2012 were reviewed. The primary outcome was surgical sling release for postoperative voiding dysfunction (i.e. prolonged retention, elevated post-void residual volumes with new voiding symptoms, or de novo onset or worsening of overactive bladder symptoms). Logistic regression models were used to evaluate associations between potential clinical risk factors and the primary outcome.

Results: Overall, 1629 women underwent primary synthetic midurethral sling placement during the study timeframe, including 1081 patients (66%) that underwent a preoperative multichannel urodynamic evaluation. A sling release for voiding dysfunction was performed for 51 patients (3.1%), at a median of 1.9 months postoperatively (IQR 1.3, 9.3). Patients undergoing sling release were significantly more likely to have had retropubic sling placement (p=0.003), and concomitant prolapse surgery (p=0.005). On univariate analysis, no urodynamic parameters, including: peak flow rate (p=0.2), post-void residual (p=0.37), voiding without detrusor contraction (p=0.96), or detrusor pressure at maximal flow (p=0.23) were associated with the risk of sling release.

Conclusion: Sling release for voiding dysfunction was rare in our cohort. No urodynamic parameters were associated with the risk of sling release.
TRENDS IN URODYNAMIC TESTING PRIOR TO MIDURETHRAL SLING PLACEMENT - WHAT WAS THE VALUE OF THE VALUE TRIAL?

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Cleveland, OH
Presented By: Jessica C. Lloyd

Introduction: Urodynamic testing (UDS) is an invasive assessment of urinary transport, storage and elimination. Many urologists use UDS to assist in medical decision-making and surgical planning. The VALUE study, a large, multi-institutional, randomized controlled trial in 2012, demonstrated that this testing is not required prior to midurethral sling placement for uncomplicated stress urinary incontinence (SUI), as testing did not change management. Our group seeks to determine whether use of UDS for evaluation of SUI diminished following this widely-disseminated publication.

Methods: The medical records of all patients who underwent isolated mid-urethral sling surgery at our tertiary-care referral center from 2008-2009 (pre-VALUE cohort) and from 2014-2016 (post-VALUE cohort) were reviewed retrospectively. Clinical parameters, including comorbidities, presenting symptoms, specialty of the surgeon, use of UDS, and UDS results were recorded. Patients who had undergone prior anti-incontinence procedures were excluded. Descriptive statistics were calculated and presented as mean(standard deviation) or median[interquartile range] as appropriate and multivariable logistic regression analyses performed.

Results: There were 527 patients who met inclusion criteria. Median age at sling was 54 years. Patients most frequently presented with stress urinary incontinence (56% pre cohort, 49% post cohort), followed by mixed urinary incontinence (41% pre cohort, 48% post cohort, p=0.09). In the pre cohort, UDS was performed in 75% of patients prior to primary sling procedure; in the later cohort, this decreased to 44% (p<0.0001). On multivariable analysis, provider specialty (p<0.0001) and pre vs post cohort (p=<0.0001) predicted use of UDS prior to sling, while presenting symptom and history of neurologic comorbidity did not.

Conclusion: In this era of value-driven care, it is paramount that new data be incorporated into diagnostic and treatment algorithms. At our tertiary care center, we found that the rate of preoperative urodynamic testing decreased significantly after publication of a large, randomized-controlled trial demonstrating that these studies did not change procedural decision-making. Our results suggest that future studies that identify instances of over-testing have the ability to positively impact patient care and contain costs.
Podium #17
PHYSIOLOGIC FACTORS THAT DETERMINE VOLUNTARY DETRUSOR CONTRACTION DURATION IN MALES

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Presented By: Henry H.Y. Tran

Introduction: Little is known about contribution of detrusor contraction duration (DCD) for voiding function in males and initial findings have been contradictory. Our objective was to analyze physiologic factors that influence male DCD to better understand its role.

Methods: We retrospectively reviewed urodynamic studies in 148 male patients (2010-2016). 120 patients had measurable voluntary DCD. Independent variables analyzed included voided volume (VV), post void residual (PVR), detrusor pressure at maximum flow (PdetQmax), bladder compliance (BC), maximum flow rate (Qmax), bladder outlet obstruction index (BOOI), and bladder contractility index (BCI). BOOI (PdetQmax–2 Qmax) was categorized into non-obstructed (BOOI<20), equivocal (20 ≤ BOOI ≤ 40), and obstructed (BOOI>40). BCI (PdetQmax+5 Qmax) was categorized into weak contraction (BCI<100), normal contraction (100≤BCI≤150), and strong contraction (BCI>150). Multiple regression analysis determined which variables were related to DCD. Variables dependent upon each other were not analyzed together (i.e. either PdetQmax and Qmax, or BOOI and BCI).

Results: Of 120 patients, mean age was 63.4 ± 17 years and mean DCD was 103.6 ± 66.9 sec. Results from multiple regression analysis (DCD as the outcome) are shown in Table 1. Increased Qmax (p<0.05), PdetQmax (p<0.01), and VV (p<0.001) were associated with increased DCD. Regression 1 shows that when Qmax increases by 1 mL/s, DCD decreases by 2.59 ± 1.19 sec, on average. Increase in PdetQmax by 1 cm H2O increases DCD by 0.40±0.15 sec. Increase in 1 mL VV increases DCD by 0.20±0.04 sec. When performing multiple regression analysis using BOOI, BCI, VV, and bladder compliance, only BOOI (obstructed vs non-obstructed, p<0.002) and VV (p<0.001) were significantly associated with prolonged DCD.

Conclusion: This is one of the first studies to examine association between DCD and other voiding parameters. In men, longer DCD appears to be influenced by higher PdetQmax, VV, and lower Qmax. Men with outlet obstruction have prolonged DCD compared to men without. Contraction strength did not influence DCD. Further studies are needed to determine clinical significance of these physiologic relationships and utility of DCD.
Poster #M7

PSYCHOSOCIAL FACTORS, SLEEP, AND PHYSICAL FUNCTION IN WOMEN WITH LOWER URINARY TRACT SYMPTOMS

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Presented By: Nazema Y. Siddiqui

Introduction: Lower urinary tract symptoms (LUTS) are associated with many psychosocial factors. We examined psychosocial health measures in women with LUTS, and further compared them based on presence and type of urinary incontinence (UI).

Methods: The Symptoms of Lower Urinary Tract Dysfunction Research Network (LURN) is supported by grants from the NIDDK and is conducting a prospective observational study. We performed a cross-sectional analysis of baseline information from women with LUTS enrolled at one of six clinical sites. Women with urologic pain or malignancy were excluded. The LUTS Tool was used to identify women with and without UI, and to categorize those with UI into the following subtypes: 1) stress (SUI); 2) urgency (UUI); and 3) mixed (MUI). Patient-Reported Outcomes Measurement Information System (PROMIS) item banks assessed sleep disturbance, depression, anxiety, and physical function. The International Physical Activity Questionnaire (IPAQ-SF), Perceived Stress Scale (PSS), and Childhood Traumatic Events Scale were also administered. Scores were compared between women with and without UI and across UI subtypes.

Results: The 510 women had a mean age of 56±14 years; 82% were Caucasian, 46% were obese, and 15% reported diabetes. Women with UI (n=425) reported similar sleep disturbance (53 vs 53, p=0.94), more depression (50 vs 47, p=0.03), more anxiety (51 vs 48, p=0.02), more stress (13 vs 11, p=0.01), and poorer physical function (47 vs 51, p<0.01) compared to those without UI (n=85). There were no differences in childhood traumatic events (78% vs 70%, p=0.12) or physical activity (1272 vs 1372 MET-minutes, p=0.58) in women with UI compared to those without UI. Among UI subtypes, women with MUI reported the highest depression and anxiety, and the poorest physical function (table). There were similar levels of sleep disturbance, perceived stress, childhood traumatic events, and physical activity across UI subtypes.

Conclusion: Women with LUTS report similar sleep disturbance and childhood trauma, regardless of presence or type of UI, but those with UI have more psychosocial symptoms and perceived stress. Of women with UI, those with MUI report more distress on psychosocial measures.
LOW SERUM TESTOSTERONE IS ASSOCIATED WITH INCREASED STRESS AND MIXED INCONTINENCE IN WOMEN

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Presented By: Evgeniy I. Kreydin

Introduction: Androgen receptors are present in the levator ani and testosterone administration has been shown to result in levator hypertrophy and improvement of surgically induced incontinence in a rodent model [1]. However, the association between serum testosterone levels and incontinence in humans has not been extensively studied. We sought to examine the relationship between serum total testosterone levels and self-reported urinary incontinence among men and women participating in a national survey.

Methods: Data were analyzed for 2195 males and 2123 females who participated in the 2012 cycle of National Health and Nutrition Examination Survey and underwent measurement of serum total testosterone. Incontinence was defined as self-reported stress, urge, or mixed incontinence. Serum testosterone concentrations were log-transformed, assigned to quartiles, and examined first in a weighted variance-corrected univariate model for association with incontinence, and then in a weighted variance-corrected model adjusted for age, body mass index, diabetes, race, parity (females only) and time of venipuncture (morning, day, or evening).

Results: Univariate analysis revealed a strong inverse correlation between serum testosterone level and each type of incontinence in both males and females. However, after adjustment for age, decreased serum testosterone was associated only with increased likelihood of stress and mixed incontinence in women. In the multivariate model, women in the lowest quartile of serum testosterone concentration were more likely to complain of stress (OR 1.49, 95%CI 1.07-2.06) and mixed incontinence (OR 1.61, 95%CI 1.18-2.18).

Conclusions: This is the first study to demonstrate a relationship between serum testosterone level and stress and mixed incontinence in women. Given the role of pelvic musculature in maintaining urethral support and the anabolic effect of androgens on skeletal muscle, a physiologic mechanism for this relationship can be proposed and further evaluated in prospective and translational studies.

Funding Source: None

A RANDOMIZED, DOUBLE-BLIND, MULTICENTER, PLACEBO-CONTROLLED STUDY OF AUTOLOGOUS MUSCLE DERIVED CELLS FOR URINARY SPHINCTER REPAIR (AMDC-USR)

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Presented By: Sender Herschorn

Introduction: The safety and efficacy of 150 x 10⁶ AMDC-USR for treatment of stress urinary incontinence (SUI) in women was assessed (NCT01382602).

Methods: Women with predominant SUI who experienced ≥3 stress incontinence episodes over three days were randomized 2:1 to receive intrasphincteric injection of AMDC-USR or placebo and 1:1 to receive one or two treatments. Second treatments were administered six months after the first treatment. SUI was monitored by three-day diaries of stress incontinence episode frequency (IEF), 24-hour pad tests, in-office pad tests, and quality of life (QOL) questionnaires at baseline and follow-up. The primary composite efficacy endpoint was the percentage of patients with ≥50% IEF reduction or ≥50% reduction in either pad test at 12 months. Patients were unblinded after completing 12-month visits, but were followed for two years post-treatment.

Results: There were 143 patients treated (50 with placebo; 93 with AMDC-USR) and 141 patients completed 12-month visits. Both placebo and AMDC-USR groups had similar baseline characteristics. No safety signals related to AMDC-USR were identified and no urinary retention was reported. Due to an unexpectedly high placebo responder rate with the composite endpoint, which included pad tests, enrollment was halted at 61% of the planned study size. However, post hoc analyses correlating QOL score improvement with IEF suggest that ≥50% IEF reduction, ≥75% IEF reduction, and ≤1 leak per three days may be clinically meaningful endpoints. With increased IEF thresholds, placebo rates are reduced and a potential treatment effect is detected (figure). Further, in the subset of patients treated for recurrent or persistent SUI after continence surgery, a higher percentage of AMDC-USR patients had ≥50% IEF reduction (73%, 8/11 vs. 50%, 3/6), had ≥75% IEF reduction (64%, 7/11 vs. 17%, 1/6), and reported ≤1 leak per three days (36%, 4/11 vs. 17%, 1/6) compared to placebo.

Conclusion: These data support safety of AMDC-USR through 12 months and beyond, and suggest efficacy with regard to IEF reduction. AMDC-USR may benefit both a general SUI population and a difficult-to-treat population with recurrent or persistent SUI after continence surgery.

Funding Source: Cook MyoSite, Inc.
CONCOMITANT TREATMENT OF STRESS URINARY INCONTINENCE AND GYNECOLOGIC ONCOLOGY SURGERY: ARE WE UNDERTREATING?

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Presented By: Dennis J. Thum

Introduction: Stress urinary incontinence (SUI) is prevalent among women undergoing surgery for gynecologic malignancies, with up to one-third of patients reporting SUI preoperatively. Many women requiring surgery for gynecologic malignancies may benefit from concomitant treatment of SUI; however, the complex decision-making associated with gynecologic malignancy often overshadows an evaluation for SUI. We tested the feasibility and safety of performing a synthetic mid-urethral sling procedure at the time of surgery for gynecologic malignancy.

Methods: A retrospective chart review of all patients who had placement of a synthetic mid-urethral sling at the time of surgery for gynecologic malignancy between January 2012 and September 2016 was performed. Patient age, gynecologic diagnosis, type of sling performed, intraoperative, postoperative complications, and continence outcomes were analyzed.

Results: There were 470 slings and 2,000 gynecologic oncology surgeries performed during the study period. Of these, twelve women were included in our study. The mean age was 52 years (35-68 years). One patient had a retropubic sling and the remaining patients had transobturator slings. Three patients underwent concomitant sacrocolpopexy. Of the gynecologic oncology procedures performed, eight (66%) patients had laparoscopic assisted vaginal hysterectomy and bilateral salpingo-oophorectomy (BSO), two (17%) patients had total vaginal hysterectomy, one patient had open abdominal hysterectomy and BSO, and one patient had vaginal cuff excision. At mean follow up of 15.3 months, all patients reported subjective cure of incontinence. Four patients (33%) experienced postoperative retention after initial catheter removal, but all patients voided by post-operative day four. There were no postoperative complications reported that were related to the sling procedure. One patient developed mild OAB symptoms following surgery.

Conclusion: Women undergoing gynecologic oncology surgery can be safely treated for SUI with concomitant synthetic mid-urethral sling placement. The high rate of retention may be due to the multiple surgeries combined as previously reported with combined surgery for SUI and pelvic organ prolapse. With up to one-third of gynecologic oncology patients reporting SUI in the literature, and only a small number of women undergoing concomitant slings, eliciting a history of SUI should be considered in women planning surgery for gynecologic malignancy.
EFFECTS OF GROUP REHABILITATION UPON WOMEN UNDERGOING SURGERY FOR OBSTETRIC FISTULA

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Presented By: Pooja S. Parameshwar

Introduction: Obstetric fistula due to prolonged obstructed labor is a significant public health concern in the developing world. Fistula patients experience chronically elevated levels of social isolation, stigmatization, and depression. In this qualitative study, we aimed to evaluate the experience of group rehabilitation during postoperative recovery in the setting of a “fistula camp” upon women seeking surgical care for fistula and related birth injuries. As this population is marginalized and ostracized, we predicted that group rehabilitation might be particularly germane.

Methods: Study participants were women who received surgical care for obstetric fistula and high-grade perineal lacerations at the Mbarara Regional Referral Hospital in Uganda during 2 fistula camps in 2015 and 2016. Using semi-structured interviews, we sought to characterize the lived experiences of these women and their feelings surrounding their medical and surgical care in the setting of a group-based rehabilitative fistula camp. Interviews were conducted via translators who spoke the native dialects. Data was transcribed and analyzed using grounded theory methods, as described by Charmaz. We also directly observed women during their stay and recorded the frequency and types of interpersonal behaviors and interactions.

Results: Twenty-six women participated in the interviews. Themes of social isolation, depression, shame, and stress were present in women’s testimonials of their experiences prior to fistula camp arrival (see Table). When discussing experiences during and after fistula camp stay, themes of social support and hopefulness emerged. Behaviors and interactions indicating social integration with bond formation and social support within the fistula ward were observed.

Conclusion: Exposure to other women who had obstetric fistula was of therapeutic benefit to women with these same conditions. We found that the impact of shared experience amongst the women played a critical role in their understanding, perception, and outlook towards their condition and their hope for recovery. A group-based model of postoperative care that integrates physical and psychosocial healing may be highly effective for this population.
Poster #M12
WHAT IS THE TRUE RATE OF URINARY RETENTION REQUIRING CATHETERIZATION AFTER BOTOX INJECTION?

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Presented By: Juzar Jamnagerwalla

Introduction: Intravesical onabotulinumtoxin A (Botox®) is an effective treatment for idiopathic detrusor overactivity (IDO). One of the most common side effects following Botox injection is urinary retention, with clinical trials reporting up to a 5.4-6.9% rate of post-injection retention requiring clean intermittent catheterization (CIC). In phase 3 clinical trials, strict guidelines were instituted required initiation of CIC for post-void residual (PVR) ≥350 milliliters (ml); however, in our experience patients with elevated PVRs can be managed with observation without catheterization assuming there are no subjective complaints or other contraindications for observation. Furthermore, the relatively high reported rate of CIC following Botox is a common reason why patients decline to undergo Botox treatment. As such, we sought to determine the rate of urinary retention requiring catheterization in a tertiary female pelvic medicine practice.

Methods: Retrospective data was collected over a 27-month period on patients who received 100 units of Botox at a single institution by one of two tertiary FPRMS physicians (JA, KE) for IDO. Patients were seen at two weeks post-procedure, at which time a PVR was checked. Patients with significantly elevated PVR (≥350) and subjective voiding difficulty were offered CIC. Any patient with acute retention was catheterized.

Results: Over the study period 187 Botox injections were performed on 99 patients. Three patients required catheterization post-procedure (1.6%). Two of the three patients experienced acute retention and required initiation of CIC. The third patient had subjective voiding difficulty at the two week follow up with a PVR of 353 ml and CIC was initiated. Of the patients who did not require catheterization, 13 (7.0%) had a PVR ≥ 350 ml and 29 (15.5%) had a PVR between 200 ml and 350 ml. None of these patients went on to develop acute urinary retention or worsening obstructive symptoms requiring catheterization.

Conclusion: In our series of 100 units of Botox injection for treatment of IDO, the rate of post-procedure catheterization was 1.6%. This difference is attributed to less rigorous criteria for post-procedure catheterization, patients with elevated PVR without obstructive voiding symptoms were safely managed with observation. While it remains important to counsel patients on the risk of retention after Botox, patients can be reassured that the actual rate of catheterization is relatively low.
WHERE DO WOMEN GO FOR URETHRAL SLING REVISIONS? GEOGRAPHIC MIGRATION PATTERNS IN CALIFORNIA

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Presented By: Kai B. Dallas

Introduction: Urethral sling surgery is the most common procedure performed for stress urinary incontinence. While the long-term rate of sling revision has been studied, the details of revision have been incompletely evaluated. It has been suggested that sling revision surgery is a specialized procedure and for the most part performed by those with specific expertise at high volume centers. We seek in this study to explore the timing, location and migration of patients from one facility to another for revision procedures.

Methods: Using data from the Office of Statewide Health Planning and Development (OSHPD) for the state of California (2005-2011), all females who underwent index urethral sling procedures at non-federal facilities were identified (CPT 57288). Cases requiring eventual sling revision or urethrolysis were subsequently identified. Location, distance traveled and factors associated with the seeking a new facility for revision were explored.

Results: There were 44,605 patients undergoing urethral sling surgery identified. Of these, 842 (1.9%) eventually underwent sling revision, with 178 (22.5%) undergoing revision at a new facility. Urinary retention was associated with a shorter duration to revision (median 54.5 days), while sling erosion/exposure was associated with a longer duration to revision (median 226 days, p<0.0001). Proximity to multiple facilities that placed slings (OR=3.88, p=<0.001), and increasing duration of time between procedures (OR=1.05/month, p<0.001) were both associated with an increased odds of changing facilities for revision. Conversely, placement at a high volume center was associated with a decreased odd of changing facilities for revision (OR=0.30, p<0.001). In general, patients migrated towards larger centers in urban areas for revision when a new location for care was sought.

Conclusion: 78% of sling revisions are performed at the facility where the initial placement was performed. This suggests that in the majority of facilities where urethral slings are placed, the capability for sling revision exists as well.
Introduction: There is a 44% risk of stress urinary incontinence (SUI) following sacral colpopexy and some advocate a concomitant sling to prevent this. Robotic Sacral Colpopexy (RSC) may carry a different risk of de-novo SUI and women may be just as satisfied with a delayed mid-urethral sling (MUS). This would reduce unnecessary MUS. We sought to determine this risk and evaluate the hypothesis that delayed MUS following RSC will have similar long term pad use, Quality of Life (QoL), Distress (UDI-6), and Impact scores (IIQ-7) compared to concomitant MUS.

Methods: Retrospective review was undertaken and subjects were grouped based on continence status at the time of RSC. Incontinence was defined by self-report at any follow up visit, SUI on the supine stress test, or decision for MUS.

Results: A retrospective review of the Indiana University RSC database between 2009 and 2015 identified 135 women who underwent RSC. 79 had no preoperative SUI and 29/79 (36.7%) of patients had at least one episode of de-novo SUI following RSC over a follow up of 17.9 months. 98 patients were evaluable post-operatively. 47/57 (82%) initially dry patients elected no concomitant MUS, and ultimately 5/47 (11%) of those chose a delayed sling at an average follow up time of 23.9 months. 10/57 (18%) preoperatively dry women elected to undergo a concomitant MUS at the time of RSC. Those undergoing delayed sling reported similar post-operative pad use, UDI-6, QoL, and IIQ-7 scores (Table 1) compared with those not undergoing a sling, suggesting that a delayed sling did not have a negative impact on QoL. Those choosing to undergo concomitant MUS reported more pads per day preoperatively (2.6 vs. 0.4) including pad use from urge incontinence. With regard to satisfaction the patients who were dry pre-operatively and chose no sling scored better (2.25 vs. 6.2, p<0.01) on the IIQ-7 compared with those choosing a concomitant sling.

Conclusion: Patients undergoing RSC without concomitant MUS have similar de-novo SUI rates to those undergoing open colpopexy. There appears to be no advantage to concomitant MUS at the time of RSC for women exhibiting no preoperative SUI.
Poster #M15
COMPLEX HORSESHOE MULTILOCULATED URETHRAL DIVERTICULUM REPAIR

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Presented By: Philippe E. Zimmern

Introduction: To present our surgical technique for vaginal repair of a complex horseshoe multiloculated urethral diverticulum with urethral preservation.

Methods: A 51-year-old woman complained of recurrent urinary tract infections for years and was found to have a very large multi-loculated circumferential urethral diverticulum as confirmed on the axial, coronal, and sagittal views of a pelvic MRI. Cystoscopy confirmed an ostium on the right side. A suprapubic tube catheter was placed. After completing a broad based anterior vaginal flap dissection, the peri-urethral muscular layer was lifted off the underlying diverticulum wall and tagged superiorly and inferiorly with fine absorbable sutures. The diverticulum was entered and inspected. No tumor was noted. The inside of the diverticulum was painted with a Q-tip soaked with blue dye. The floor of the diverticulum was divided down to the urethral wall on the midline. Then, the medial wall of the tic resting on the urethral floor on the left side was carefully lifted off to avoid a urethral wall injury. This dissection was facilitated by the use of magnifying loupes. The bovie tip on a low setting helped with the dissection and cauterezation as needed. The dissection progressed 6 to the 3 o’clock position, then all the way anteriorly. The excised diverticulum pockets were sent to pathology. After the same dissection was done on the contralateral side, the ostium defect on the right side was closed lengthwise with fine running absorbable sutures over a 25 Fr female sound to maintain sufficient luminal caliber and water tightness was verified, the sound was replaced by a 20 Fr catheter left in place for 3-4 weeks. Next the perirurethral muscle flaps were re-approximated over the repaired urethral wall using running absorbable sutures. The vaginal flap was advanced to close over these multiple closure layers.

Results: Using this technique of complete excision with urethral preservation, we recently reported favorable results in a long-term series of 12 women (1998-2014) with 81 months mean follow-up [IUJO, 27Z:439, 2016].
IMPROVED COMPLIANCE WITH PELVIC FLOOR THERAPY AMONG PATIENTS MEETING WITH A PHYSICAL THERAPIST AT TIME OF INITIAL UROGYNECOLOGIC EVALUATION

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Presented By: Amy H. Lim

Introduction: Supervised pelvic floor physical therapy (PFPT) is an efficacious treatment for prolapse and incontinence. However, less than 50% of patients referred for PFPT complete their consultation. The objective was to determine whether PFPT consultation at the time of initial urogynecologic evaluation in a multidisciplinary clinic (MDC) increases rates of PFPT attendance and completion.

Methods: We performed a retrospective review of billing data and medical records for all patients seen in urogynecology consultation at our institution between February 1, 2014 and February 1, 2015. We collected demographic data as well as information regarding urogynecologic diagnoses, location of initial encounter (multidisciplinary pelvic wellness clinic versus single discipline urogynecology clinic), whether a PT was involved in initial encounter, whether referral to PFPT was placed, whether a patient saw a PT subsequent to the initial encounter, whether prescribed PFPT was completed, and whether urogynecologic surgery was performed. Chi-square testing was used to compare rates of PFPT attendance and completion among those patients who were seen in a multidisciplinary clinic versus a single discipline clinic and among those who saw a PT during their initial multidisciplinary pelvic wellness clinic visit versus those who did not. Logistic regression was performed to identify factors associated with attendance and completion of prescribed PFPT using SPSS 22.0.

Results: Of 958 patients included in the analysis, referral to PFPT was made for 35% (334) of patients overall, in 55% (119) of patients seen in the MDC, and in 29% (215) of the group seen in single discipline clinic (p<.001). Overall, 67% of patients referred for PFPT attended follow up and 43% completed PFPT. PFPT attendance was higher among women who saw a PT at their initial appointment (OR 6.1, 95% CI 2.7 – 13.9, p<.001), and among those over age 65 (OR 2.8, 95% CI 1.4 – 5.7, p=0.015). Only age greater than 65 was associated with increased likelihood of completing PFPT (OR 4.4, 95% CI 1.8 – 10.7, p=0.001).

Conclusion: PFPT consultation at the time of initial urogynecologic evaluation improves attendance of initial PFPT appointment, but does not affects rates of PFPT completion.

Funding Source: None
Poster #M17
COMPARING THE VAGINAL WALL SLING WITH AUTOLOGOUS RECTUS FASCIA AND POLYPROPYLENE SLING ON OUTCOME AND PATIENT SATISFACTION

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Presented By: Mohamed Keheila

Introduction: Since the 2011 FDA safety update on transvaginal synthetic mesh, providers are encouraged to counsel patients on risks related to synthetic mesh slings. As an alternative to synthetic slings patients are choosing autologous slings. We hypothesize that vaginal epithelium may serve as an effective autologous graft for the surgical treatment of SUI when compared to the rectus fascia sling and the synthetic mesh sling.

Methods: Between May 2011 and July 2016, a retrospective review was performed in patients who underwent suburethral sling placement by a single surgeon using vaginal epithelium, autologous rectus fascia, or synthetic mesh. Pre- and postoperative voiding symptoms and patients' satisfaction using the Likert scale were obtained from medical records and a telephone survey. Patient characteristics, demographics, and composite subjective and select objective SEAPI scores (S-SUI, E-Emptying, A-Anatomy, P-Protection, I-Inhibition) were evaluated. Data were analyzed with one-way ANOVA and paired t-test. A p-value of ≤0.05 was considered statistically significant.

Results: Of 181 patients, who underwent a sling procedure 63 patients received a retropubic VWS, 49 patients an autologous rectus fascia sling, and 69 a synthetic mesh sling. The average lengths of follow up were 30 months (range: 6-50 months). Age, body mass index, and number of vaginal deliveries, postoperative outcome, and patient satisfaction were evenly distributed. Among those three different sling types, there was no significant difference in subjective postoperative SEAPI scores. All sling types improved significantly SUI and pad use. 71% patients after treatment with VWS completely stopped using pads, 74% after rectus fascia sling, and 71% after synthetic sling. There was no significant difference in the prevalence of overall urge incontinence (31% for VWS, 26% for rectus fascia, 45% for synthetic sling, p=0.08) and patient satisfaction (71% for VWS, 74% for rectus fascia sling, and 71% for synthetic sling, p=0.95).

Conclusion: The VWS is well tolerated, has similar efficacy, and patient satisfaction compared to the rectus fascia and synthetic slings. Based on our relatively short term follow up, VWS may be an alternative treatment for SUI avoiding the risks associated with the synthetic material and the morbidity associated with the rectus fascia sling. Further studies are needed to fully validate the long term effectiveness of VWS.
Poster #M18
UNPLANNED HOSPITAL VISITS IN THE FIRST 30 DAYS AFTER URETHRAL SLING PROCEDURES - A STATEWIDE ANALYSIS OF CALIFORNIA.

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Stanford, CA
Presented By: Kai B. Dallas

Introduction: Surgical intervention for stress urinary incontinence is common with 200,000 repairs annually. Currently, the most common repair utilized is urethral sling placement. Although the long-term complication rate after a sling procedure has been well documented, the short-term (30 day) complication rate has been incompletely assessed. We sought to evaluate unplanned hospital visits within 30 days of sling placement in the form of emergency department visits, inpatient admissions, or repeat surgery.

Methods: We accessed non-public data from the Office of Statewide Health Planning and Development (OSHPD) in the state of California for the years 2005-2011. All female patients who underwent an ambulatory urethral sling procedure (CPT 57288) without concomitant surgery (other than cystoscopy) were included. Any subsequent emergency department visit, inpatient admission, or sling revision operation within 30 days of the original surgery was then examined. We also evaluated the most common primary diagnoses associated with emergency department visits.

Results: There were 28,635 women identified that underwent outpatient urethral sling placement as a sole procedure. 1,630 patients had at least one unplanned hospital visit (5.7%) within 30 days. This included 1,327 emergency department visits (4.7%), 295 inpatient admissions (1.0%) and 79 sling revisions (0.28%). The hospital visit rate was significantly higher in patients undergoing a third or fourth sling placement (14.3%) as compared to a first or second sling placement (5.7%) (p=0.02). Urinary retention and foley catheter problems were the most common emergency department visit diagnoses (18.7% of ER visits), followed by urinary tract infection (9.3% of ER visits).

Conclusion: One in eighteen females will have an unplanned hospital visit within 30 days of urethral sling placement, the majority of which are emergency department visits (~81%). Our findings can be used to improve patient counseling and suggest target areas to decrease unnecessary emergency department visits in the early postoperative period.
PATIENT KNOWLEDGE AND PERCEPTIONS OF PRIOR SURGERY FOR STRESS URINARY INCONTINENCE OR PELVIC ORGAN PROLAPSE

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Presented By: Wai Lee

Introduction: Patients often have a poor understanding of their surgery for stress urinary incontinence (SUI) or pelvic organ prolapse (POP). Despite high health literacy, it has been demonstrated that patients have low recall and understanding of their SUI and POP. There is a paucity of literature correlating patient perception of prior pelvic reconstructive surgery with the actual procedure performed. The objectives were to determine how well female patients understand and recall their prior surgeries for SUI or POP.

Methods: Female patients were given a survey that assessed recall of their prior pelvic surgeries during office evaluation. Operative reports were obtained and compared to survey results. We assessed patients’ ability to accurately recall previous surgery, including whether mesh was placed. Patients with recent pelvic surgery (<6 months), surgeries performed by the principal investigator, and unobtainable operative reports were excluded.

Results: Forty-six patients met inclusion criteria. 83% (38/46) of patients had mesh placed during pelvic surgery. 63% (29/46) of patients were able to accurately recall whether mesh was placed or not. There were no significant differences in age (p=0.12), time since pelvic surgery (p=0.17), educational status (p=0.18) or patient perceived understanding of their surgery (p=0.19) between patients who could accurately recall mesh placement and those who did not. 33 patients reported having a previous “bladder lift” procedure, but comparison with past operative reports revealed only 58% (19/33) had an anterior prolapse repair. There were no significant differences in age (p=0.08), time since pelvic surgery (p=0.11), educational status (p=0.94), or patient perceived understanding of their surgery (p=0.13) between patients who accurately stated they had a “bladder lift” and those who incorrectly stated it (Table 1). 88% of patients correctly remembered whether their surgery was performed by a urologist (29%), gynecologist (60%) or both (20%).

Conclusion: Our results indicate that patients have poor recall of prior pelvic floor reconstructive surgeries. Further studies are needed to elucidate whether this is secondary to poor counseling by physicians or other patient-related factors.
Poster #M20
CAN URETHRAL BULKING AGENTS SALVAGE FAILED SLINGS?

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Presented By: Elizabeth V.H. Dray

Introduction: While pubovaginal and midurethral slings are highly effective interventions for stress urinary incontinence (SUI), persistent or recurrent incontinence is not uncommon and can significantly impact patients’ quality of life. Multiple studies have shown the relative success of repeat sling procedures in this population, however, not all patients desire further operative interventions. The goal of this study is to evaluate the efficacy of urethral bulking agents for SUI in the setting of failed prior sling which has only been studied in very small populations in the past.

Methods: This is a retrospective review of patients who underwent urethral bulking agent injections for a primary complaint of stress urinary incontinence following failed sling. The outcomes assessed were patient reported improvement, need for further interventions for incontinence and the validated Michigan Incontinence Symptom Index (M-ISI) that has a range 0-32 for total score 0-8 for bother with higher scores indicating worse incontinence. Values for questionnaires were obtained from the patient’s pre-procedure visit and following their last injection. Demographics, type of prior sling procedure, and type of bulking agent utilized were also reported.

Results: From May of 2009 to March of 2016, 73 patients underwent injection of urethral bulking agents following failed sling. Of these patients, 49 had prior mesh midurethral slings, 20 had prior fascial pubovaginal slings, and 4 had undergone both procedures. Average time from sling placement was 40.5 months. Following injection, 67.1% of patient reported at least moderate improvement in incontinence, while 24.7% reported total resolution of incontinence and 32.9% endorsed minimal or no improvement. The majority of patients (75.3%) required further injections to maintain or augment their results. Only 19.2% of patients went on to undergo more invasive operative interventions for incontinence. Pre-procedure average M—ISI symptom score was 23.1 with a bother score of 5.2. Post-procedure, these values were 18.9 and 4.2 respectively. No difference was found in symptom resolution based on prior sling type or bulking agent used.

Conclusion: Urethral bulking agents are a viable option for improving SUI following failed sling procedures. The majority of patients have at least moderate improvement in symptoms and do not opt for more invasive interventions.
Poster #M21
MANAGEMENT OF URODYNAMIC STRESS URINARY INCONTINENCE IN URETHRAL DIVERTICULUM

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Presented By: Rachel Barratt

Introduction: Urethral diverticula are associated with urodynamic stress urinary incontinence (USUI) both pre-existing and new-onset following excision of the diverticulum. This series evaluates the incidence and management of USUI in patients with urethral diverticulum.

Methods: A prospective database of all patients having urethral diverticulum excision between May 2007 and August 2016 was reviewed for all aspects of presentation, investigation, surgical outcome and post-operative follow-up. All patients had preoperative MRI and videourodynamics (VUDS) whilst those patients with persistent or new onset urinary incontinence had post procedure VUDS at 6 months post-surgery.

Results: One hundred patients underwent urethral diverticulum excision in the period evaluated. 25 (25%) patients presented with pre-existing USUI. Ten (40%) had resolution of this pre-existing USUI following excision of their urethral diverticulum. Post-operatively 25 (25%) of our cohort experienced USUI (persistent or new onset). Of these 15 (65%) were patients with persistence of their pre-existing USUI. Five (33%) had complete resolution of their USUI with conservative management only. Five (33%) insertion of a mid-urethral tape via the obturator route (TVT-O) with complete resolution in four and only one patient requiring further intervention with a bulking agent to completely resolve their symptoms. Three (20%) patients underwent rectus fascial sling with successful post-operative outcome and two are awaiting surgery for their persistent USUI. Ten (10%) patients had post-operative new onset USUI persisting at six months post-surgery. Five patients had complete resolution with conservative management and have not required further surgical intervention. Two patients had mixed urinary incontinence and treatment for urge urinary incontinence resolved their symptoms. Two patients achieved resolution of symptoms with a mid-urethral obturator tape (TVT-O). One patient developed USUI as a consequence of surgery for a post-operative urethral stricture and was treated with a rectus fascial sling and bulking agents with moderate benefit.

Conclusion: In our cohort 25% of patients undergoing urethral diverticulum excision will have USUI post-operatively; 10% will have new onset USUI and 15% persistence of pre-existing USUI. USUI (persistent or new onset) requires surgical intervention in 56.5% of cases. Both conservative and surgical measures are feasible in this group with successful outcomes.
Poster #M22
MONOCYTE CHEMOTACTIC PROTEIN-1 (MCP-1) URINARY LEVEL IN PATIENT WITH OAB BEFORE AND AFTER TREATMENT

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Presented By: Bilal Farhan

Introduction: Recently, inflammatory urine cytokines were found to be involved in overactive bladder (OAB) patients. Their role in overactive bladder pathogenesis is not clear. Urinary cytokines have been previously tested which showed elevated levels due to inflammation, due to afferent plasticity or urothelial dysfunction. Patients with OAB are treated with multiple modalities including anticholinergics, beta-3-agonists, and neuromodulation. This study aims to evaluate the expression urinary MCP-1 level in overactive bladder patients before and after treatments.

Methods: Patients with untreated overactive bladder symptoms (OAB V8 questionnaire score >8) and no active urinary tract infection were selected for the study. Two midstream urine samples were collected; one before and the second after 12 weeks of OAB treatments (anticholinergics, beta-3-agonists, and neuromodulations). From these samples 25ml of urine were collected, centrifuged 1500x g for ten minutes, and the supernatant and pellet were stored at -80 degrees Celsius. At the conclusion of the study all urine specimens underwent an ELISA. Symptomatic response to therapy was evaluated using different validated OAB questionnaires. Descriptive statistics were performed to examine MCP-1 response to different OAB therapies using Fisher’s least significant difference test.

Results: A total of ten patients (four male and six female) underwent different OAB treatments at UCI. The mean age of enrolled patients was 69.3. All female subjects analyzed are postmenopausal. All ten patients reported improvement of symptoms in varying degree. Pairwise comparison was performed by Fisher’s least significant difference analysis at P = 0.05. Results of Fisher’s LSD revealed that urinary MCP-1 levels were significantly lower after treatment than before, with F=5.5074, P= 0.0469.

Conclusion: Our preliminary results show that the levels of urinary MCP-1 are significantly decreased with different OAB therapies. Interestingly, patient that showed significant improvement their OAB symptoms, have significant decreased in urinary MCP-1 level. Coupled with previous findings that MCP-1 levels are elevated in overactive bladder, these findings suggest that MCP-1 has primary role in OAB pathogenesis. Moreover, it could be a viable biomarker for overactive bladder disease, and disease response to therapy. Further study is needed for development of a therapeutic and diagnostic target range.
Poster #M23
PREPARATION AND IN-VITRO EVALUATION OF ELECTROCHEMICAL ALIGNED COLLAGEN BIOTEXTILE DEVICE GRAFT FOR PELVIC RECONSTRUCTION

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Presented By: Raymond R. Rackley

Introduction: We hypothesize that biotextile devices of fabricated collagen-based nanoparticles share similar properties to autografts in promoting functional tissue repair and regeneration not typically seen with allografts or synthetic grafts. The specific aim of this project was to prepare and evaluate electrochemically aligned collagen-based biotextile graft substitutes for autograft, allograft and synthetic mesh consideration in pelvic reconstructive surgery.

Methods: An electrochemical process is used to fabricate planar aligned, densely packed, large (up to 10 cm ×10 cm) collagen sheets where the diameter and orientation of collagen nanofibrils closely mimic those in pelvic fascia. The moisture vapor transmission rate (MVTR) of various collagen sheets, the oxygen permeability of dried collagen sheets and a live/dead assay of adipose derived stem cells (ADSCs) seeded onto collagen sheet imaged for up to five days comprised our in-vitro testing of these novel biotextiles.

Results: Electrochemical process can produce densely packed, robust, fascial-like collagen structures in large sheet format or other complex shapes. Due to densely packing and nanofibril formation, the structure is amenable to surgical manipulations. The porosity of collagen material can be controlled using different freezing profile before lyophilization. ADSCs proliferate well onto collagen material. Pure collagen sheets have high MVTR and O2 permeability.

Conclusion: Based on characterization of the electrochemically-aligned collagen matrix by scanning electron microscopy, oxygen permeation, MTVR, and cell biocompatibility, it is concluded that this novel collagen-based biotextile is promising as a pelvic fascial substitute material. Future work will focus on evaluation of cell supporting capabilities and in-vivo responses.

Funding Source: Southwest Research Institute®; Armed Forces Institute of Regenerative Medicine; Biotextiles, LLC
Introduction: To determine patient compliance with prescribed pelvic floor physical therapy (PFPT) in an academic female pelvic medicine and reconstructive surgery (FPMRS) practice.

Methods: A retrospective chart review identified patients prescribed PFPT during the time period January 1, 2014 and January 1, 2015. Compliance was defined as at least one PFPT visit.

Results: A total of 533 patients were prescribed PFPT during the study period. A convenience sampling was performed (n= 180). Mean age was 52 (range 19 -89). Over half (66%, n=118) attended PFPT at least once. Approximately 35% were non-compliant, in which 16 (9%) reported never attending PFPT at a follow-up visit and 46 (26%) either never attended within our system or were lost to follow-up. The mean number of sessions recommended by the therapist at initial visit was 8.1 visits (SD±2.43) and mean number attended was 6.4 visits (SD±4.34). Patients drove on average ten miles (SD±11.03) to attend PFPT. Some patients had more than one diagnosis for referral (median 1, range 1-3). On univariate analysis, age, BMI, diagnosis, marital or employment status, insurance type, number of comorbidities, stress test positivity, and stage of prolapse did not differ between compliant and non-compliant patients. Far fewer Hispanics than expected were compliant compared to chance alone (p=0.03). On multivariate analysis, patients with a diagnosis of OAB-D (OR 13.7, 95% CI: 1.42 – 133.68, p=0.02), OAB-W (OR 3.4, 95% CI: 1.10-10.8, p=0.038), or MUI (OR 4.39, 95% CI: 1.42-13.59, p=0.01) were more likely to be compliant compared to those without that diagnosis. Patients with stress urinary incontinence had no significant difference in compliance (p=0.10). Those who identified as Hispanic were only 0.27 times as likely to be compliant than Whites (95% CI: 0.11 – 0.66, p=0.004).

Conclusion: Overall, 66% of patients referred to PFPT were compliant. In a multivariate model, overactive bladder and MUI were associated with a higher likelihood of attendance while Hispanic race was associated with a lower likelihood of attendance. This information will inform a future study aimed to study barriers to PFPT compliance and completion.
Poster #NM24
TITLE: PATIENTS HAVE POOR UNDERSTANDING OF COMMON FEMALE PELVIC MEDICINE PROBLEMS: A PROSPECTIVE QUESTIONNAIRE OF UROLOGY AND GYNECOLOGY PATIENTS
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Presented By: Olga Povcher

Introduction: A new multidisciplinary Female Pelvic Medicine clinic opened at our institution. The survey assessed patient preference in naming this new center, as well as patient knowledge and perception of pelvic floor disorders.

Methods: Surveys were distributed to female patients 18 years of age and older presenting to general urology and gynecology clinics. Questionnaires collected demographic data, preference for proposed name of the center, viewpoints on incontinence, and understanding of basic medical terminology.

Results: There were a total of 300 respondents. 70% of survey participants felt that incontinence is viewed negatively in our society. Older respondents, healthcare workers, and patients with higher levels of education (bachelor’s degree or higher) were more likely to believe that the word “incontinence” has negative connotations (p=0.034, p=0.007, p=0.005 respectively). 34% of respondents did not know what the term “pelvic floor” means and 40% were not familiar with the term pelvic organ prolapse. 28% of survey participants felt that developing incontinence is a normal part of aging. The most preferred titles were “Center for Women’s Health and Continence” and “Center for Female Pelvic and Bladder Health.” The two least popular titles were “Women’s Center for Pelvic Floor and Bladder Dysfunction” and “Pelvic Floor Center.” There was no significant difference in name preference between demographic groups.

Conclusion: In our cohort there was a strong dislike for facility names that contained the word “dysfunction” or “pelvic floor.” There was a strong preference for names that included the word “health.” The results of this survey indicate that there is a high prevalence of negative attitude toward incontinence. This attitude is also prevalent among highly educated people as well as those working in healthcare. In addition, a lot of people believe that incontinence is normal part of aging. Emphasis on patient education should be provided through routine urology and gynecology visits and in primary care setting to enhance understanding of common pelvic floor problems.
Poster #NM25
GENDER AND SUBSPECIALTY OF UROLOGY FACULTY IN DEPARTMENT-BASED LEADERSHIP ROLES

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Presented By: Julia Han

Introduction: Women represent half of medical students and residents, yet the proportion who rise to senior ranks in academic medicine remains low compared to men. We aim to characterize the gender and subspecialty of those holding academic departmental administrative and educational leadership roles in urology.

Methods: We conducted a cross-sectional observational study of accredited U.S. urology residency programs. Inclusion criteria were participation in the Urology Residency Match Program and a departmental website. We gathered information from websites and missing data was addressed by contacting programs. We also queried female pelvic medicine and reconstructive surgery fellowships, looking at gender and whether fellowship directors were urology vs OB-GYN trained.

Results: We queried 124 urology residency programs. Women comprised 3.2% of chairs, 4.4% of vice chairs, and 7.5% of division directors. Women comprised 8.9% of fellowship directors, 8.1% of residency directors, and 27.4% of medical student clerkship directors. Three most common subspecialties for chairs were oncology (49.2%), robotics and minimally invasive surgery (MIS) (11.3%), and female urology (8.1%). Among chairs specializing in oncology, two out of 61 were females. For division directors, female urology had the highest representation of women (27.0%) followed by pediatric urology (9.8%), endourology (7.1%), reconstruction (5%), and andrology (4%). There were no female division directors for general urology, oncology, renal transplant, robotics and MIS, or neurourology. Regarding female pelvic medicine and reconstructive fellowships, there were a total of 47 programs (29 accredited; 18 unaccredited). In total, 40% (19 programs) had female fellowship directors of which 47% were urology and 53% were OB-GYN trained. Female directors comprised 17% unaccredited and 55% accredited fellowships.

Conclusion: Women are generally underrepresented across all levels of academic departmental leadership in urology. Only 7.7% of practicing urologists are women; however, urology has the fourth highest growth rate for women in training among specialties. In the 2016 urology match, 21% of incoming residents were women. Interestingly more than half of accredited female pelvic medicine and reconstructive fellowships have women directors. Given the increase of women pursuing careers in urology, we anticipate an upward trend over time as graduates rise to positions of leadership.

Funding Source: Departmental
Poster #NM26
HOW DEEP SHOULD THE BLADDER BE DUG IN TRANSURETHRAL ENDOSCOPIC EXCISION USING THE HOLMIUM LASER?

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Presented By: Jeong Hwan Son

Introduction: Mesh erosion into the bladder is a troublesome complication following anti-incontinence surgery. Traditional transabdominal or transvaginal resection is complicated and potentially morbid. Therefore many surgeons have made efforts to develop minimal invasive endoscopic removal of eroded mesh. But, still we need to build up surgical experience and long term surgical outcomes. We evaluated our surgical outcomes of transurethral endoscopic excision using the holmium laser (TEEH) for eroded mesh considering what is the important factor to prevent the recurrence of mesh erosion.

Methods: Total nine TEEH were performed to remove the eroded mesh from December 2012 to March 2016. A retrospective review of nine consecutive cases was done. For all cases, the review of recorded surgical footages was done. Outcome assessment was focused on follow-up cystoscopic findings, LUTS resolution and recurrence of SUI after mesh removal.

Results: For six patients, total nine TEEH were performed. In all cases, follow-up cystoscopy was done within postop six months and every one year thereafter. Three among the six patients underwent the second procedure for recurrent mesh erosion with/without stone. The recurrent cases were the initial three operations in this series which showed shallow excision of bladder layer in the surgical footage review (Fig. 1), (Table 1). Whereas, six subsequent operations in this series resulted no recurrence, which showed digging down to the deep detrusor or perivesical fat layer in the surgical footage review (Fig. 2), (Table 1). The mean age of patients at the diagnosis of mesh erosion was 59.6 year (±8.9). The mean time from anti-incontinence surgery to the diagnosis of mesh erosion was 28.5 months (±20.1). Mean follow-up after mesh removal was 19.6 months (±11.2). Most of the cases (8/9) reported improvement of LUTS.

Conclusion: TEEH is a promising surgical option for management of mesh erosion which presents excellent symptomatic success and no recurrent SUI following operation. But, the frequent cystoscopy follow-up is mandatory, considering the recurrent erosion. To prevent the recurrent erosion after TEEH, the important surgical technique is digging down to the deep bladder layer to remove completely the mesh embedded in the bladder wall.
Poster #NM27
SEAPI INCONTINENCE CLASSIFICATION SYSTEM: ONE-YEAR POST-OPERATIVE RESULTS FOLLOWING MIDURETHRAL SLING PLACEMENT

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Presented By: Allison S. Glass

Introduction: There is limited long-term data that has examined postoperative quality of life measures following placement of midurethral sling (MUS). The SEAPI incontinence questionnaire includes five data points: Stress-related leakage, Emptying ability, Anatomy or exam of bladder neck during cough, Protection or use of pads for incontinence, and Inhibition or urge incontinence. Our aim is to present changes in SEAPI questionnaire outcomes one year following mid urethral sling placement with respect to patient factors such as age, body mass index (BMI) and sling type.

Methods: We retrospectively reviewed women who underwent MUS from 2005-2012. We included those women who had completed pre- and post-operative SEAPI scores. Overall SUI cure was defined as used of zero pads per day. Individual score (S, E, A, P, I) cure was defined as score of zero whereas improvement was defined as decrease in score by two or more points. Logistic regression analysis was used to model the effects of patient characteristics on SUI cure and improvement in S, E, A, P, I scores.

Results: A total of 584 women were included. Median follow up was 25.4 (12-126.8) months. SUI cure rate was achieved in 73% and 69% of women with retropubic and transobturator slings, respectively. Increased follow up (OR 0.99, p <0.001) and previous prolapse or SUI surgery (OR 0.66, p=0.023) were associated with significantly lower odds of overall SUI cure. Age had negative association with cure of S (p=0.040), A (OR 0.90, p<0.001), I (OR 0.90, p<0.001) scores. BMI had negative association with cure in S (OR 0.93, p=0.020), P (OR 0.94, p=0.039), I scores (OR 0.90, p=0.015). A score cure was also negatively impacted by many factors: gravity (OR 0.69, p=0.018), parity (OR 0.43, p=0.002), cystoceles grade (OR 0.14, p<0.001), rectoceles grade (OR 0.41, p=0.013), vaginal vault/cervix grade (OR 0.39, p<0.001) and other pelvic surgery (OR 0.12, p=0.42). Type of sling did not impact cure in individual SEAPI scores; however, transobturator sling placement was associated with improvement in E score (OR 2.04, p 0.013).

Conclusion: Similar rates of SUI cure were achieved at one year. Cure of individual S, E, A, P and I scores was impacted differently by various patient factors including duration follow up, age, BMI, prior SUI, prolapse or pelvic surgery and other preoperative anatomic findings. The SEAPI questionnaire provides a unique profile of patient-reported and functional measures in women who undergo MUS placement for SUI.
Poster #NM28
STUDY DESIGN AND OUTCOMES MEASURES: THE INFLUENCE OF COMPOSITE ENDPOINTS AND OTHER DESIGN VARIABLES ON OUTCOMES IN A STUDY OF DEVICES FOR STRESS INCONTINENCE.

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Presented By: Roger R. Dmochowski

Introduction: Post hoc analysis of a randomized sham-controlled trial to understand the pitfalls inherent to performing trials in stress urinary incontinence and to identify study design implications.

Methods: A trial of the Vesair balloon for female stress urinary incontinence (SUI) was performed. 221 subjects were randomized. The primary effectiveness endpoint was a composite of a >50% reduction on one-hour provocative pad weight test and a ≥ ten point reduction in incontinence quality of life survey (I-QOL) questionnaire. All control subjects could cross over and receive active treatment at month three. Secondary endpoints included: I-QOL, Pad Weight change, seven-day voiding diary leakage events, and PGI-I questionnaire. Each of the endpoints was assessed to determine the importance of the criteria for each quantitative endpoint and the influence of study design bias on qualitative endpoints.

Results: Primary efficacy endpoint was achieved in 42.1% of treatment group compared with 28.1% of controls on intention-to-treat (ITT) analysis (p=0.046). A similar percentage of both arms achieved at least 50% improvement in pad weight testing alone (55.9% vs 42.2%, p= 0.067, ITT) while subjects recording a ten-point improvement in I-QOL scores were similar between the treatment and control populations (58% vs 65%, p=0.3254, ITT). The endpoints involving improvement in PGI-I score (58% vs 38%, p=.0063, ITT) and a 50% reduction of episode frequency as reported by subjects on a diary (54% vs 33%, p=.0044, ITT) did differentiate. Agreement amongst the different endpoints was higher for the treatment group (kappas ranged from .4911 to .3074) than the control group (.2595 to 0.0261). Composite endpoints using different combinations of the efficacy measures remained relatively consistent for the treatment group (40-45%) and varied more widely for the control group (16-29%). When using more than two components for a composite endpoint, the success rate in the treatment arm stayed above 30% while the control group success rate was cut by two-thirds to 13%.

Conclusion: Study assumptions for outcomes reporting can have a significant effect on overall trial results. Individual endpoints may not demonstrate a treatment effect as standalone SUI measures but may as components of a composite endpoint. Defining outcomes assessments and understanding their potential impact on study findings is a critical aspect of study design, experimental flaws, and therapeutic accuracy.
THREE MONTH PRIMARY EFFICACY RESULTS FROM THE SUCCESS STUDY OF AN INTRAVESICAL BALLOON TO TREAT STREE URINARY INCONTINENCE (SUI)

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Presented By: Eric S. Rovner

Introduction: The SUCCESS trial is a phase III study of the Vesair® balloon in the United States for female stress urinary incontinence (SUI). The purpose of this manuscript is to present the three-month primary efficacy and tolerability outcome data.

Methods: The SUCCESS trial is a multi-centered, prospective, single blind, randomized, sham-controlled study. Subjects were randomized on a 2.33:1 basis to either Vesair balloon placement or placebo. The primary efficacy endpoint was a composite of both a >50% reduction from baseline on 1-hour provocative pad weight test and a ≥10-point improvement in symptoms on the Incontinence Quality of Life Survey (I-QOL) questionnaire assessed at the three-month study visit.

Results: A total of 221 subjects were randomized, including 157 treatment arm subjects and 64 controls. The three-month composite primary efficacy endpoint was achieved in 42.1% of treatment group subjects compared with 28.1% of controls on intention-to-treat analysis (p=0.046). Treatment arm subjects were significantly more likely to report at least a 50% reduction in incontinence frequency on 7-day voiding diary (53.7% vs. 32.7%, p=0.004, ITT) and more commonly reported their incontinence was improved on Patient Global Impression of Improvement in Incontinence (PGI-I) at three months compared with controls (58.1% vs 37.7%, p=0.006, ITT). No device or procedure related serious adverse events nor unanticipated adverse events were reported and no cases of urinary retention were observed. All adverse events fully resolved following balloon removal.

Conclusion: In this phase three trial, the Vesair intravesical balloon demonstrated 3-month success at primary and secondary endpoints both objectively and subjectively.

Funding Source: Solace Therapeutics, Inc
PRACTICE PATTERNS FOR THE EVALUATION OF ASYMPTOMATIC MICROSCOPIC HEMATURIA IN WOMEN IN A SINGLE HEALTHCARE SYSTEM: ROOM FOR IMPROVEMENT?

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Presented By: A. Lenore Ackerman

Introduction: The American Urologic Association defines asymptomatic microhematuria (AMH) as three or greater red blood cells per high-powered field on a properly collected urinary specimen in the absence of an obvious benign cause. We sought to identify patterns of referral for AMH in women in a single hospital-based healthcare system, including referrals of suspected but not microscopy-confirmed cases.

Methods: We performed a retrospective study of medical records of patients with a chief complaint (and corresponding ICD diagnosis) of AMH. Our analysis focused on referral patterns by obstetrician-gynecologists and internal medicine physicians to a tertiary female pelvic medicine practice. Fifty consecutive patients with a diagnosis of AMH were identified. Data analyzed included whether AMH was documented via microscopic evaluation (versus urine dipstick) either before or after referral, and what proportion of these patients was never diagnosed with AMH on formal urinalysis. Univariate analyses were performed.

Results: In a sample of 90 patients, obstetrician-gynecologists referred 26 patients (29%); of these, nine (35%) were referred based on dipstick-positive results only and eight (31%) had no documented AMH after evaluation by female pelvic medicine subspecialists. Internal medicine physicians referred 57 patients (63%); of these, 15 (26%) were referred based on dipstick-positive results only and ten (18%) had no documented AMH after evaluation by female pelvic medicine subspecialists.

Conclusion: Among patients referred by obstetrician-gynecologists and internal medicine physicians, a trend exists wherein patients are referred to subspecialists for evaluation of AMH even when AMH is not confirmed on microscopy. Furthermore, a notable percentage of patients are found to not have AMH after evaluation by a subspecialist. This study highlights the need for education of primary care providers regarding AMH referral guidelines.
OUTCOMES OF TREATMENT OF STRESS URINARY INCONTINENCE ASSOCIATED WITH FEMALE URETHRAL DIVERTICULA: A SELECTIVE APPROACH

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Presented By: Alyssa K. Greiman

Introduction: Female urethral diverticula (UD) may present with a variety of different symptoms including stress urinary incontinence (SUI). Surgical repair of SUI may be done concomitantly with urethral diverticulectomy. However, some surgeons may be reluctant to repair SUI at the time of urethral diverticulectomy due to the additional surgical time and potential morbidity of anti-incontinence surgery. We assessed surgical outcomes of the concomitant treatment of SUI at the time of transvaginal urethral diverticulectomy (TVUD) based on a selective approach.

Methods: Following IRB approval, we identified patients with a UD and SUI who underwent TVUD between July 2004 and January 2016. SUI was documented before and after surgery using subjective and objective parameters. Autologous pubovaginal slings (APVS) were used selectively based on surgeon and patient preference. Postoperatively, the majority of patients were imaged prior to catheter removal with voiding-cystourethrogram.

Results: A total of 61 patients underwent surgical treatment of urethral diverticula. There were 39 patients with UD and concomitant SUI. Mean age was 53 years (range 34-77). There were 22 Caucasians, 17 African American patients. Mean follow-up was 16.2 months (range 1-72 months). There were 24 patients (62%) with SUI that underwent concomitant APVS. Of these 24 patients, ten (42%) had prior SUI surgery. There was resolution of SUI in 20/24 patients (83%) who underwent a simultaneous APVS compared to 8/15 patients (53%) who underwent TVUD without APVS (two patients lost to follow-up). One patient out of 22 developed de-novo SUI following TVUD. Surgery resulted in the improvement or resolution of the majority of preoperative symptoms including recurrent urinary tract infection (UTI) (82% vs. 15%), dyspareunia (64% vs. 8%), and urgency (56% vs. 13%) (preoperative vs. postoperative). Complications included two patients with prolonged urinary retention following APVS requiring sling lysis. There were two patients with a recurrent UD, one of which required repair 18 months post-operatively.

Conclusion: Female UD is often associated with SUI. Surgical reconstruction of UD often results in satisfactory control of urinary symptoms including SUI when both are treated concomitantly in those with bothersome symptoms. Treatment of SUI with APVS when undergoing TVUD is feasible with satisfactory outcomes.
URETHRA-SPHINCTER COMPLEX VOLUMES ARE ELEVATED IN FEMALE PATIENTS WITH PROXIMAL URETHRAL DIVERTICULA.

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Presented By: Rachel Barratt

Introduction: In patients without a history of anatomical obstruction, vaginal/urethral surgery or periurethral glands infections; functional obstruction secondary to a high-tone non-relaxing sphincter may lead to the formation of a proximal to mid-urethral diverticulum (UD). As urethral pressure profilometry is unreliable in a urethra with a diverticulum, the urethra-sphincter complex volume may be used as a proxy for the maximal urethral closure pressure. We assessed whether urethra-sphincter complex volumes in female patients with proximal to mid-UDivm are higher than those without.

Methods: We reviewed the clinical and MRI data of 17 women with a mean age (+ SD) of 49.4 years ± 13.2 years with the ostium of the diverticulum at or proximal to 2/3 the length of the urethra. Using pelvic axial small field of view T2-weighted MRI sequences with 3mm slice, a consultant uro-radiologist outlined the urethra-sphincter complex. OsiriX© was used to determine the urethra-sphincter complex volume. The control group consists of 24 age matched women (50.8 years ± 11.2 years) having MRI for unrelated conditions.

Results: The mean urethra-sphincter complex volume for the UD group was 10.01 cm³ ± 6.97 cm³. The mean volume of the control group was 3.92 cm³ ± 1.60 cm³. This difference was statistically significantly (p = 0.01).

Conclusion: Patients with proximal to mid-UD demonstrated urethra-sphincter complex volumes that were significantly higher than those in the control group. This finding suggests that high pressure in the proximal urethra during a void secondary to a high-tone non-relaxing sphincter may contribute to the formation of urethral diverticula.
INITIAL EXPERIENCE WITH TELEMEDICINE VISITS IN FEMALE UROLOGY PATIENTS

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Presented By: Whitney R. Smith

Introduction: Telemedicine (TME) is the use of technology to electronically exchange medical information and provide medical services to patients from a distance. Widespread access to these technologies has made TME visits feasible for many patients. We review our early experience with TME visits in female patients with common urologic conditions.

Methods: From October 2015 to August 2016, our urology department conducted 224 unique TME visits. We retrospectively studied all female TME visits with the following primary diagnoses using the corresponding ICD-10 codes: painful bladder syndrome (PBS), neurogenic bladder (NGB), bladder outlet obstruction (BOO), overactive bladder (OAB), urinary tract infection (UTI), stress urinary incontinence (SUI), vesicovaginal fistula (VVF), and urinary retention. TME visits occurred within each provider’s existing clinics scheduling template with visits taking place in existing non-clinical rooms converted to telemedicine clinic rooms. Patient satisfaction with provider and the TME system are based on a post-encounter survey on a scale of 1 to 5 (5 is the highest satisfaction).

Results: Of the 224 TME visits, 64 were from female patients. Our cohort of 32 TME visits was chosen based on the selected primary diagnoses codes: PBS 1, NGB 3, BOO 1, OAB 8, UTI 8, SUI 4, UUI 5, VVF 1, and urinary retention 1. The median age was 52.5 years (range 18 to 70 years). The average patient encounter time was 10 min, 41 sec. The average wait time for a provider was 13 min, 23 sec. The median distance from the patient’s home to the office at each TME encounter was 18.7 miles (range 0.8 to 68 miles). All patients graded their satisfaction with the TME visit on a 5-point scale immediately following the visit. The average patient rating of the provider was 4.9, and the average patient TME system rating was 4.6. Five patients had more than one visit with UTI representing 6 of the 13 recurrent visits.

Conclusion: Our initial experience with telemedicine for routine female urologic conditions is efficient while maintaining excellent patient satisfaction. Future efforts will be aimed at assessing TME’s role in reducing patient/provider costs and effectiveness in patients with other urologic diagnoses. Some initial barriers to implementation were maintaining the system, staff resistance to adopting a new technology, and initial difficulty integrating telemedicine into current workflow/operations procedures.

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OBESITY DOES NOT WORSEN URINARY INCONTINENCE FOLLOWING SACRAL COLPOPEXY

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Presented By: Charles R. Powell, II

**Introduction:** Obesity has been associated with urinary incontinence and may worsen incontinence related complaints following robotic sacral colpopexy (RSC). Elevated Body Mass Index (BMI) may confer an increased risk of de-novo stress urinary incontinence (SUI) even when mid urethral sling (MUS) is performed. We sought to determine the risk of de-novo stress incontinence following robotic sacral colpopexy in patients with elevated BMI and assess the impact of BMI on post-operative Quality of Life (QoL) metrics.

**Methods:** Retrospective chart review was undertaken and subjects were grouped based on continence status and BMI at the time of RSC. BMI was stratified according to the NIH classification. Outcomes were patient reported SUI and pad use, as well as development of de-novo SUI after colpopexy, and decision to undergo MUS after RSC. Incontinence was defined as any mention of SUI at any one of the follow up visits when asked directly by the examiner, SUI in the bladder diary, or evidence of SUI on the supine stress test. Continuous variables were analyzed by 2-tail T-test, categorical variables by Chi-squared analysis.

**Results:** A retrospective review of the Indiana University sacral colpopexy database between 2009 and 2015 identified 134 women who underwent RSC. 52 patients complained of urinary incontinence preoperatively (38.5%). As BMI increased, the number of pads recorded on preoperative bladder diary also increased, however, following concomitant mid urethral sling there was no difference in number of patients reporting incontinence or pad use at the last postoperative visit (Table 1) over 21.3 months’ follow up. The de-novo rate of urinary incontinence did not increase as the BMI increased and failed to meet statistical significance, with normal BMI having a de-novo SUI rate of 26%, overweight 17%, obese 23%, and extreme obesity 25%, p>0.05.

**Conclusion:** Obese patients undergoing RSC may have increased pre-operative pad use and SUI rates but have similar SUI cure rates and de-novo SUI rates compared with non-obese patients. Pad use is not different in those women undergoing MUS; however, both groups had some patients with mild persistent incontinence.
VOIDING PATTERNS IN WOMEN UNDERGOING SLING SURGERY FOR STRESS AND MIXED URINARY INCONTINENCE

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Presented By: Casey Kowalik

Introduction: Women with pure stress urinary incontinence (SUI) undergoing sling may experience improved outcomes relative to women with stress-predominant mixed urinary incontinence (MUI), likely due to persistent or worsened urgency. Our objective was to compare cure rates and satisfaction in women with SUI and MUI undergoing sling placement and determine if any differences in preoperative voiding patterns contributed to any discrepancy in outcomes.

Methods: The study population was comprised of women undergoing either synthetic midurethral sling or autologous fascial sling for SUI or stress-predominant MUI. We compared preoperative voiding patterns and parameters of women presenting with SUI and MUI, pre- and post-operative visual analog scores (VAS) of satisfaction, and SUI cure rates (defined as objective and subjective resolution of SUI).

Results: There were 1,531 women who underwent sling placement, including 301 (19.7%) for SUI and 1,230 (80.3%) for MUI. Women presenting with MUI were more likely to be older (46 ± 11 v. 51.8 ± 12, p<0.001) with a higher BMI (29.1 ± 6 v. 30.3 ± 6.2, p=0.002). Women with MUI were more likely to have ≥grade 2 anterior (p<0.001) and apical prolapse (p=0.032), have had prior incontinence surgery (p<0.001), and greater pre-operative pad per day use (p<0.001). There was no significant difference in voiding patterns, volume voided, post void residual, voiding efficiency, or presence of detrusor overactivity on urodynamic evaluation between the two groups. Overall, the majority of women voided with detrusor contraction only (58.9%). Mean preoperative VAS was higher in women with SUI (2.7 ± 1.5 vs. 2.1 ± 1.3, p=0.001). However, women with MUI experienced greater mean improvement in VAS (SUI: 6.1 vs. MUI: 6.5, p=0.004), and there was no difference in post-operative VAS scores (p=0.124) or cure rates (SUI: 77% vs. MUI: 76%, p=0.883).

Conclusion: Women presenting with MUI undergoing sling placement have lower baseline satisfaction than women presenting with SUI. However, women with MUI undergoing sling will demonstrate similar voiding parameters to women with SUI and can anticipate similar SUI cure rates and post-operative satisfaction scores.

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Poster #NM36
PREDICTORS OF A FAILED VOIDING TRIAL AFTER SLING AND CONCOMITANT PELVIC SURGERY

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Presented By: J. Margaret Lovin

Introduction: While the impact of patient-specific factors, such as Charlson comorbidity index, body-mass index (BMI), age, and maximum flow rate on successful postop voiding trial (VT), are well documented, little is known about the impact of concomitant surgery on the VT. Moreover, there is no standard timing or ideal method of conducting a VT. We aim to assess the effect of concomitant surgery on postop voiding after rectus fascia (ARF) and midurethral slings (transobturator (TO) and retropubic (RP)).

Methods: This is an IRB-approved, retrospective analysis of women who had sling ± concomitant pelvic surgery at our institution from 2004-2015. Inclusion criteria were: preop post-void residual<50 mL, no indication for prolonged postop catheter drainage, and no postop retention requiring sling revision. All women had VT the morning after surgery.

Results: Of 1748 women, 1077 (62%) met inclusion criteria (751 RP, 194 TO, 132 ARF). Overall, 876 (81%) women passed the initial voiding trial (RP 81%, TO 86%, ARF 75%). Higher BMI and less subjective emptying problems were associated with successful VT. Of 499 women having sling only, 84.6% passed their VT (RP 87.3%, TO 85.3%, 73.5% ARF). ARF was associated with VT failure over either midurethral sling. Concomitant abdominal surgery was associated with successful VT, regardless of sling type. The addition of vaginal prolapse repairs to vaginal hysterectomy lowers the chance of successful VT. Increasing the number of compartments repaired vaginally, especially when transvaginal vault suspension is performed, significantly lowers the chance of successful VT. However, colpocleisis is associated with a successful VT. The addition of transvaginal prolapse repairs to laparoscopic surgery lowers the chance of successful VT, while the addition of vaginal surgery to robot-assisted hysterectomy does not impact successful VT (although the number of concomitant prolapse repairs was small).

Conclusion: Lower BMI, worse preoperative subjective emptying, and ARF sling were associated with initial VT failure. The addition of vaginal prolapse repairs, especially in multiple compartments, decreases the chance for successful VT, while concomitant abdominal or robotic surgery is not associated with VT failure. This information may be useful in constructing a nomogram to identify women who may benefit from additional preoperative counseling and, perhaps, instruction in intermittent catheterization.
Poster #NM37
RANDOMIZED TRIAL OF URETHRAL LENGTH MEASUREMENT AND RETROPUBIC TVT POSITION

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Introduction: We hypothesized that retropubic mid-urethral sling (RPMUS) placement at the level of the mid-urethra could be improved by measuring the urethra length and basing the location of the sling incision on the measured urethral mid-point.

Methods: This registered (clinicaltrial.gov #NCT02101489) IRB-approved trial randomized participants to urethral length measurement (ULM) or routine procedure, on day of surgery (DOS). At baseline, demographic variables and the Urogenital Distress Inventory (UDI-6) were collected. The ULM group underwent the following standardized procedure; the Foley catheter was held on gentle traction, and the catheter was marked at the catheter exit from the urethral meatus. The catheter was then withdrawn and the urethral length was determined by measuring from the Foley balloon base to the mark representing the urethral meatus position on the catheter. The midpoint of the urethral was calculated and we marked the midpoint distance on a Kelly clamp so that when placed into the urethral meatus the instrument tip (representing urethral midpoint) could be palpated and marked on the anterior vaginal wall. Immediately following the RPMUS placement and vaginal mucosal closure, all participants underwent a 2-D and 3-D ultrasound (TVUS). The images were stored with patient information but not group assignment. Two weeks after surgery, the UDI-6 the Global Impression of Improvement (GII) and a repeat TVUS were collected. Data were analyzed using SPSS.

Results: Forty-four women had baseline data collected and DOS ultrasound measurements. Thirty-six women (82%) with a mean age of 49.7 years and a mean BMI of 28.9 had both DOS and two-week post-operative ultrasound measurements. The average urethral length on DOS was 36.8 mm and the mean sling mid-point relative to the urethral length was 57% and 55 % in ULM and no-ULM (p=0.685). At two weeks the sling midpoint was located on average at 57% and 54% of the urethral length. The range of sling position was similar for both groups and DOS and two-week post-op (22 to 87%). Clinical improvement was shown in pooled participants with improvements in in the UDI scores from 47.3 baseline to 12.5 at two-weeks, p< 0.001. Most participants reported that they were "very much improved" (80.6%) or much improved (11.1%).

Conclusion: Intraoperative urethral length measurements did not have an effect on RMUS sling position. Within the first two weeks after surgery, there is negligible movement of RMUS.
SELECTIVE RETROPUBIC SYNTHETIC SLING ARMS REMOVAL

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Presented By: Carlos Finsterbusch

Introduction: To review our experience with retropubic removal of residual sling mesh arms (RRRSMA) for pain or bladder wall extrusion.

Methods: Following IRB approval, a prospectively maintained database of consecutive non-neurogenic women operated for sling removal was queried for the subgroup who underwent open RRRSMA and had a minimum of three months follow-up. A third party investigator not involved in patient care reviewed all data from electronic medical record, including: demographics, type of sling, time from sling placement to removal, indication for RRRSMA, perioperative complications, and outcomes at last visit.

Results: From 2010-2015, 16 women met study criteria with mean age 55 (33-71), mean BMI 29 (21-37) and mostly Caucasian (88%). Type of retropubic sling was 13 TVT (81%) and 3 SPARC (19%). Average interval from sling placement to onset of pain was 11 (0-61) months. Primary sites of pain were pelvic (40%) and groin (27%). Pain was equally present on the right side, left side, or bilaterally. Mesh arm bladder wall extrusion was present in 53%, mostly on the left. Diagnostic testing included cystoscopy (75%), pelvic MRI (75%), and translabial ultrasound (38%). RRSRSMA was performed via a midline incision (63%) or Pfannenstiel (37%), with the decision based on previous surgical scars in 56% of them. Removal of both retropubic arms was performed in the majority (figure 1). Post-operative complication was limited to one patient with a limited wound infection managed conservatively. Repeat retropubic exploration was necessary in two patients, one due to delayed pain onset on the contralateral side, and the other for recurrent UTIs related to a small clear mesh segment left embedded in the bladder wall. At a mean follow-up of 19 months (range 3-64) after RRRSMA, 36% were pain free, 43% improved, and 31% had persistent pain. Five were referred to physical medicine and rehabilitation, with 60% reporting significant subsequent pain relief benefits. Six patients experienced secondary incontinence from intrinsic sphincteric deficiency, requiring injectable agents or fascial sling. Recurrent UTIs decreased from 56% down to 25% after RRRSMA.

Conclusion: At a mean follow-up of 19 months after RRRSMA, over 75% of women experienced resolution or marked improvement in pain level. Other symptoms also improved after removal of this residual mesh material. Secondary incontinence warranted additional procedures in some.
INTRODUCTION: To examine our contemporary experience and outcomes of transurethral incision of the bladder neck (TUIBN) for primary bladder neck obstruction (PBNO) in women.

METHODS: Female patients who underwent TUIBN for PBNO at UCLA between January 2010 and July 2016 (surgeons SR and JK) and between March 2013 and July 2016 (surgeon ZCB) were identified. All patients underwent measurement of post-void residual (PVR), cystourethroscope, and videourodynamics. Diagnosis of PBNO was based on a composite assessment of subjective and objective criteria including incomplete funneling of the bladder neck (BN) during a sustained detrusor contraction on fluoroscopy. Patients were excluded if they had a history of neurologic disorder, pelvic trauma or radiation, or anti-incontinence procedure. The medical record was reviewed to obtain clinical, surgical, and outcome data. All patients without a contraindication underwent trial of an alpha-adrenergic blocker prior to TUIBN. TUIBN was performed at two posterolateral sites on the BN. Success was defined as spontaneous voiding without need for catheterization or subsequent surgical intervention for voiding obstruction (VO).

RESULTS: Fourteen patients were identified. Median age at time of surgery was 51 years (range 24-79). Six patients (42.9%) had previously failed a procedure for PBNO. Preoperative median PVR, Qmax, and maximum Pdet during voiding were 105 cc (0-581), 11 cc/s (2-28), and 52 cm H2O (17-106), respectively. Median follow-up was 5.6 months (0.6-49). Overall success rate was 78.6%. Two patients (14.3%) required a repeat surgery for persistent VO including one patient who underwent repeat TUIBN and one patient who underwent sacral neuromodulation after failing BN injection of onabotulinum toxin A (BoNT-A). Repeat surgery was successful in both of these patients. An additional two patients (14.3%) required one or more urethral dilations in the clinic and one of these patients requires intermittent catheterization as of most recent follow-up. No fistulae were observed. No patient developed de novo stress or urge urinary incontinence. One patient (7.1%) underwent intradetrusor BoNT-A injection for overactive bladder following TUIBN.

CONCLUSION: TUIBN is an effective treatment for female PBNO and in our experience has minimal morbidity.

Funding Source: None
COMPARISON OF OUTCOMES BETWEEN SIMPLE AND COMPLEX PATIENTS UNDERGOING AUTOLOGOUS PUBOVAGINAL SLING PLACEMENT

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Presented By: Aleksandar C. Blubaum

Introduction: Our objective was to determine if there were differences in outcome and reoperation rates between simple and complex patients undergoing autologous pubovaginal sling placement, and whether outcomes differed when mesh removal was performed at the same time as PVS placement.

Methods: We reviewed the charts of 239 patients who underwent autologous rectus fascia PVS placement by a single surgeon (BJF) from 2004 through 2015. Complex cases were defined as patients with urge incontinence or neurogenic bladder, urethral or vesicovaginal fistula, urethral diverticulum, or IUGA category 4 mesh complication (lower urinary tract mesh perforation). Cases were considered simple if they did not meet criteria for complex. 62 patients met criteria for the complex group, and 177 patients met criteria for the simple group. Logistic regression analysis was used to determine if there was a correlation between simple and complex patients and rates of cure (defined as <1 pad per day post-operatively), improvement, retention, reoperation, and complications (Clavien grade >2). We also examined whether concomitant mesh removal was correlated with differences in these outcome measures.

Results: Overall SUI improvement rate was similar in both groups (96.4% for simple group and 93.2% for complex group, p = 0.31). There was a trend toward higher SUI cure rate in the simple group, but this did not meet statistical significance (p = 0.062). Mesh removal and complex case were both associated with increased risk of reoperation (OR = 3.3 and 2.8, respectively). There was no statistical difference in rate of Clavien grade >2 complications (p = 0.55) between simple and complex cases. Concomitant mesh removal was associated with an increased risk of post-operative retention (OR = 2.9), but case complexity had no independent effect on post-operative retention rate (p = 0.91).

Conclusion: Complex patients undergoing PVS placement are at increased risk of undergoing a subsequent continence procedure. In addition, performing mesh excision and PVS in the same setting increases the risk of both post-operative retention and reoperation when compared to PVS alone.
Poster #NM41
MISINTERPRETATION OF URETHRAL BULKING AGENTS IN RADIOLOGIC IMAGING

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Presented By: Mary E. Hall

Introduction: A variety of urethral bulking agents are used in the treatment of stress urinary incontinence. Patients receiving these therapies will commonly undergo abdominal and/or pelvic radiography after their injections for related and unrelated concerns. Occasionally, on subsequent imaging, prior urethral bulking agents are incorrectly identified. Here, in a parallel study to another performed earlier this year, we aim to characterize a series of patients who underwent urethral bulking agent injections and the interpretation of their later radiologic images.

Methods: A total of 450 patients were identified who underwent one or more periurethral bulking agent injections at our institution from January 2000 through March 2016. Patient charts were reviewed for patient demographics and clinical presentation, pertinent history findings, management, and subsequent radiology. Radiologic modalities analyzed included abdominal and pelvic x-rays, complete abdominal ultrasounds, abdominal and pelvic CT, and abdominal and pelvic MRI.

Results: 450 patients receiving periurethral collagen, Macroplastique, Durasphere, and/or Coaptite injections for urinary incontinence were identified. 153 patients (34%) collectively underwent 595 relevant imaging studies following their injections. 37 (6.2%) of these studies mentioned urethral findings. These included CT (73%), MRI (16%), x-ray (8%), and ultrasound (3%). Of the 37 studies, 12 (32%) correctly identified the periurethral bulking material, while 25 (68%) incorrectly identified the periurethral material. Incorrect diagnoses included urethral diverticulum (36%), calcification (24%), enhancement/opacity (12%), abnormal soft tissue (8%), chronic calculus (8%), pelvic mass (4%), and cystic structure (4%).

Conclusion: Periurethral bulking agents, although common, are often incorrectly identified in radiologic images, which may lead to further invasive workup or testing. Clinicians should be aware of the potential for these misdiagnoses and should become familiar with the appearance of bulking agents on a variety of imaging modalities.
Poster #NM42

FEMALE SEXUAL DYSFUNCTION AND THE INTERNET: A LACK OF PATIENT-ORIENTED INFORMATION

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Presented By: Eliza Lamin

Introduction: With advances in the digital age, a growing number of patients are utilizing the Internet to research medical options regarding their sexual health. Though there have been considerable advances in the evaluation and treatment of male sexual dysfunction, there is a generalized consensus regarding limited options for patients presenting with female sexual dysfunction (FSD). Our objective was to evaluate the availability and breadth of information regarding FSD among the top Urology and OB-GYN programs on their patient-oriented websites.

Methods: Between 7/2015-9/2015, the websites of the US News and World Report top 50 Urology and OB-GYN programs were evaluated. Websites were surveyed for the following characteristics: practice type, practice location, presence of sexual dysfunction information, availability of information on female sexual dysfunction including definition and types, treatment options, and psycho-social resources. Chi-square and Fisher's exact tests were used to assess for differences between groups.

Results: There were 85% urology program websites that had information on male sexual dysfunction, while only 5.8% of those programs had information on female sexual dysfunction. In comparison, 22% of OB-GYN programs have information on FSD (P=0.022). There was no statistical significance between geographic location and availability of information on FSD for both Urology and OB-GYN programs. Only 4.9% of all of the programs in both Urology and OB-GYN had any information on psycho-social resources for patients with FSD; only 1.9% of Urology programs and only 8% of OB-GYN programs, this was not statistically significant. Between academic and community programs there was no statistically significant difference in information available (p=0.375). In terms of treatment options, there were only 2 websites that included information on treatment options for FSD.

Conclusion: While patients are using the Internet more than ever to search for treatment options, our data shows the paucity of information on FSD availability. There is significantly more information on male sexual dysfunction on the Urology websites than FSD. With more research being done on FSD, both Urologists and gynecologists have an opportunity to offer FSD information and treatment options to their patient oriented websites.
Poster #NM43
URETHROVAGINAL FISTULA REPAIR – LONG-TERM OUTCOMES

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Introduction: Urethrovaginal fistula (UVF) is not highly prevalent in urologic practice but merits attention. There are few large published series. This is a review of management of patients that have been treated over a 30-year period to assess etiology, operative management, and outcomes.

Methods: Between 1986 and 2016, a total of 36 UVFs were repaired. Retrospective review recorded presentation, history, etiology, surgical approach, and results. Long-term lower urinary tract symptoms (LUTS) were recorded. All UVFs were closed in three or more layers. A variety of flaps were used as needed. A suprapubic or foley catheter was left indwelling for 3-4 weeks and healing was assessed by cystourethrogram.

Results: Mean patient age was 49.2 (range 21-81). Thirteen (36%) were long-time smokers. Eight patients had a history of urethral diverticulum and three had previous pelvic malignancies. All patients had prior pelvic surgery. The most common etiology was an incontinence procedure in 13 patients (36%) with mesh erosion in six of these. Other causes were urethral diverticulum repair in seven (19.4%), forceps delivery in five (14%), self-intermittent catheterization in three (8%), cystectomy and neobladder in two (6%), and other vaginal procedures in six (17%). Incontinence was the primary complaint in 33 women and the diagnosis was made on cystoscopy in 34. Thirty-four (94%) were closed via transvaginal approach including 15 with simultaneous rectus fascia pubovaginal slings harvested through an abdominal incision. Two were approached transabdominally, and one was closed with a combined abdominal and vaginal approach. Thirteen repairs were done with flaps including Martius in ten and omentum in two. Mean hospital stay was 3.9 days (range 0.5-10). The overall repair success rate was 34/36 (94%). Mean follow-up time was 41.2 months (range 0.8-207.33). Long-term LUTS included frequency in 11 patients (31%), urgency in ten (28%), urgency incontinence in nine (25%), and stress incontinence in six (17%). Foley catheter drainage replaced suprapubic drainage in the past ten years but did not change success. Two recurrences (one neobladder and one post-ileocystoplasty) occurred immediately and underwent continent diversion.

Conclusion: UVFs usually result from a surgical complication. Smoking may be a risk factor. Management techniques that optimized outcome included multi-layer closure usually with flaps and/or rectus fascial sling, extended catheter drainage, and tailoring the repair to the problem.
Poster #NM44

STATEWIDE TRENDS OF INTERSTIM® IMPLANTATION ACROSS DIFFERENT SURGICAL SPECIALTIES IN NEW YORK

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Presented By: Wai Lee

Introduction: With the number of indications increasing for sacral nerve stimulation (SNS) treatment, multiple surgical specialties are now performing the procedure. However, it is unknown what proportion of implants are being performed by each specialty. The level of training of those performing Interstim® implants has also never been studied. The objectives were to assess trends in Interstim® generator implants and subsequent revisions or removals performed in New York State.

Methods: The New York State (NYS) Department of Health Statewide Planning and Research Cooperative System is an administrative database that collects patient level details on SNS procedures performed in NYS. All cases of generator implantation from 2011 to 2014 were identified by CPT code 94590 and included in the study. Of these cases, subsequent surgical device revision or removal were identified by CPT codes 94585 and 94595 for analysis.

Results: From 2011-2014, a total 1,454 implants were performed in NYS. 60.5%, 14.8%, and 19.2% were performed by urologists, gynecologists, and colorectal surgeons (CRS), respectively. 44% (408/931) of urology implants and 64% (146/228) gynecology implants were performed by Female Pelvic Medicine and Reconstructive Surgery (FPMRS) trained physicians. The number of cases performed by urologists decreased significantly in 2014 while CRS nearly doubled the number of implants performed each year from 2011 to 2013 (Figure 1). 8.5% of implants required subsequent revision or removal during this time period. There were no statistical differences in Interstim® revision or removal rates between implants performed by urologists (9.0%), gynecologists (10.1%), or CRS (5.4%) (p=0.097). There were also no statistical difference in revision or removal rates when comparing implants performed by those with a fellowship in FPMRS (9.9%) and those without (11.4%) (p=0.414).

Conclusion: In recent years, Interstim® implantation has been primarily performed by urologists in NYS. Following FDA approval of Interstim® for fecal incontinence in 2011, CRS have dramatically increased the number of cases they perform. Neither surgical specialty nor FPMRS fellowship training appear to affect revision or removal rates in the short term.
CORRELATION BETWEEN MICHIGAN INCONTINENCE SEVERITY INDEX AND AMERICAN UROLOGICAL SOCIETY SYMPTOM INDEX IN FEMALE INCONTINENCE PATIENTS

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Presented By: Solafa Elshatanoufy

Introduction: The American Urological Association symptom score (AUAss) and Michigan incontinence severity index (M-isi) are validated questionnaires used to assess the severity of lower urinary tract symptoms (LUTS). AUAss focuses on irritative LUTS. M-isi measures severity with urge/stress subscales. Both frequently used, have distinct bother measures. No comparison studies exist. This study aims to determine the magnitude of symptoms using AUAss, if a correlation exists between AUAss symptom severity and M-isi bother measures, and relationship between clinical diagnosis and severity/bother scores.

Methods: Patients presenting to a tertiary care FPMRS clinic complete M-isi and AUAss as part of routine care. A chart review of patients with a clinical diagnosis of urinary incontinence from 1/2015-7/2015 collected variables that included M-isi total severity (M-tot), M-isi subset scores (M-stress, M-urge), M-isi bother (M-bot), AUAss severity (A-tot), AUAss QOL (A-bot), age, body mass index (BMI), comorbidities via the Charlson Comorbidity index (CCI), and final clinical diagnosis. Analyses included Spearman rank correlation, Pearson Chi square, and ANOVA.

Results: Data included 144 patients. Patients reported moderate (46.5%) and severe (37%) irritative symptoms on the AUAss. M-tot and A-tot correlated, as did M-bot and A-bot. Table-1 presents other correlates. The clinical diagnosis of mixed, stress, and urge incontinence were not significantly related to age, BMI or CCI. Age was positively correlated with CCI, p<0.01, and negatively correlated to BMI, p<0.01. A significant difference between M-stress and M-urge across clinical diagnoses was seen. Mixed incontinence patients reported significantly greater M-stress scores than urge patients, p<0.01, and vice versa, p<0.01. There were no significant differences between clinical diagnosis and A-tot, M-tot, A-bot, M-bot, age, BMI, or CCI.

Conclusion: A large percentage of women had irritative symptoms in moderate-severe range on the AUAss. Significant correlation between both severity measures and their respective bother elements existed. Only the M-isi subscales of urge and stress significantly correlated to final clinical diagnosis indicating its usefulness in assessing patients with incontinence.
Poster #NM46
EFFECTIVENESS OF VAGINAL WALL SLINGS IN TREATING OVERWEIGHT PATIENTS WITH STRESS URINARY INCONTINENCE AFTER ONE YEAR FOLLOW UP

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Presented By: Matthew A. Pierce

Introduction: Autologous slings have become more popular in treating stress urinary incontinence (SUI) since the release of FDA warnings concerning synthetic mesh. Rectus fascia slings have been associated with increased morbidity and surgical time in overweight patients. Recent publications revealed similar efficacy of synthetic slings on objective treatment outcomes for SUI comparing non-overweight with overweight patients. We hypothesize that vaginal epithelium may serve as an effective autologous graft for the surgical treatment of SUI also in the overweight patient population.

Methods: We retrospectively analyzed patients with SUI undergoing retropubic vaginal wall sling (VWS) placement between October 2011 and June 2016. 62 patients (mean age: 62 years) were assigned into two groups: non-overweight (BMI<25/m², n=15) and overweight (BMI≥25/m², n=47). Patient characteristics, demographics, Likert score, and SEAPI (SUI, Emptying, Anatomy, Protection, Inhibition) scores were obtained. Subjective SEAPI scores are a sum of scores of the patients’ perception to lose urine with activities, to empty their bladder, of pelvic organ prolapse, of amount of pad protection, and of urge incontinence. Objective subscores (E-post void residual, A-Bladder neck position on cough test, P-Pad use) were also evaluated. Data was analyzed with Wilcoxon rank and Chi-square tests. A p-value of ≤0.05 was considered significant.

Results: The two groups were similar in age, education, parity, number of pad used, and preoperative SEAPI scores. Median follow up was 14 months (range: 1-43 months). All patients underwent concomitant surgical prolapse repair. After treatment with VWS the subjective SEAPI scores and the objective subscores on emptying, anatomy, and pad use improved in both groups when comparing to the preoperative scores (p<0.001). Both groups demonstrated high satisfaction (91%) on Likert Scale (p=0.16) and no post-operative complications.

Conclusion: In this study, the retropubic VWS significantly reduced post-operative SEAPI scores in non-overweight as well as overweight patients with similar patient satisfaction. Regardless of the body mass index, the VWS may be considered as an alternative treatment option for SUI, when patients opt to avoid synthetic material, don’t want to undergo additional incisions for harvesting sling grafts, and have redundant vaginal epithelium from concomitant pelvic organ prolapse.
Poster #NM47
PRELIMINARY EXPLORATION: CAN SUFFERING AND ACCEPTANCE BE FOUND IN THE DISCORDANCE BETWEEN MEASURES?

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Presented By: Solafa Elshatanoufy

Introduction: Conditions in pelvic medicine have symptoms and their impact on patients which can be quantified. Suffering is recognized as part of human experience of disease but, seldom discussed. In the discordance between measures of severity and bother it is possible to elucidate suffering in patients. Our objective is to determine if using current measures of severity and bother, patients can be identified as suffering or accepting of their condition.

Methods: Patients (N=144) with clinically diagnosed urinary incontinence completed the Michigan Incontinence Symptom Index (M-isi) and the AUA Symptom score (AUAss) measures. M-isi measures severity of incontinence, and AUAss measures severity of irritative/obstructive symptoms. Each has a bother measure. Both quantify severity and bother on continuous scales. The variables were dichotomized to demonstrate discordance. For severity scores, M-isi (Low 0-9, High 10-32) and AUAss (Low 0-7, High 8-35). Dichotomization of M-isi bother (Low 0-3 High 4-8) and AUAss bother (Low 0-2, High 4-5) was also performed. Suffering was defined in patients with low severity and high bother. Acceptance was defined as high severity with low bother. Incontinence type (stress, urge or mixed), age, BMI, and morbidity index were assessed. Analyses included Spearman rank correlation and Pearson chi square.

Results: High bother was 76.4% on the AUAss and 54.2% on the M-isi. Low bother was seen in 9.7% on the AUAss and 45.8% on the M-isi. Although there was a significant correlation between bother measures, p<0.01, they are of different constructs with 65.2% of patients with low M-isi bother having high AUAss bother. The percentage of patients identified as suffering or accepting disease is presented in Table 1. Suffering was greater using the AUAss bother in both severity measures. Acceptance of disease using M-isi severity and M-isi bother increased utilizing the AUAss severity scale. No difference in age, BMI, comorbidities, or clinical diagnosis in patients in the suffering or acceptance groups was seen. In these questionnaires, bother/quality of life have different constructs. Both can potentially identify patients in practice who may be suffering and allow us to address concerns beyond the disease state.
Poster #NM48
IS IT SAFE TO GIVE BOTOX OR A URETHRAL BULKING AGENT IN THE SETTING OF ASYMPTOMATIC BACTERIURIA?

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Presented By: Carolyn Fronczak

Introduction: Injection of intravesical botulinum toxin (Botox) and urethral bulking agents (UBA) are contraindicated in the setting of a urinary tract infection (UTI). However, the diagnosis of a UTI is not standardized. Patients benefiting from these treatments have high rates of asymptomatic bacteriuria. We believe proceeding with treatment in asymptomatic patients despite a positive urinalysis (UA) results in few symptomatic UTIs, if a preoperative antibiotic and a “self–treatment” antibiotic for later use are given. We present our findings on UTIs in our female Botox and UBA patients.

Methods: We reviewed medical records of female Botox and UBA patients between 8/2013–2/2016. There were 139 Botox procedures in 64 patients and 35 UBA procedures in 25 patients. Preoperative UA was obtained the day of procedure and considered positive if nitrites or moderate leukocytes were present. Unless there were symptoms of a UTI, the treatment was given. A preoperative antibiotic was given. Catheterized urine cultures (UCx) were sent on positive UAs at time of procedure, after the preoperative antibiotic was administered.

Results: Median age for the Botox and UBA groups was 63 years (range 18–92) and 62 years (range 25–92), respectively. In the Botox group, overall rate of positive preoperative UAs was 21% (28/135). Four of these had a positive UCx for an overall rate of 3% (4/135). These four patients remained asymptomatic and were treated postoperatively. By one month postoperatively, seven patients were seen in the office with a symptomatic culture–proven UTI for an overall rate of 5% (7/135). All seven patients were given antibiotics, none developed sepsis or were hospitalized. In the UBA group, overall rate of positive preoperative UAs was 34% (11/32). Five of these had a positive UCx for an overall rate of 16% (5/32). These five patients remained asymptomatic and were treated postoperatively. By one month postoperatively, two patients were seen in the office with a symptomatic culture–proven UTI for an overall rate of 6% (2/32). Both patients were treated with antibiotics and neither developed sepsis or was hospitalized.

Conclusion: Delivering Botox and UBA with asymptomatic bacteriuria are safe as we demonstrate a low incidence of postoperative symptomatic UTIs. Strictly following the Botox and UBA delivery guidelines would result in unnecessary cancellation of many of our Botox and UBA patients with asymptomatic bacteriuria.
THE IMPACT OF PERCEIVED STRESS AND HEALTH ON INSOMNIA IN POSTMENOPAUSAL WOMEN WITH OVERACTIVE BLADDER SYMPTOMS

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Presented By: Isaac L. Kelly

Introduction: Sleep plays a vital role in health and quality of life (QoL). Insomnia, the difficulty of falling/staying asleep or nonrestorative sleep, is linked to numerous impairments in every major facet of life: physical, mental, emotional, and social. Elderly women who suffer from a medical condition (e.g., overactive bladder; OAB) have been found to be at a highest risk for insomnia. Previous research has focused on the impact of OAB on insomnia, with limited research focusing on other contributing risk factors. We aim to study the impact of perceptions of stress and general health on insomnia, while controlling for OAB in postmenopausal women.

Methods: Postmenopausal female patients over the age of 57 years presenting with OAB symptoms were recruited to study lower urinary tract symptoms and overall health-related quality of life between 2013 and 2016. The Perceived Stress Scale was used to measure perception of stress. Perception of general health was measured using a single-item, “In general, your health is” (1 = excellent to 5 = poor). The Insomnia Severity Index was used to measure insomnia. OAB symptoms were measured using the Overactive Bladder Questionnaire. A voiding diary was used to measure day and nighttime voided volumes (ml). A hierarchical regression analysis was conducted to determine the effects of perceptions of stress and general health on insomnia, while controlling for OAB symptoms.

Results: Fifty-seven women ages 58-91 years were recruited suffering from OAB. Of the 57 women, 24 experienced mild to severe insomnia and 29 experienced no insomnia. Patients in both groups did not differ in age (M = 69.94). The results indicated that perceived stress and general health accounted for 45.6% of the variance in insomnia, while controlling for OAB [F(3,46) = 12.86, p < .001]. Insomnia was significantly predicted by perceptions of stress (Beta = .451, t = 2.47, p < .05) and general health status (Beta = -4.47, t = 3.84, p < .001).

Conclusion: Insomnia in OAB patients is often attributed and dismissed to symptoms, such as nocturia, that keep them awake at night; however, the results suggest that other factors, not OAB-related symptoms, can contribute to insomnia. Healthcare providers should screen for potential risk factors, such as perceived stress and health, in order to provide their patients with OAB the necessary resources and to increase their QoL. Source of Funding: Grant from Versacare (#5435 to AS).
Poster #NM50
FEMALE SEXUAL DYSFUNCTION: A SYSTEMATIC REVIEW OF OUTCOMES ACROSS VARIOUS TREATMENT MODALITIES

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Presented By: James M. Weinberger

Introduction: Female sexual dysfunction (FSD) is a highly prevalent condition that encompasses four primary domains: hypoactive sexual desire disorder, arousal disorder, orgasmic disorder, and sexual pain disorder. Despite this prevalence, the scientific literature has only recently begun to accumulate evidence for treatment modalities that address the underlying etiologies of FSD. The purpose of this systematic review is to elucidate what treatments are effective across the various symptom complexes of FSD.

Methods: Utilizing the MOOSE guidelines, we conducted a systematic review of PubMed®, EMBASE®, clinicaltrials.gov, and the Cochrane Review databases. Six search terms, encompassing “female sexual dysfunction” and “treatment,” in combination with “vulvovaginal atrophy,” “vaginismus,” “vaginal atrophy,” “vulvodynia,” and “vestibulitis,” were utilized. 603 relevant articles were retrieved. A total of 103 original studies met inclusion criteria and were used to identify the variety of treatment modalities used to address FSD.

Results: A PRISMA flow chart outlines the application of inclusion/exclusion criteria. (Figure 1) Forty-two treatment modalities were utilized that address one or more of the four sexual domains. This included 26 different classes of medications. Although outcome measures varied, the most substantial improvement across multiple studies was noted with various hormonal regimens. The most common treatments included hormonal therapy (25 studies), Phosphodiesterase type-5 inhibitors (PDE5i) (nine studies), Botulinum Toxin A (five studies), and Flibanserin (five studies). The psychotherapeutic approach was detailed in thirty-six articles while three studies utilized homeopathic treatments. Numerous treatments showed efficacy in a single case series, including the promising results associated with the microablative CO2 laser.

Conclusion: Unlike in men, treatment of FSD is multifactorial; medications alone do not work well. The wide variability of treatment and outcome measures across the literature attests to the complexity of FSD and the need for a treatment algorithm that addresses all four domains of FSD.
DEVELOPMENT OF FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY FELLOWSHIP PROGRAMS FOLLOWING THE DEADLINE FOR SENIOR ACCREDITATION

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Presented By: Lee A. Richter

Introduction: Female Pelvic Medicine and Reconstructive Surgery (FPMRS) recently became a board certified subspecialty. Certification, available to both urologists and gynecologists, requires completion of an accredited training program for all residents graduating after 2010. The purpose of this study was to describe shifts in available training programs and trends in applicants since this time.

Methods: The National Residency Matching Program (NRMP) database was queried for "pelvic medicine and reconstructive surgery." Program type (Urology, Obstetrics and Gynecology (OB/GYN) or combined), number of programs, positions, applicants and match rate were recorded from 2010-2016. Additionally residency match data from the NRMP and AUA urology matches over the same time period was examined as a proxy for number of residents who could be potential applicants. Linear regression was used to predict changes in the number of programs and applicants over time.

Results: Since the 2010 deadline after which training in an accredited program was required to sit for the FPMRS boards, the number of applicants has been consistently greater than the number of positions, with a steeper rise in applicants than positions. The number of OB/GYN positions, currently 25, has been rising faster than the number of Urology positions as well as the number of positions in combined programs, currently 10 and 20 respectively. Despite this there are far more OB/GYN than Urology residency graduates each year resulting in approximately three times of the number of OB/GYN graduates per available fellowship position, 27 and 9, respectively. Since 2010, only one OB/GYN position has gone unfilled as compared to three urology positions.

Conclusion: While the FPMRS fellowship accreditation is designed for graduates of both urology and gynecology, there are more programs designated as OB/GYN than as Urology or combined. Despite this, there are more OB/GYN graduates for each available fellowship position and OB/GYN programs are less likely to go unfilled. If urologists intend to continue their role as an important part of the FPMRS workforce, we must encourage residents to pursue this career choice.
ADDITIONAL TREATMENTS, SATISFACTION, AND QUALITY OF LIFE IN WOMEN AFTER TRANSVAGINAL AND ABDOMINAL PELVIC ORGAL PROLAPSE REPAIR

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Presented By: Laura Nguyen

Introduction: We evaluated satisfaction, quality of life, and additional treatments after transvaginal (TV) and abdominal (ABD) pelvic organ prolapse (POP) repair.

Methods: Adult women enrolled in a prospective POP database were reviewed. Baseline and outcomes data one year after surgery were collected from medical records, validated Pelvic Floor Distress Inventory (PFDI), and mailed surveys, and analyzed with descriptive statistics, Fishers Exact, and two sample t tests.

Results: Two hundred twenty-two patients were identified from the database, of whom 147 (66%) had TV and 75 (34%) had ABD repair. TV patients were older (mean 64.1 vs. 59.7 years; p=0.003) but no differences in BMI, race, marital status or other demographics were identified. Preoperative mean anterior (TV 2.7 vs. ABD 3.1; p=0.003) and apical (TV 2.1 vs. ABD 3.1; p<0.001) POP grades were more severe in the ABD patients compared to the TV patients. Baseline PFDI scores however were similar. One-year PFDI scores were significantly higher in the TV group (45.6 vs. 32.6; p=0.032), though absolute score improvement from baseline to 1-year did not differ. At one year, the majority of patients in both groups reported moderately or markedly improved overall symptoms (TV 79/101; 78% and ABD 51/59; 86% p=0.199) and quality of life (80/101; 79% and 51/59; 87% p=0.252). Similar proportions of patients in both groups (TV 52/109; 48% vs. ABD 21/62; 34%, p=0.108) had additional POP treatments including pelvic floor physical therapy, medications, coping strategies, and surgical procedures. Specifically, there was no difference in rates of additional surgical treatments for prolapse between groups (TV 32/50; 62% vs. ABD 10/21; 48%, p=0.306). Most TV and ABD patients were satisfied (68/101; 68% and 48/59; 81%, p=0.055, respectively) and would recommend to a friend (85/99; 86% and 55/57; 96%, p=0.052).

Conclusion: This study suggests that although symptoms, satisfaction and quality of life improve after both TV and ABD prolapse repair, women seek additional treatments as early as the first year after POP repair.
Podium #20
A COMPARATIVE ANALYSIS OF THE OVERALL COST AND RATE OF HEALTH CARE UTILIZATION AMONG SURGICAL PROCEDURES FOR APICAL PROLAPSE

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Presented By: Lannah L. Lua

Introduction: The annual cost of pelvic organ prolapse surgeries is significant. The risk of undergoing prolapse surgery increases with age, up to 11% by age 80. With aging population, the cost of prolapse surgeries is expected to grow at twice the rate of population growth. Understanding its economic impact is crucial, particularly of the more commonly performed procedures for apical prolapse including sacrospinous fixation (SSF) and abdominal sacrocolpopexy (SCP). Compare the overall cost of SCP, open or laparoscopic (LSC), vs. SSF up to 90-day follow up. To investigate on health resource utilization including readmissions, ER visits and outpatient visits after SCP/SSF.

Methods: Marketscan CCAE databases 2008-2012 were used for analysis. Procedures were identified by CPT code. Cost for SCP and SSF with/without hysterectomy were calculated, as well as costs for the first 90 days after the procedure, accounting for inpatient readmissions, outpatient visits, ER visits and pharmacy claims. Cost was inflation-adjusted to mid-year estimate for 2014 using the medical component of CPI.

Results: A total of 115,589 urogynecologic procedures were identified. There were 17,549 SSF (5,860 with hysterectomy), 6,126 open SCP (3,571 with hysterectomy) and 10,708 LSC SCP (7,358 with hysterectomy). Mean total cost for SSF was $10,993 ($10,315 without, $12,346 with hysterectomy), which is lower than that for open SCP at $12,763 ($12,401 without, $13,022 with hysterectomy) and for LSC SCP at $13,647 ($13,420 without, $13,751 with hysterectomy) with p<0.0001 for both comparisons. During the follow up period lower rates of readmission were reported in SSF (4.22%) compared to open SCP (5.40%, p=0.0001) and LSC SCP (4.64%, p=0.0411). The rate of at least one ER visit was also lower for SSF (10.9%) than for open SCP (12.0%, p=0.0170) but similar to LSC SCP (10.6%, p=0.0302). Costs incurred 90 days after the procedure were lower for SSF ($13,916) than open SCP ($15,716, p<0.0001) and LSC SCP ($16,838, p<0.0001).

Conclusion: The overall mean cost incurred from the time of procedure to follow up costs 90 days after the procedure is significantly lower for SSF than SCP, either open or LSC. Health resource utilization is likewise lower after SSF. Besides lower morbidity associated with vaginal procedures, the results of our analysis demonstrate another reason to consider the increased use of SSF over sacrocolpopexies or transvaginal meshes in apical prolapse surgery.
Podium #21
PENDING EVISCERATION PROLAPSE DUE TO LACK OF ANTERIOR VAGINAL WALL AFTER ROBOTIC-ASSISTED RADICAL CYSTECTOMY: CASE SERIES OF A PREVIOUSLY UNDESCRIBED COMPLICATION

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Presented By: Melissa T. Sanford

Introduction: Robotic-assisted radical cystectomy (RARC) for women with localized bladder cancer is increasingly common with little data regarding late complications specific to pelvic floor reconstruction.

Methods: We present a new entity of pending evisceration from lack of vaginal wall and levator supporting structures after RARC.

Results: Four patients underwent RARC, urethrectomy, anterior vaginectomy, node dissection and ileal conduit by three surgeons. The extent of vaginal wall removal (2-6cm) varied by oncologic stage. Initial reconstruction included folding of the posterior cuff, side-to-side closure, and suspension to parietal peritoneum. Prolapse was noted 183 (22-390) days post-operatively. All patients had enteroceles protruding outside of the introitus, minimal remaining posterior wall, and absent anterior wall with a well epithelialized peritoneal sac as the only barrier to evisceration. All patients underwent enterocele repair and colpocleisis with follow-up of 435 (99-683) days. Additional procedures included perineorrhaphy in one patient, pelvic floor reconstruction using biologic graft and rotational labial flap in one patient, and uterosacral suspension, vicryl mesh closure and posterior vaginal wall flap in one patient. Two patients developed recurrence, both within 30 days of their repair. One initially underwent colpocleisis alone and was repaired with repeat colpocleisis that subsequently failed. The other underwent vicryl mesh closure initially and was repaired with biologic mesh, sacrospinous suspension and repeat colpocleisis. She subsequently recurred around the clitoris and underwent polypropylene mesh placement and repeat colpocleisis with no further recurrence 60 days post-operatively.

Conclusion: This newly described complication is uniquely related to RARC. Unlike typical prolapse seen after cystectomy, lack of vaginal tissues and supporting structures, make repair technically challenging. Successful surgical techniques include colpocleisis with polypropylene or biologic graft. Preventative maneuvers during RARC may include vaginal sparing, avoidance of vaginal devascularization, minimal removal of anterior vaginal wall, or rectus flap vaginal reconstruction.
Podium #22
IS VAGINAL MESH A STIMULUS OF AUTOIMMUNE DISEASE?

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Presented By: Bilal I. Chughtai

Introduction: To investigate a potential link between the development of systemic/ autoimmune disorders and synthetic polypropylene mesh repairs.

Methods: New York State Department of Health Statewide Planning and Research Cooperative System data was utilized to conduct this retrospective cohort study. Adult women undergoing surgery for pelvic organ prolapse (POP) with vaginally implanted mesh between January 2008 and December 2009 in inpatient and ambulatory surgery settings in New York State were identified. Two separate control cohorts were created with whom to compare outcomes, including a colonoscopy cohort and a vaginal hysterectomy cohort (without POP repair or sling). Patients in the mesh cohort were individually matched to the control cohorts based on demographics, comorbidities and procedure date. The development of systemic/ autoimmune disease was determined before and after matching for 6-month, 1-year, 2-year and entire follow-up (up to five years until December 2014) and differences between groups were evaluated.

Results: A total of 2,257 patients underwent mesh based POP surgery between January 2008 and December 2009. In the control cohorts, 114,399 patients underwent colonoscopy and 9,395 underwent vaginal hysterectomy. When patients were matched based on demographics, comorbidities and procedure time, mesh-based surgery was not associated with an increased risk of developing autoimmune disease at any of the evaluated time periods.

Conclusion: Mesh-based vaginal surgery was not associated with the development of systemic/ autoimmune diseases. This data refutes claims against mesh as a cause of systemic disease.
Podium #23
HOW INFORMED IS OUR CONSENT? PATIENT AWARENESS OF RADIATION AND RADICAL PROSTATECTOMY COMPLICATIONS

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Presented By: Derek J. Lomas

Introduction: Surgery and radiation (XRT) are the most common treatments for prostate cancer (CAP). Each modality comes with risks. Patients rely on appropriate counseling by their physicians in order to make an informed decision. When seeing patients in our reconstructive urology clinic for CAP related adverse effects, many state they don’t recall or were not told that certain adverse effects were possible. Therefore, we sought to assess patient recall of pre-treatment CAP counseling.

Methods: A retrospective review of all patients presenting to our reconstructive urology clinic for management of CAP-treatment complications was conducted over 21 months. Patients treated with only surgery or only XRT were included in the study. Patients were asked a standard series of questions to assess their recall of their pre-CAP treatment consent and their recollection of whether or not the complication they experienced was discussed prior to their treatment.

Results: From January 1, 2015 to September 1, 2016 we identified 865 male patients treated for complications following CAP treatment. 606 were treated with combined surgery and XRT, therefore, were excluded. 198 patients met inclusion criteria. Of those, 137 had undergone prostatectomy and 61 patients had received XRT. Median age at presentation was 75 years in the XRT group and 72 in the surgery group. Mean time since treatment was 7.7 years in those that recalled being counseled and 9.1 years in those who did not recall counseling (p=0.33). In the surgery group, 107 (78.1%) recalled being counseled that the adverse effect they were experiencing was a risk of treatment. In the XRT group only 6 (9.8%) endorsed recall (p<.0001). The majority of patients that underwent surgical treatment, 104 (75.9%), stated that their treating physician was aware of their complication, while in the radiation group, 16 (26.2%) of treating physicians were aware (p<.0001). The surgical group’s treating physicians were also more likely to know they were being seen for management of their treatment related complication (44.5 vs 14.8%, p<.0001).

Conclusion: Patient recall of potential complications of prostate cancer treatment is poor. It’s unclear if this is secondary to poor recall, selective memory loss or inadequate counseling. Regardless, of the reason behind the patients’ poor recall, it is clear that many patients are unaware of the potential for complications.
Podium #24

**POST-TURP URETHRAL STRICTURES CAN BE MANAGED SUCCESSFULLY WITH URETHROPLASTY**

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Presented By: Mashrin L. Chowdhury

**Introduction:** Urethral strictures can be a complication of Transurethral Resection of the Prostate (TURP). Treatment options and outcomes are not well described in literature. Our purpose was to evaluate post-TURP urethral stricture treatment options and outcomes.

**Methods:** Patients who developed a stricture as a complication of TURP at nine institutions were evaluated. Variables included date and type of TURP, location and length of urethral stricture, number of dilations or urethrotomy prior to urethroplasty, type of urethroplasty, and recurrence. Exclusion criteria included age <18, non-TURP stricture etiology, and follow-up period <1 year.

**Results:** A total of 133 patients were included with an average age of 67 years (41–86). The average intraoperative length of strictures was 4.7cm (1-23cm). Monopolar TURP was most commonly reported in this stricture population (77%, n=102). Other modalities reported were bipolar (10%, n=13), GreenLight laser (4%, n=5), holmium laser (3%, n=4), other laser (3%, n=3) and unknown (5%, n=6). Urethral stricture locations included bulbar (29%, n=38), membranous (17%, n=23), penile (11%, n=15), fossa navicularis (6%, n=8), and multiple locations (37%, n=49). The types of urethroplasty were anastomotic (33%, n=44), dorsal buccal/Kulkarni (23%, n=30), single ventral buccal/Barbagli (12%, n=18) and the remaining were various other techniques. Success rate was 85% with an average time-to-failure of 22.7 months (2-151 months). Average number of urethrotomies and dilations before urethroplasty was 1.4 (0-12) and 2.3 (0-25), respectively. Success rate in patients who had a prior intervention (urethrotomy or dilation) was 83.6% (97/116) compared to those with no prior intervention who had a success rate of 94.1% (16/17), p>0.05. Success rates by urethroplasty type were anastomotic 81.8%, Kulkarni 86.6%, Barbagli 87%. Of the failed urethroplasties, 50% required a re-do urethroplasty. Late complications of urethroplasty were reported in 20% of patients and included recurrent UTI, erectile dysfunction, urinary incontinence, and penile shortening.

**Conclusion:** Post-TURP strictures can be serious and require significant urethroplasty. The severity is variable upon the number, length and location of the stricture(s). Shorter strictures can be treated with anastomotic urethroplasty; longer ones can be treated with grafts or flap urethroplasty. Further research is required to determine significant differences in treatment.
TWENTY-YEAR EXPERIENCE WITH THE ANTERIOR VAGINAL WALL SUSPENSION PROCEDURE: A NATIVE TISSUE VAGINAL REPAIR FOR STRESS URINARY INCONTINENCE WITH EARLY STAGE ANTERIOR COMPARTMENT PROLAPSE

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Presented By: Alexander T. Rozanski

Introduction: To report on the mid- and long-term outcomes for the anterior vaginal wall suspension (AVWS) procedure for stress urinary incontinence (SUI) with early stage anterior compartment prolapse.

Methods: Following IRB approval, the long-term prospective Access database of non-neurogenic women who underwent AVWS for SUI and early stage anterior compartment prolapse was reviewed in women with complete pre- and postoperative records and minimum 6-month follow-up. Preoperative evaluation included detailed history, validated questionnaires (UDI-6, QoL), physical examination, and standing lateral voiding cystourethrogram (VCUG). Follow-up included physical examination, questionnaires, and one VCUG at 6-12 months postoperatively. Failure was measured by Kaplan-Meier curves using time to reoperation for incontinence as documented in the most recent patient encounter. Mixed-effects model least square means were used for baseline versus post-AVWS mean score comparison and for follow-up period mean score comparison.

Results: Between 1996 and 2016, 235 patients met inclusion criteria. Median follow-up was 5.3 years, with 47 (20%) patients having over ten-year follow-up. Mean SD were: age 62.0 (11.0), BMI 26.0 (6.4), and parity 2.4 (1.3). 104 (44%) patients underwent AVWS alone. Among concomitant procedures, hysterectomy (LAVH) was the most common. Aa and Ba points, questionnaire results, and QoL consistently improved postoperatively and remained improved over time (Table 1). VCUG findings also improved for urethral support and cystocele reduction. Additional therapy was required in 12 (5%) patients, with sling placement (4) or injectable agents (8).

Conclusion: The AVWS procedure can durably correct SUI secondary to urethral hypermobility by restoration of anatomical support to the bladder neck and bladder base.

Funding Source: None
Podium #26
SMOKING STATUS AS A RISK FACTOR FOR VAGINAL MESH EXPOSURE

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Presented By: Carlos Finsterbusch

Introduction: To evaluate the association between smoking status and vaginal mesh exposure (VME) after mesh for sling or prolapse (POP) surgery.

Methods: Following IRB approval, all cases of VME for sling or POP operated at a tertiary care center between 2006 and 2016 were reviewed. In an age-matched control study, we compared women subgrouped into sling or POP who underwent surgery for VME to women who underwent surgery for non-VME indications. Smoking status was reported as active smoker, former smoker, or never smoker, but duration of smoking was not reported. All data was extracted by a third party investigator not involved in patient care using a current prospective database on mesh removal based on an electronic medical record (EPIC). The effect size was estimated on the basis of data from [1]. The differences in smoking status between the observed and the expected distributions were analyzed using the Chi-square test for specified proportions. Differences in age by smoking status and sling removal indications (exposure versus others) were analyzed using the Wilcoxon rank-sum test. BMI was evaluated as a possible confounder.

Results: The expected proportions of VME related to smoking status by age group of U.S. women was not significantly different in the sling vs POP cohorts (p = 0.2645 for sling, p = 0.5641 for POP). Those with non-sling exposure indications were less likely to be current smokers as compared to those operated for sling exposure (7% vs. 22%; Chi-square p = 0.0477). Within each smoking status group, age was not significantly different for surgery for sling exposure versus surgery for non-sling exposure. For current smokers and never smokers, age was significantly different for surgery for mesh exposure versus surgery for non-mesh exposure. BMI did not affect the results (table 1).

Conclusion: This age-matched smoking status case control study in women operated for VME compared to non-VME indications did not reveal any significant effect of smoking on mesh complications, except for sling exposure.

Male Incontinence/Urodynamics/Neuromodulation Moderated Poster Session
Friday, March 3, 2017
8:30 a.m. - 10:00 a.m.

Moderators: Brian J. Flynn, MD
Alexander Gomelsky, MD

Poster #M24
OUTCOMES COMPARISON OF ARTIFICIAL URINARY SPHINCTER DEVICE SURVIVAL IN PATIENTS ON WARFARIN VERSUS PATIENTS NOT ON WARFARIN

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Presented By: Andrew T. Blackburne

Introduction: Literature surrounding artificial urinary sphincter (AUS) device survival among individuals with a history of warfarin use is essentially nonexistent. Therefore, our aim was to assess AUS device survival outcomes among individuals with warfarin use compared to those without.

Methods: An institutional review board approved database of all AUS patients from 1983–2014 was utilized to assess device survival in patients with warfarin use compared to individuals without warfarin use.

Results: From 1983–2014, there were 2125 AUS procedures at Mayo Clinic. Anticoagulation use was able to be obtained in 651. Of these, a total of 43 were on warfarin and 608 were not. On univariate analysis, the use of warfarin was not associated with an increased risk of overall AUS failure (HR 1.66, p = 0.058), malfunction of AUS (HR 1.19, p = 0.743), or atrophy (HR 1.09, p = 0.876). Warfarin was associated with an increased rate of infection/erosion (HR 2.58, p = 0.015). Kaplan–Meier assessment of device survival for individuals not on warfarin vs. individuals on warfarin at 1 and 5 years was 91% vs. 83% and 72% vs. 57% respectively (p = 0.058). On multivariate analysis, the use of warfarin was not associated with an increased risk of overall AUS failure (HR 1.44, p = 0.171), malfunction (HR 1.12, p = 0.813), or infection/erosion (HR 1.37, p = 0.507).

Conclusion: Perioperative management of AUS patients on warfarin requires expert care; however, long term AUS device survival is not impacted by warfarin use.
ARTIFICIAL URINARY SPHINCTER OUTCOMES BASED UPON ETIOLOGY OF INCONTINENCE IN A LARGE SINGLE CENTER COHORT

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Rochester, MN
Presented By: Adam R. Miller

Introduction: To evaluate the impact of incontinence etiology on artificial urinary sphincter (AUS) device outcomes.

Methods: There were 1816 patients who underwent AUS placement at our institution from 1983-2011. Of these, we identified 925 consecutive patients who underwent primary AUS placement. The etiology of incontinence was categorized as radical prostatectomy alone, radical prostatectomy with radiation, benign prostate resection, and those who underwent cryotherapy as a salvage prostate cancer treatment. Hazard regression (HR) and competing risk analyses were used to determine the association of the etiology of incontinence with device outcomes.

Results: The distribution of the four etiologies of incontinence included: 598 patients treated with prostatectomy alone (64.6%), 206 with prostatectomy and pelvic radiation therapy (22.2%), 104 with benign prostate resection (11.2%), and 17 with prior cryotherapy (1.8%). Patients treated with cryotherapy had a higher body mass index (p=0.0001) and more commonly had coronary artery disease (p=0.001) than the other cohorts. Those with incontinence after a benign prostate resection were significantly older (p=0.03) than the other cohorts. With a median follow-up of 4.9 years (interquartile range (IQR) 1.2, 8.8), there was significant difference in the cumulative incidence of device infection/urethral erosion events between the four etiologies (p=0.004). On multivariable analysis, history of cryotherapy (reference prostatectomy alone, HR 3.43, p=0.01), older age (HR 1.07, p=0.0009) and history of a transient ischemic attack (HR 2.57, p=0.04) were associated with an increased risk of device infection or erosion. Notably, pelvic radiation therapy with prostatectomy was not associated with an increased risk of device infection or erosion (reference prostatectomy alone, p=0.30).

Conclusion: Compared to prostatectomy alone, prior treatment with salvage cryotherapy for recurrent prostate cancer was associated with an increased risk of AUS infection/erosion, whereas radiation (in addition to prostatectomy) was not. This information may help inform preoperative counseling regarding the risks of device placement.

Funding Source: None
Poster #M26

ARE PAD WEIGHT TESTING AND SURGICAL TUNNELING OF SLING ASSOCIATED WITH ADVANCE MALE SLING OUTCOMES?

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Presented By: Laura Nguyen

Introduction: Pad weight testing may be used as a surrogate to quantitate the severity of sphincter damage and distinguish men who may benefit from a sling from men who may require an Artificial Urinary Sphincter (AUS). Furthermore, tunneling of the sling has been suggested to strengthen anchoring and therefore improve outcomes. We evaluate whether either preoperative pad weight testing or intraoperative tunneling are associated with Advance sling outcomes.

Methods: A retrospective review was conducted of AdVance male slings placed between January 2006 to May 2016 at a teaching institution and descriptive statistics were performed. Cure was defined as 0-1 dry pad/day or reporting 100% dry. Improvement was defined as 1-2 pads/day and greater than 50% improvement in leakage. Failure was defined as > 2 pads daily or less than 50% improvement in leakage.

Results: There were 37/175 (21.1%) of men had preoperative 24-hour pad weight testing prior to AdVance male sling, with complete data available on 32 men. Mean pad weight was 206.8 mL (range 11-739 mL). Men who underwent pad weight testing had better outcomes than men who did not. 13/32 (40.6%) men were cured and 17/32 (53.1%) were improved with pad weight testing vs. 66/120 (55%) cured and 32/120 (26.7%) improved with no pad weight testing (p = 0.012). There were 147 men who had data available on intraoperative sling tunneling as well as self-reported success at first visit. 69/147 patients had no sling tunneling, and 78 had sling tunneling (35 to the groin, and 43 to the perineum). Tunneling was not associated with cure or improvement (table 1).

Conclusion: Twenty-four hour pad weight testing as a surrogate for sphincter function is associated with improved outcomes; however, surgical tunneling of the sling was not associated with outcome.
Poster #M27
INTERVENTIONS FOR STRESS URINARY INCONTINENCE AFTER ADVANCE MALE SLING

Laura Nguyen, BSc, MD¹; Natalie P. Gaines, MD¹; Allison Gurney-McMaster²; Melissa C. Fischer, MD¹; Kim A. Killinger, MSN¹; Jamie M. Bartley, DO¹; Jason Gilleran, MD¹; Judith A. Boura, MS¹; Larry T. Sirls, II, MD¹
¹Beaumont Health, Royal Oak, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Laura Nguyen

Introduction: The AdVance male sling, used for male post-prostatectomy stress urinary incontinence (SUI), has a 62.5% cure rate at two years. Patients who fail may desire additional therapy. Our objective was to evaluate what types of therapies were pursued after sling failure.

Methods: A retrospective review was conducted of AdVance male slings placed between January 2006 to May 2016 at a teaching institution and descriptive statistics were performed.

Results: There were 44/175 (25%) men who had an AdVance sling placed began to use an external device or had additional surgery after AdVance sling. A total of 56 interventions were performed. Mean age was 68.3 yrs (range 33-87 yrs). In patients who underwent a second intervention for SUI after the AdVance sling, the primary/causative procedure was radical prostatectomy (RRP) in 23 men, radiation therapy (RT) in three, perineal prostatectomy (PP) in 1, RRP + RT in 14, PP + RT in 1, TURP + RT in 1, and 1 unknown. Of the 44 patients who sought additional treatment, many reported cure or improvement immediately after the sling, seven reported cure at their first follow-up visit (0-1 dry pads/day), 17 were improved (1-2 pads/day or >50% improvement), and 16 failed immediately (>2 pads/day or <50% improvement), four had incomplete data. Subsequently, 18 external devices were used, including penile clamp (10) and condom catheter (8). Thirty-eight surgical procedures were performed, including artificial urinary sphincter (AUS, 26), urethral bulking agent (8), second AdVance sling (4). AUS placement occurred at a mean of 836 days after the primary surgery (range, 84 to 2639 days). The second AdVance sling (placed, for example, after a patient reported the sling “popped” post-op) surgery occurred at a mean of 815 days (range, 108 to 1548 days) after the primary sling placement. Two patients who failed injection of a urethral bulking agent progressed to AUS.

Conclusion: One in four men who have an AdVance male sling used an external collection device or pursued additional surgery. Radiation therapy was observed in half of the failures. Nearly half of these men progress to an artificial urinary sphincter.
Poster #M28
ASSESSING THE RELATIONSHIP BETWEEN CNS DISEASE BURDEN, URINARY SYMPTOMS AND URODYNAMIC FINDINGS IN PATIENTS WITH MULTIPLE SCLEROSIS UTILIZING MRI SEGMENTATION POST-PROCESSING

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Dallas, TX

Presented By: Catherine J. Harris

Introduction: A many as 97% of patients with Multiple Sclerosis (MS) may experience lower urinary tract symptoms (LUTS). Recent advances in MRI segmentation post processing techniques allow more accurate determination of disease load. This study was undertaken to assess the relationship between disease volume to LUTS and UD findings.

Methods: An initial cohort of 30 patients was selected from a database of 613 MS patients prospectively enrolled in our institutional NGB database. Patients with complete data sets (UD testing, UDI-6 scores, and complete demographic information) were selected for initial analysis. Routine clinical MRI images (T2-weighted fluid attenuated inversion recovery – FLAIR) were segmented by a neuroradiologist utilizing a level tracing supervised semi-automated tool with generation of masks containing an overall count (OC) of abnormal appearing voxels (Figure 1). Volume of disease burden (VDB in cm3) was obtained by multiplying OC by voxel dimensions.

Results: The mean age was 57, 80% were female. Mean time since diagnosis was 17 years, 66.7% had relapsing remitting MS. Mean MCC was 395.4 ml (45-776 ml). Overall, 43.3% had PVR > 100 ml, 53.5% had DO, 30% had DOI, 53.5% had DSD, and 10% had altered compliance. Mean UDI-6 score was 9. The MRI mean disease burden was 24 cm3 (range 0.82 – 119.01). Seven patients (85.7%) had low disease burden and were more likely to have DO compared to the 43.5% with high disease burden (> 10 cm3), p= 0.05; however, those with low disease burden had lower DO amplitude (29.5 vs. 51.1 cm H2O, p=0.61). No patients with low disease burden had altered compliance. No significant differences in PVR, DESD, or questionnaire scores were noted based on total disease burden.

Conclusion: Improvements in MR imaging have greatly improved our ability to track disease burden and location in patients with MS. Volume of CNS burden may be useful in predicting some aspects of LUT dysfunction. Current efforts are under way to specify lesion location and volume to further refine the relationship between CNS lesions and voiding abnormalities in MS patients.
Poster #M29
THE USE AND UTILITY OF URODYNAMICS PRIOR TO SACRAL NEUROMODULATION

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Presented By: Elodi Dielubanza

Introduction: AUA guidelines state urodynamics (UDS) can be utilized when invasive procedures for lower urinary tract symptoms (LUTS) are being considered. Many urologists obtain UDS prior to sacral neuromodulation (SNS). However, little investigation has been done of whether and how UDS results relate to SNS outcomes. Herein, the use of UDS in patients undergoing SNS in a large academic center is reviewed.

Methods: A database of SNS procedures from 2011-2015 was created with institutional review board approval. Demographics, comorbidities, prior urologic treatment, and SNS indication and utilization were collected retrospectively. Patients were divided into those who received pre-operative UDS (+UDS) within 12 months of SNS and those who did not (-UDS). Descriptive statistics were performed using paired T-test and chi-square comparisons where appropriate and univariate and multivariate logistic regression were used to identify clinical and UDS parameters related to outcomes.

Results: There were 392 patients identified for cohort analysis, 184 +UDS and 208 -UDS. Groups did not differ in distribution of gender, comorbidities, prior medical therapy, or surgery (Botox, stress incontinence and prolapse procedures, prostate procedures). The +UDS group was slightly younger than the -UDS group (mean 54 v 57 years, P=0.03). UDS was performed more often for non-obstructive urinary retention (67% +UDS, 33% -UDS) and less often for refractory urgency/frequency (45% +UDS, 54% -UDS) (p=0.002)(p<0.05). The overall rate of clinical success (i.e. ≥50% symptom improvement) was 82% and didn’t significantly differ between UDS groups. Detrusor overactivity (DO), urgency incontinence (UI), and a combination of both were diagnosed by 46%, 32% and 32% of UDS, respectively. However, on univariate and multivariate analysis, DO, UI, or both on UDS were not associated with SNS trial success, device implantation, revision, or explantation. The use of adjunctive therapy after SNS did not differ between the groups (7.2% -UDS vs 9.3% +UDS, p>0.1).

Conclusion: At our institution, urodynamics are commonly utilized in the evaluation of patients with refractory lower urinary tract symptoms. Sacral neuromodulation outcomes did not differ based upon either preoperative urodynamic findings or forgoing the test. While these are retrospective findings, they call into question the utility of urodynamics before sacral neuromodulation and suggest that therapy may safely proceed without such testing.
Poster #M30
DEVELOPMENT OF BLADDER SENSATION DURING URODYNAMICS COMPARED TO DURING A NON-INVASIVE ACCELERATED HYDRATION PROTOCOL

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Presented By: Randy Vince

Introduction: This study’s goal was to compare the development of real-time bladder sensation in patients with OAB undergoing an accelerated hydration protocol with both normal participants and different OAB patients undergoing urodynamics (UDS).

Methods: Individuals with OAB and normal bladder function were enrolled in a hydration study and a separate OAB group was enrolled into an UD study. The hydration group drank 2L of Gatorade-G2® and complete two fill/void cycles. Both groups recorded standardized verbal sensory thresholds and real-time sensation (0-100% scale) using a touch-screen sensation meter.

Results: In the hydration study, filling duration decreased and voided volume did not significantly change from fill1 to fill2 in both the normal (n=14) and OAB (n=12) groups. In the UD study (n=14), duration was shorter than either hydration fill. The UD fill volume was not statistically different than the OAB hydration group total fill volume in a t-test adjusted for repeated measures. In the normal group, a right-shift was noted in the %sensation-%capacity curve consistent with viscoelastic effects, but a left shift was noted in the OAB group (fig.1), inconsistent with viscoelastic effects. OAB undergoing UDS had a %sensation-%capacity curve that was significantly lower than hydration fill2 at 20% and 50% sensation and was significantly lower than hydration fill1 at 75%-90% sensation.

Conclusion: This study shows a non-invasive hydration protocol to characterize bladder sensation in participants with OAB, which provides data that could potentially be used to sub-type patients. Differences between fill1 and fill2 may reveal dynamic characteristics of the bladder not found with single UD fill and suggest that bladders in subjects with OAB may undergo acute changes in compliance, tone, and/or sensitization. The trend in OAB patients to have lower bladder sensation with faster filling may be related to desensitization, hydration level, training, or other factors.
DO URODYNAMICS PREDICT URINARY RETENTION AFTER SLING PLACEMENT IN THE COMPLEX PATIENT: VALUE OF REPRODUCING SYMPTOMS OF URODYNAMICS

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Presented By: Alyssa K. Greiman

Introduction: The risk of urinary retention (UR) after sling in women with detrusor underactivity (DU)/Valsalva voiding is not well established. While it seems intuitive that increasing outlet resistance in those with poorly contractility would be a risk factor for urinary retention (UR), there is only scant evidence supporting this notion. Symptoms of DU are often manifest as hesitancy and straining during the voiding phase and pressure-flow urodynamics (UDS) may overestimate this condition due to a number of factors which are commonplace during UDS including psychogenic inhibition and pain from urethral catheterization. This study examined UR after sling in patients with or without DU/ Valsalva voiding whose UDS accurately reproduced voiding symptoms to determine if the reproduction of voiding symptoms on UDS in those with DU is predictive of UR after sling.

Methods: Following IRB approval, we performed a review of patients undergoing sling looking specifically at the occurrence of short and long term urinary retention. Preoperative UDS data was obtained from a prospectively acquired UDS database in which patients are directly queried at the time of the UDS study whether the filling and/or storage phase of the study reproduced their usual symptoms. Urinary retention was defined as failed void trial requiring prolonged suprapubic catheter drainage or initiation of intermittent catheterization and was assessed at one week, one month and three months.

Results: Of the 96 women who had a sling procedure, 77 (80%) had preoperative UDS at our institution. Of those who had UDS, 27 (43%) had denovo UR at some point post-operatively; 5 (19%) at one week, seven (26%) at one month, and 15 (55%) at three months or longer. 26/27 (96.3%) patients who had UR had APVS versus MUS sling. As compared to those without DU, patients with DU were more likely to have UR. (81% vs 56%, p=0.025). 63/77 (82%) patients had UDS which reproduced their voiding symptoms, 23 (37%) of whom had UR. There was no difference in risk of UR in patients with DU/ Valsalva voiding whose UDS reproduced voiding symptoms compared to those with DU/ Valsalva voiding whose UDS did not reproduce symptoms (OR 0.98, CI 0.23-4.18, P 0.98)

Conclusion: This study found that patients with DU/Valsalva voiding had an increased risk of UR, but did not find reproduction of symptoms on UDS to correlate with risk of UR in either those with DU/Valsalva voiding nor with normal bladder contractility.
Poster #M32
RACIAL DIFFERENCES IN BLADDER MANAGEMENT METHODS IN PATIENTS WITH SPINAL CORD INJURY & DISABILITY

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Presented By: Jacqueline Morin

Introduction: With an estimated 17,000 new spinal cord injury (SCI) cases yearly, SCI patients are a significant factor in US healthcare, especially among veteran populations. Urologically, these patients demand specific expertise to maintain safe bladder pressures by using feasible bladder management methods (BMMs) with minimal complications. There are currently few studies examining prevalence rates of BMMs or parameters dictating patients’ choice of BMMs. Our goal is to provide this prevalence data amongst spinal cord and disability (SCI&D) patients and identify the factors associated with choice of method.

Methods: A retrospective review was performed on 876 SCI&D patients followed at a Veterans Affairs hospital. The BMMs studied included indwelling Foley catheters, suprapubic tubes (SPT), clean intermittent catheterization (CIC), urinary diversion surgery, spontaneous voiding, condom catheters, Crede maneuver, and diapers. Variables evaluated included injury level and mechanism, current age, age at time of injury, years since injury, gender, race, and presence of urodynamic evaluation. Data was analyzed using Fisher’s Exact and t-tests (p<0.05 considered significant) as well as multivariate regressions to identify independent risk factors.

Results: BMM data was available for 863/876 (98.5%) SCI patients. The majority were Caucasian (449/805, 55.7%). The most common method used was spontaneous voiding (250/863, 28.9%), followed by CIC and indwelling catheterization (221/863, 25.6%) for both groups. Of the 442 patients (51.2%) requiring catheterization, CIC was used less often than indwelling catheters for patients with cervical injuries (78/221, 35.3%) vs. patients with lower injuries (143/221, 64.7%; p<0.05). Caucasians chose indwelling catheters or SPT (131/206, 63.5%) over conservative methods (177/365, 48.4%) more frequently than other races (188/365, 51.5%; p<0.05). We also found Caucasian race to be an independent risk factor for indwelling catheterization (OR = 1.46, CI: 1.024 - 2.073; p<0.05). This finding did not appear to be related to access to proper evaluation as there was no significant difference in urodynamic evaluation amongst different races (p = 0.1648).

Conclusion: Caucasians were more likely to use indwelling catheters and less likely to use spontaneous voiding despite proper evaluation with urodynamic studies, suggesting varying racial perceptions regarding BMMs and urologic resources.
Poster #M33
PROSPECTIVE RANDOMIZED BLINDED STUDY EVALUATING ULTRASOUND VERSUS FLUOROSCOPY GUIDED SACRAL INSTERSTEM® LEAD PLACEMENT

Jaschar Shakuri-Rad, DO¹; Jannah Thompson, MD²; Arman Cicic, DO²; Cody Christensen, DO²
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Presented By: Jaschar Shakuri-Rad

Introduction: We investigated the use of intraoperative ultrasound during Stage I InterStim® sacral lead placement.

Methods: A total of 40 patients who met inclusion criteria were randomly assigned to undergo InterStim® lead placement utilizing fluoroscopy alone or ultrasound guidance and fluoroscopic confirmation. Patients were blinded for the duration of the study. The surgeon and operating room staff were blinded until the patient was in the operating suite. Patients met criteria for refractory overactive bladder, fecal incontinence, or both. The ICIQ-OABqol, OABSS, and FIQL validated questionnaires were used pre- and post-operatively to measure clinical outcome between the two groups. Demographic data, fluoroscopy time, radiation exposure, and number of foramen needle skin punctures were tabulated. Primary endpoints were total fluoroscopy time, total radiation exposure, and total number of foramen needle skin punctures. Secondary endpoints were post-operative clinical outcomes as measured by validated questionnaires.

Results: Forty patients were enrolled, twenty in the ultrasound arm and twenty in the fluoroscopy only arm. There were five males and thirty-five females. Mean age was 60 (SD = 14.4) and mean BMI 32 (SD = 7.2). Twenty-seven patients (67.5%) had pure urinary symptoms, four (10%) pure fecal incontinence, and nine (22.5%) had mixed urinary and fecal symptoms. There were no significant differences between the groups. Radiation exposure time was reduced by 70.5 seconds (P = 0.002), radiation exposure was decreased by 42.3mGy (P = 0.017), and the number of needle skin punctures before final foramen needle placement decreased by 3.6 (P = 0.035) with use of ultrasound.

Conclusion: Ultrasound placement of foramen needle during Stage I sacral neuromodulation, results in reduction of radiation exposure to the patient, surgeon, and operating room staff. This technique ensures equivalent clinical outcomes when compared to standard fluoroscopy lead placement.
Poster #M34

A CADAVER MODEL DESCRIBING A NOVEL RETROGRADE APPROACH FOR PERCUTANEOUS PLACEMENT OF AN IMPLANTABLE TIBIAL NERVE STIMULATION LEAD

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Presented By: Larry T. Sirls, II

Introduction: To aid and clarify the approach for percutaneous lead placement for permanent implantation of tibial nerve stimulation lead electrode.

Methods: A cadaver model was developed to guide delivery of permanently implanted tibial nerve leads using bony landmarks, ultrasound and fluoroscopic imaging in below the knee cadaver legs. The tibial artery was identified proximally and a guide wire placed. The tibial nerve leads were placed percutaneously with a standard lead introducer. Both antegrade (proximal to distal) and retrograde approaches (distal to proximal) were explored. Both approaches were evaluated real time with ultrasound (transverse and longitudinal) and fluoroscopy (lateral and anterior-posterior). Then the cadaver legs were dissected and lead placement was evaluated with respect to depth and orientation to the nerve, whether it was crossing the nerve or lying more parallel to the nerve.

Results: Ultrasound easily identified the wire in the artery in both transverse and longitudinal planes, and the nerve posterior to the wire. Fluoroscopy, lateral and anterior-posterior, was effective in identifying the vector of lead placement, whether crossing the tibial nerve vs. placement more parallel to the nerve. The antegrade approach was modified by migrating more proximally up the lower leg, to try to achieve a more parallel vector of lead placement with the nerve. However, antegrade approaches were always crossing the tibial nerve and went deep to the nerve, with only 1-2 electrodes in close proximity to the nerve. The retrograde approach, starting at the level of the medial malleolus, about 1 finger breadth behind (in general about 1/3 the distance from the medial malleolus to Achilles tendon) was easy and effective in placing the lead parallel to the nerve with 3-4 electrodes in close proximity to the nerve.

Conclusion: We report a novel, safe retrograde method of percutaneous lead placement parallel to the tibial nerve, avoiding key vascular structures. The retrograde approach, starting posterior to the medial malleolus, was easier and reproducibly placed a more parallel lead that may optimize tibial nerve stimulation. Ultrasound was effective in localizing the tibial artery to aid orientation and depth of placement of the stimulation lead and maximize safety. This minimally invasive retrograde percutaneous approach can place a chronic tibial nerve stimulation lead in the physician’s office under local anesthesia.
RESULTS OF A PROSPECTIVE, MULTICENTER STUDY EVALUATING THE EFFICACY AND SAFETY OF SACRAL NEUROMODULATION THROUGH FIVE YEARS IN SUBJECTS WITH SYMPTOMS OF OVERACTIVE BLADDER

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Presented By: Steven W. Siegel

**Introduction:** This prospective, multicenter post-approval study evaluated the success rate of sacral neuromodulation (SNM) with the InterStim® System at five years. Subjects with bothersome symptoms of OAB including urinary urge incontinence (UI) and/or urgency-frequency (UF), who had not exhausted all medication options (failed at least one anticholinergic medication and had at least one medication not tried) were included.

**Methods:** Subjects with successful test stimulation received an InterStim implant. Therapeutic success was defined as a UI or UF response; for UI as a ≥ 50% improvement in average leaks/day, for UF as a ≥ 50% improvement in voids/day or a return to normal voiding (<8 voids/day). Therapeutic success through five years was calculated using two analyses: 1) Completers, evaluated all implanted subjects with data at baseline and five years and 2) Modified Completers, evaluated all implanted subjects who had a baseline and five-year visit, or withdrew early due to a device-related reason and were considered failures. Safety was evaluated through the collection of adverse events (AE).

**Results:** Of the 340 subjects who went through test stimulation, 272 were implanted. For subjects implanted with full system, 91% were female and mean age was 57 years. At baseline, UI subjects had 3.1±2.7 leaks/day (n=202); UF subjects had 12.6±4.5 voids/day (n=189). Subjects showed sustained therapeutic success as presented in the figure. The OAB responder rate at five years was 82% (95% CI: 76-86%) using Completers analysis and 67% (95% CI: 60%-74%) using Modified Completers analysis. At five years, UI subjects had a mean reduction from baseline of 2.0 ± 2.2 leaks/day; UF subjects had a mean reduction of 5.4 ± 4.3 voids/day (both p<0.0001). There were no unanticipated adverse device effects during a median follow-up of 59.5 months. The most common device-related AEs were undesirable change in stimulation (60/272, 22%), implant site pain (40/272, 15%), and therapeutic product ineffective (36/272, 13%). One device-related AE of implant site erosion was serious.

**Conclusion:** This multicenter study shows that SNM has sustainable efficacy and an acceptable safety profile through five years of follow-up in subjects with OAB symptoms.
Poster #M36

CLINICIAN KNOWLEDGE AND COMFORT WITH SACRAL NERVE STIMULATION IMPROVES TEMPORARILY AFTER TARGETED EDUCATIONAL INTERVENTIONS

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Presented By: Bradley C. Gill

Introduction: To assess how clinician’s knowledge about technical aspects of sacral nerve stimulation (SNS) and their comfort utilizing and troubleshooting the therapy have changed over time in light of educational interventions.

Methods: An anonymous baseline survey of clinician knowledge (five-question multiple-choice quiz: 11 points maximum) and comfort utilizing, discussing technical aspects, and troubleshooting SNS (five-rating questions: 1-10 scale, minimal to most) was conducted in the neuromodulation session of the 2010 SUFU annual meeting. An online educational video covering the physiologic fundamentals of neurostimulation was created and distributed via e-mail thereafter with repeated administration of the survey online following the video. Reassessment of clinician knowledge via the same survey was completed in the neuromodulation session at the 2016 SUFU annual meeting. Data are presented as mean ± standard deviation. No comparative statistics were calculated as data points were neither independent nor repeated measures.

Results: A total of 63 baseline (year 2010), 42 post-video, and 67 reassessment (year 2016) surveys were completed. All but two post-video survey respondents viewed the video, but only two completing the reassessment did. Of the 2016 respondents, 61 indicated their roles: 66% attending, 16% fellow, 13% resident, 5% other. Knowledge level (number of correct answers) increased from 4.52±2.78 at baseline to 7.16±2.07 post-video, but was 4.13±2.7 at reassessment. Clinicians’ perceived comfort using SNS followed similar trends (8.02±2.51 / 8.16±2.42 / 7.28±2.85), as did understanding of device function (6.02±2.45 / 7.26±2.02 / 5.83±2.72), likelihood of using the therapy (8.50±2.13 / 8.74±2.07 / 7.84±2.68), understanding of malfunctioning and troubleshooting (6.26±2.59 / 7.45±2.05 / 5.67±2.93), and understanding technical discussion with industry partners (6.72±2.26 / 7.35±2.32 / 6.36±2.69).

Conclusions: Clinician knowledge of sacral nerve stimulation and comfort utilizing or troubleshooting the therapy improved after a targeted educational intervention, but no sustainable increase was observed upon reassessment. As many clinicians most recently surveyed did not receive the educational intervention, these results highlight an opportunity for targeting existing initiatives or creating new ones, as trainees are continually entering practice.

Funding Source: 2009 SUFU Neuromodulation Grant
A REVIEW OF OVER 100 PATIENTS UNDERGOING PERCUTANEOUS TIBIAL NERVE STIMULATION IN AN OFFICE SETTING: REAL WORLD EXPERIENCE

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Presented By: Kenneth M. Peters

Objectives: Clinical trials have demonstrated the effectiveness of percutaneous tibial nerve stimulation (PTNS) for overactive bladder symptoms, but little data exists regarding outcomes in a real world patient population/setting. We examined patients that had PTNS for overactive bladder symptoms in one large urology practice.

Methods: All adult patients that had PTNS between 2012 and 2015 were retrospectively reviewed for demographics, history, symptoms, and treatments used before, concurrently, and after undergoing PTNS. Descriptive statistics were performed.

Results: Of 113 patients (mean age 75 years), most were female (65.5%), married (78.1%), and retired/unemployed (81.4%). The most common indication for PTNS was nocturia (93%), with or without urinary urgency/frequency and urge incontinence (75.2%). Prior treatments included anticholinergics in 75.2% of patients (most had tried one to three different medications), mirabegron (41/112; 36.6%), behavioral modification (29.2%), and pelvic floor physical therapy (18.6%). Patients completed a mean of 10.5 ± 3 of 12 planned weekly PTNS treatments. At six and 12 weeks respectively, 101 (89.4%) completed at least six treatments and 71.3% (62/87) were improved, and 82 (75.6%) completed all 12 weekly treatments and 70.6% (60/85) had improved. The most common reason for failure to complete all 12 treatments was too little/no improvement (14 patients) and adverse events (two worsening symptoms, one lower extremity edema, one erythema at needle insertion site). 40/105 (38.1%) used concomitant treatments for their symptoms with the most common being anticholinergic/antimuscarinic therapy. 47/113 (40%) of patients went on to complete a median of three monthly maintenance treatments. Reasons for non-compliance with beginning/continuing maintenance included lack of efficacy (60/78: 77%), happy with current improvements (10/78; 13%), cost (4/78; 5%), and other (4/78; 5%). 72/113 patients had an office visit within the last year. New treatments after PTNS included onabotulinumtoxinA (16%), mirabegron (16%), new anticholinergic/antimuscarinic (8%), behavioral modification (6%), chronic neuromodulation (5%), pelvic floor physical therapy (5%), and other treatments (7%).

Conclusion: Although most patients achieve symptom improvement after weekly PTNS, lack of adherence to maintenance therapy may limit long term feasibility of PTNS.

Funding Source: Philanthropy; Ministrelli Program for Urology Research and Education (MPURE)
SACRAL NEUROMODULATION IN CALIFORNIA FROM 2005 TO 2011: WHAT ARE THE REAL-WORLD SUCCESS RATES?

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Presented By: Amy D. Dobberfuhl

Introduction: Sacral neuromodulation (SNS) is approved by the Food and Drug Administration for the treatment of refractory urge urinary incontinence, frequency/urgency, idiopathic urinary retention and fecal incontinence. Prior to placement of an implantable pulse generator, all patients must undergo a trial stimulation to ensure improvement in their condition. The success rate for staged SNS implantation of a pulse generator (defined as > 50% improvement) varies greatly in the literature (ranging from 40 to 90%). We sought to determine success rates in California using a statewide registry.

Methods: We accessed non-public records from the California Office of Statewide Health Planning and Development (OSHPD) Ambulatory Surgery Database for the years 2005 to 2011. This dataset captures all non-federal ambulatory surgical visits within the state. Appropriate Current Procedural Terminology, 4th edition (CPT) procedure codes and International Classification of Disease, 9th edition (ICD-9) diagnosis codes were used to analyze all SNS procedures and their indication. Patients were followed longitudinally using unique patient record linkage numbers. Staged success was defined as the proportion of patients who received a stage 2 SNS generator implantation after their stage 1 tined lead trial.

Results: We identified 4,098 patients with SNS procedure codes. After excluding patients who only underwent generator exchange, lead revision or lead explantation, our final cohort included 2,765 patients. The majority of patients were female (77%), over 60 years of age (68%), Caucasian (74%) and had Medicare (60%). A total of 1,396 patients underwent a stage 1 trial of tined-lead implantation, of which 962 subsequently underwent stage 2 pulse generator placement (staged success rate of 69%). Staged success rates were 72% for urge urinary incontinence, 69% for urgency/frequency, 57% for urinary retention, 68% for interstitial cystitis and 67% for neurogenic bladder. Success rates were similar after stratification by race/ethnicity and insurance coverage.

Conclusion: While the success rates for staged SNS implantation in the state of California were less than that observed in many single center academic series; they are better than previously reported for Medicare patients, and suggestive of a success rate of greater than two thirds.

Funding Source: Valley Medical Care Foundation
Poster #NM51
ADVANCE SLING USE IN THE U.S. DECREASING RELATIVE TO ARTIFICIAL URINARY SPHINCTERS

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Presented By: Chad R. Pusateri

Introduction: The artificial urinary sphincter (AUS) and AdVance male sling are the two most commonly performed male incontinence procedures in the United States. We aimed to evaluate the percent of AdVance male sling usage relative to AUS over a nine year period since its introduction in order to assess trends across the United States.

Methods: As a surrogate for procedures performed, we reviewed device purchase data of both the AdVance sling and AUS broken down by AUA section. ANOVA testing between years was used to determine purchasing trends with p-values of <0.05 considered statistically significant.

Results: Relative to AUS, AdVance sling percentage significantly increased from 36% in 2007 to 48% in 2008 (p=0.032, see figure). Sling percentage then remained stable over the next three years from 2008 -2011 with no significant percent change between years (p=NS). Compared with 2008-2011, AdVance usage decreased in 2012 to 29% (p=0.002) and remained stable at this decreased relative level through 2015 (p=NS, difference between years 2012 - 2015). The Mid-Atlantic AUA section utilized proportionally more AdVance slings relative to AUS at nearly every time point compared to the other sections. Comparing incontinence procedures across AUA sections, the Southeast section performed the highest percentage of male stress urinary incontinence procedures, including 27% of all AdVance slings and 25% of all artificial sphincters.

Conclusion: Proportion of AdVance sling usage relative to AUS increased after its introduction through 2008. Usage remained stable at an increased level for the next three years. More recent years have found decreased AdVance usage and a resurgence of the artificial urinary sphincter. Reasons for these trends remain speculative.
CAN TIME TO FAILURE PREDICT ARTIFICIAL URINARY SPHINCTER COMPONENT FAILURE?

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Presented By: David Y. Yang

Introduction: Artificial urinary sphincter (AUS) malfunctions can occur in any of the individual components. Preoperative identification of the malfunctioned component may be valuable for preoperative counseling and determining surgical approach. As such, we sought to evaluate the relationship of time to failure with failed component. 

Methods: A total of 1,082 male patients underwent primary AUS placement from 1983-2011 at our institution. Clinical variables were evaluated for association with component failure (urethral cuff, abdominal reservoir, scrotal pump, and tubing). Bootstrap was used to estimate the differences in the time to reach 1% failure for each pair of components. 

Results: One hundred and fifteen patients experienced mechanical device malfunction at a median follow-up of 4.2 years (IQR, 0.8, 7.9). There were no differences in clinical variables between patients with and without device failure. Cuff, reservoir, pump and tubing malfunction occurred in 53 (4.9%), 26 (2.4%), 11 (1.0%), and 25 (2.3%) patients, respectively. Increasing age at time of primary surgery was associated with lower rates of cuff malfunction (HR 0.968, 95%CI 0.938-0.999, p=0.04). There was no evidence that clinical variables were associated with reservoir, pump or tubing failure. Likewise, there was no evidence proving a significant difference in time to 1% component failure between any pairwise comparisons of components. However, three years postoperatively, incidence of cuff failure appears to outpace other component failures (Figure 1) but further analyses would be required to confirm this trend. 

Conclusion: Clinical predictors for AUS failure continue to be difficult to establish. There was no evidence proving differences in time to 1% component failure.
Poster #NM53
ADVANCE MALE SLING: ARE SURGICAL VOLUME AND EXPERIENCE ASSOCIATED WITH OUTCOME?

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Presented By: Laura Nguyen

Introduction: The AdVance male sling has been used since 2006 to treat male post-prostatectomy stress urinary incontinence (SUI). We evaluated surgeon volume and experience on patient-reported outcomes.

Methods: A retrospective review was conducted of AdVance male slings placed between 1/1/2006 to 5/16/2016 at a teaching institution and descriptive statistics were performed.

Results: There were 175 men identified who had an AdVance sling placed. Mean follow-up was 3.7 years. There were 169 men who had previous prostate surgery at a mean age of 62.7 years: 151 underwent radical retropubic prostatectomy, ten perineal prostatectomy, one simple prostatectomy, and seven transurethral resection of the prostate. Three patients had primary radiation therapy (RT), 38 underwent adjuvant RT, and one had cryotherapy to the prostate. Common treatments prior to sling included pelvic floor physical therapy (36.6%), trial of anticholinergic (57.6%) or mirabegron (3.9%), and use of a clamp (3.9%) or collection device (0.8%). 17 patients underwent a total of 30 procedures prior to AdVance sling. Prior procedures include injection of urethral bulking agent (12), InVance sling (2), AdVance sling (1), and Artificial Urinary Sphincter (1). Mean daily pad use was 2.36 ± 1.8. Operative data was available on 152 patients. AdVance slings were implanted by 12 surgeons; the five highest volume surgeons placed 132/152 and the seven lower volume surgeons 20/152. Cure was defined as 0 - 1 dry pad /day or report of 100% dry. Improvement was defined as 1-2 pads/day and greater than 50% improvement in leakage. Failure was defined as > 2 pads/day or less than 50% improvement in leakage. 128/152 (84.2%) of patients were cured / improved after surgery. Surgeon experience was not associated with cure / improved rates (high volume 112/132 (84.8%) vs. low volume 16/20 (80%), p = 0.77). Increasing surgeon experience based on year of surgery (2007-2011, 76/95 (80%) cure/improved) was not different than most recent five years of experience (2012-2016, 52/57 (91.2%) cure/improved, p = 0.17).

Conclusion: AdVance male sling is effective with 84% of men reporting cure or improvement. Surgeon volume and experience with the surgical procedure was not associated with outcome.
Poster #NM54
AN ACCURACY STUDY COMPARING PATIENTS’ VESICAL PRESSURE MEASURED WITH THE PERITRON+ AND STANDAR D URODYNAMIC SYSTEM

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Presented By: Vladimir Ruzhynsky

Introduction: Neurogenic voiding dysfunction can result in high storage pressures which can lead to upper tract deterioration and renal failure if not treated. Currently urodynamic (UD) testing is used to assess such patients for diagnosis, treatment and follow-up. UD assessment is costly, time consuming and is not available to all clinicians. Peritron+ is a simple handheld device which can be attached to a catheter to measure intravesical pressures (Pves). Our goal was to assess whether Pves values recorded by standard multichannel UD equipment are comparable to those recorded by the Peritron+ in the sitting and supine positions.

Methods: IRB approval was granted and all patients signed an informed consent. Patients who had voiding dysfunction and had an indication for non-video UD evaluation were included in the trial. All the patients underwent simultaneous non-video UD and Peritron+ measurements in the supine and sitting positions. Specifically, Pves was recorded for both methods at the start of the test and at volumes of saline infused 100, 200 ml, and a capacity. A failure was considered a Pves measurement difference of greater than 3 cmH2O between Peritron+ and UD equipment.

Results: Ten female patients between ages of 31 to 73 years old were enrolled in the study. The differences of Pves measurements between Peritron+ and UD equipment were ≤3 cmH2O at all bladder volumes. There was a significant difference in Pves between supine and sitting positions for both Peritron+ and UD recordings. There were no adverse events that occurred and there were no malfunctions of the Peritron+ device during measurements.

Conclusion: Peritron+ handheld device accurately assessed Pves at different intravesical volumes in the supine and sitting positions when compared to UD measurements. There were no adverse events during the study. Pves recordings were different in the supine and sitting positions when measured with both the Peritron+ and UD equipment. The Peritron+ is a simple and safe device which can be used by the clinician in the office and by a patient or caregiver at home to assess and monitor intravesical pressure.
Poster #NM55
PHYSIOLOGIC FACTORS THAT IMPACT VOLUNTARY DETRUSOR CONTRACTION DURATION IN FEMALES

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Presented By: Henry H.Y. Tran

Introduction: The contribution of detrusor contraction duration (DCD) for voiding function in females has not been well studied and little is known. Our objective was to analyze which factors influence DCD duration to better understand its role.

Methods: We retrospectively reviewed urodynamic studies of 356 female patients (2010-2016). 303 patients had measurable voluntary DCD. Independent variables analyzed included voided volume (VV), post-void residual (PVR), detrusor pressure at maximum flow (PdetQmax), bladder compliance (BC), maximum flow rate (Qmax), and bladder outlet obstruction (BOO). BOO severity was graded using the Blaivas and Groutz nomogram. Multiple regression analysis determined which independent variables were related to DCD. Variables dependent upon each other were not analyzed together (PdetQmax and Qmax were not analyzed with BOO).

Results: Of 303 females, mean age was 55.0±14.4 years and mean DCD was 86.9±69.2 sec. Only two patients had grade 3 BOO and were excluded from analysis. Multiple regression analysis results using different combinations of independent variables (with DCD as outcome) are shown in Table 1. Increased PdetQmax (p<0.001), voided volumes (p<0.001), Qmax (p<0.05), and severity of BOO (p<0.05) were consistently associated with increased DCD. DCD was not associated with BC in any analysis. Regression 1 shows when Qmax increases by 1 mL/s, DCD decreases by 1.115 ± 0.462 sec. Each increase in PdetQmax by 1 cm H2O increases DCD by 0.636 ± 0.186 sec. Each increase in 1 mL VV leads to increase in DCD by 0.102 ± 0.023 sec. Regression 2 shows that when grade 1 BOO is compared to grade 0, DCD is on average 22.11 ± 8.60 sec longer. Similarly, when grade 2 BOO is compared to grade 0, DCD is on average 37.88 ± 14.12 sec longer. Each increase in VV of 1 mL, DCD increases by 0.082 ± 0.022 sec.

Conclusion: In women, longer DCD is influenced by higher PdetQmax, and voided volumes. Furthermore, increasing degree of severity of BOO is associated with longer DCD. Understanding which factors influence DCD in women may help better understand the function of this often overlooked urodynamic parameter. Further studies are needed to clarify the predictive value of DCD.
CHARACTERIZATION OF BLADDER DYSFUNCTION IN WOMEN WITH CHRONIC PAIN

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Presented By: Ramy S. Goueli

Introduction: The diagnosis of chronic pelvic pain has evolved dramatically over the past 20 years and has now become a clinical diagnosis based on frequency, urgency and associated pain in the pelvis and/or bladder in the absence of proven urinary infections or other obvious pathologies. Approximately 38-85% of patients with a diagnosis of chronic pelvic pain will present with lower urinary tract symptoms. There is a paucity of data in the published literature defining the various voiding dysfunctions common to patients with chronic pelvic pain (CPP). The purpose of this study is to elucidate the lower urinary tract symptoms associated with chronic pelvic pain (CPP).

Methods: There were 105 consecutive female patients who underwent urodynamics (UDS) for evaluation of chronic pelvic pain between January 2010 and December 2015 included in this study.

Results: Mean age of the cohort was 53 ± 16.60, mean BMI was 26.05 ± 5.45. Of the 105 patients, 50 patients were found to have detrusor overactivity (DO), 41 patients had detrusor underactivity (DU) and 14 patients were found to have dysfunctional voiding (DV). The patients with DO had lower bladder capacity as well as earlier desires to void compared to the other groups. A total of 79% of patients with DV had abnormal electromyograms (EMG).

Conclusion: CPP is a multifaceted disease that requires a multidisciplinary approach for its diagnosis and multimodal approach for its treatment. Our study is among few studies to fully characterize UDS parameters in patients with chronic pelvic pain, and the first to detail subpopulation of UDS diagnoses among patients presenting with IC/BPS. Our study showed the voiding symptoms commonly co-present with pain include DO, DU, and DV.
VOIDING DYSFUNCTION IN SENIOR CITIZENS: IS IT DIFFERENT THAN IN YOUNGER PATIENTS?

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Presented By: Carrie M. Mlynarczyk

Introduction: US census data predicts by 2050 the population age≥65 years will be almost double that in 2012, shifting demands on patient care. More data on LUTS and voiding dysfunction is needed as almost 1/3 of current AUA guidelines on these topics are not based on evidence. The objective was to study the effect of age on voiding dysfunction, a topic with limited data.

Methods: We retrospectively reviewed urodynamics studies (UDS) of 896 patients (2010-2016). We used univariate linear regression analysis for continuous outcomes and univariate logistic regression analysis for binary outcomes.

Results: There were 614 patients younger than 65 (age<65) and 282 patients were 65 years or older (age≥65). Diagnoses significantly more common in age≥65 were: diabetes mellitus (DM), DM with end organ failure, stroke, coronary artery disease, arrhythmia, chronic renal insufficiency, and cancer. Patients >65 were more likely to present with complaints of decreased stream and nocturia (table 1). On UDS, subjects >65 showed lower maximum flow rate (Qmax) but higher volume at first urge, and post void residual (PVR) (table 1). They were also found to have increased rate of bladder outlet obstruction (BOO), detrusor overactivity (DO), DO incontinence (DOI), detrusor underactivity (DU), and incomplete emptying but lower incidence of stress urinary incontinence (SUI) (table 1). In the subset of patients with BOO >65 had higher PVR (115.9+161.8 <65 vs 197.1+211.7 >65 mL, p=0.002) and incidence of DO (42% vs 55%, p=0.04) but no difference in DOI (31% vs 43%, p=0.04). In the subset of patients with SUI there was no significant difference in PVR or DU between the two age groups.

Conclusion: While intuitive we found a clear correlation between all comorbidities and age. Differences exist in voiding dysfunction for patients age<65 and age≥65 with older patients having more DO, DU, BOO, and incomplete emptying. These findings may have potential implications in predicting surgical outcomes and for counseling before bladder outlet relieving and anti-incontinence procedures.

Funding Source: None
HOW DOES THE OBESITY EPIDEMIC CHANGE VOIDING DYSFUNCTION?

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Presented By: Carrie M. Mlynarczyk

Introduction: Obesity is a widespread issue and serious health concern. The Center for Disease Control and Prevention reports that more than one third of U.S. adults are obese. Few studies have examined the relationship between body mass index (BMI), voiding dysfunction and urodynamics (UDS).

Methods: We retrospectively reviewed (UDS) of 895 patients (2010-2016); 777 had complete information for BMI and 21 with underweight BMI were excluded. We used multiple linear regression analysis for continuous outcomes and multiple logistic regression analysis for binary outcomes. Comorbidities and age>65 were used as covariates. Obese patients were defined at BMI>30.

Results: There were 385 (51%) patients who had a BMI <30 and 371 (49%) had a BMI > 30. Mean age in the nonobese group was 58 + 16.3 and in the obese group was 54+13.7 years (p<0.001). Mean non-obese BMI was 25.4+ 2.8 and for obese patients it was 36.5+6.0 kg/m2. Comorbidities significantly associated with weight were diabetes mellitus (DM) (21% vs. 36%, p<0.001), DM with end organ damage (2% vs. 6%, p=0.006), and metastatic cancer (2% vs. 0%, p=0.008). In obese patients we found a significant increase in presenting complaints of stress urinary incontinence (SUI) and urgency incontinence (UUI), and a decrease in complaints of decreased stream and urinary retention (table 1). On UDS obese patients showed less incomplete emptying and more SUI (table 1). Of the patients diagnosed with SUI there was no significant difference in PVR (mean 74.5 vs 55.3, p=0.4) or DU (OR 0.9, 95% CI 0.5-1.6, p=0.8).

Conclusion: We observed that compared to non-obese patients, obese patients are more likely to present with incontinence and are less likely to complain of voiding symptoms. These presenting complaints are also mirrored in the UDS findings with obese patients being diagnosed with more SUI and less IE. These findings suggest that as the obesity epidemic increases more resources may be required for provision of care for urinary incontinence. The relationship and causality between obesity, bladder contractility, and emptying needs to be studied further.

Funding Source: None
CORRELATION OF VALSALVA LEAK POINT PRESSURE AND EXPANDED URETHRAL PRESSURE PROFILOMETRY IN THE DIAGNOSIS OF URODYNAMIC STRESS INCONTINENCE

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Presented By: Jessica Jackson

Introduction: As the use of urodynamics (UDS) in the diagnosis of stress urinary incontinence continues to evolve it becomes even more important to ensure that the most sensitive tests are included when UDS are chosen. Multiple studies have established a weak correlation between valsalva leak point pressure (VLPP) and maximal urethral closure pressure (MUCP) for the evaluation of urodynamic stress incontinence (SUI) and intrinsic sphincter deficiency. Our objective was to evaluate the relationship VLPP and an expanded urethral pressure profilometry (UPP) that includes measurement of MUCP and pressure transmission ratio (PTR)

Methods: We conducted a retrospective review of 48 females diagnosed with genuine SUI by videourodynamic with a single expert provider. We measured VLPP with water charged transducer at a volume of 200 milliliters (ml), and again every additional 200 ml if no leakage occurred. Following pressure flow study all patients underwent expanded UPP with an air charged transducer for measurements of both MUCP, followed by cough stress UPP with PTR at 50 ml.

Results: Descriptive statistics of the study population can be seen in Table 1. Spearman’s Correlation coefficient between VLPP and MUCP was modest (rho= 0.46, p<0.05) which is similar to published literature. The sensitivities between VLPP and MUCP+PTR trended toward significance at 0.85% vs 0.98% sensitivity (p=0.07). Univariate analysis was performed on age, DO, and Urge urinary incontinence (UI) as predictors of a patient being diagnosed with SUI based solely on the expanded UPP. Age was a negative predictor (OR= 0.95, p=0.051), while DO and urge UI were positive predictors (OR=8.12 and OR= 8.99 respectively, p <0.05). Multivariate logistic regression analysis supported the impact of age and urge urinary incontinence.

Conclusion: This study is limited by a small sample size. However findings suggest that the expanded urethral pressure profilometry allows for higher sensitivity for urodynamic stress urinary incontinence in the presence of patients with mixed UI, DO and in younger patients. Expanded UPP may be a reliable alternative to VLPP. Prospective studies are needed to confirm these findings.
COMPARISON OF THREE ULTRASOUND METHODS TO MEASURES BLADDER VOLUME NON-INVASIVELY

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Presented By: Anna S. Nagle

Introduction: Various methods are currently available to non-invasively quantify bladder volume. The goal of this project was to determine the most accurate method of quantifying bladder volume using 2D and 3D ultrasound techniques during UD.

Methods: Nine female participants with OAB underwent an extended urodynamics procedure (Laborie Aquarius XT???) in which ultrasound images of the bladder were obtained using a 3D 6MHz abdominal probe (GE Voluson E8). The bladder was filled with saline at a rate of 10% bladder capacity (based on an initial clinical fill) per minute while ultrasound images were captured once per minute. Bladder volume was estimated from 2D cross-sectional images in the sagittal and transverse planes assuming an ellipsoid geometry equation (Equation 1, Vspheroid), assuming a shape in between an ellipsoid and a cube developed by Bih et. al equation (Equation 2, VBih, developed by Bih et. al. date?1998), and from the volumetric ultrasound data obtained by tracing the bladder outline in six planes with GE’s 4D View software. V_Spheroid= 4π/36(W*H*D) (Eqn. 1) V_Bih=0.72*W*H*D=1.375*V_Spheroid (Eqn. 2). In equations 1 and 2, W is the width (horizontal diameter) and H is the height (vertical diameter) in the sagittal direction and D is the transverse depth in the transverse direction (horizontal diameter).

Results: VA was significantly lower than infused volume (VH2O) when compared by a paired t-test. VB and VC tended to be slightly larger than VH2O, but the differences were not significant (Fig. 1).

Conclusion: The bladder shape cannot be assumed to be an ellipsoid in patients with OAB patients, so. Tracing the full volumeperimeter in several 3D imaging planes better accounts for the non-uniform geometry, providing a more accurate volume measurement. Volumes estimated by VBih 2 or by tracing the bladder in 3D were not significantly different from VH2O, demonstrating that these are the most accurate methods of non-invasive assessment of bladder volume.
Poster #NM61
NEUROLOGICAL WOMEN OVER 80Y OLD, IS URODYNAMICS CONTRIBUTIVE FOR MANAGEMENT OF LOWER URINARY TRACT DYSFUNCTION?

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Presented By: Francoise A. Valentini

Introduction: Consequence of increased life expectancy and better management leads to an increasing number of women older than 80 years old with neurological disease and lower urinary tract symptoms (LUTS). Despite this old age and the increasing number of co-morbidities, urodynamic study is performed to diagnose the cause of LUTS. The remaining issue is the contribution of urodynamics to the management of LUT dysfunction.

Methods: Retrospectively, 36 files of neurological women older than 80 years old (mean age 84±3 years old; range [80-94 years old] which comprised demographic data, medical history, urodynamic parameters and diagnosis, and proposed management were analyzed.

Results: Mean co-morbidities were 3.1 per woman, mainly cardio-vascular (44.4%), endocrinology (38.8%), musculo-skeletal (55.5%) and previous pelvic surgery (55.5%), cognitive impairment (38.8%). Neurological disease was hemispheric in 23 and spinal cord injury in 13. Complaints were 20 incontinence (of which nine urgency incontinence and 11 mixed incontinence), four frequency, 11 incomplete retention or dysuria and one pre-operative for prolapse. Four (11.1%) had failure of previous treatment: one recurrent incontinence after surgery, three insufficient improvement by local oestrogen therapy or anticholinergic. Urodynamic diagnosis (UD) was categorized as normal (non-contributory, 6 N), detrusor overactivity (16 DO), detrusor underactivity (11 DU) and intrinsic sphincter deficiency (3 ISD). The best indicators for UD were first desire (increased in DU vs. DO, p=.001), functional bladder capacity (reduced in DO vs. N p=.0093 and DU p<.0001) and post residual volume (increased in DU vs. DO p<.0001 and N p<.0003); maximum flow rate (Qmax), detrusor pressure at Qmax and voiding time (tmic) were not significant. During free uroflow the only diagnosis indicator was PVR, greatly increased in DU vs. N p=.0016 and DO p=.0004. Treatment proposals were mainly prompted voiding or self-catheterization (30%) based on DU diagnosis.

Conclusion: In neurological women older than 80 years old, urodynamics is only useful to confirm DU and to propose the best management in order to avoid complete retention.
PATIENT REPORTED BOTHER CORRELATES WITH RATE OF SENSATION CHANGE DURING FILLING

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Presented By: Randy Vince

Introduction: Urodynamic derivatives have been shown to correlate with sensory questionnaire scores. First sensation ratio (FSR) (volume at first sensation/maximum cystometric capacity (CCap)) correlates with Urgency Perception Scores, suggesting that rate of sensory progression during filling is associated with more severe urgency symptoms. We sought to correlate FSR and a validated measure of overactive bladder (ICIQ-OAB) using a real-time patient-controlled sensation meter during urodynamics.

Methods: Individuals with overactive bladder (ICIQ-OAB question 5a≥3) underwent filling cystometry. Patients reported ICS sensory thresholds during filling. Sensation was also recorded via real-time patient-controlled sensation meter (0-100%, 1% increments). FSR was calculated as previously described and by using the first patient-reported sensation on the sensation meter (FSRmeter=volume at sensation meter≥1%/CCap). Both FSR and FSRmeter values were correlated with ICIQ-OAB sensory items (questions 3b and 5b).

Results: Ten patients (n=10) completed the protocol. There was no difference between average FSR and FSRmeter values (0.17±.04 and 0.19±.05, p=0.23). Average ICIQ-OAB 3b and 5b scores were 8.4±0.6 and 9.2±0.5, respectively. There was an inverse correlation between FSR and ICIQ-OAB 3b and 5b scores (R²=0.50 and 0.42, respectively) as well as FSRmeter and ICIQ-OAB 3b and 5b scores (R²=0.71 and 0.93, respectively).

Conclusion: FSR calculated with ICS thresholds and patient-controlled sensation meter inversely correlate with ICIQ-OAB sensation items in overactive bladder patients. These findings confirm prior investigation using alternate validated questionnaires of sensation. Sensory parameters/derivatives relate with urgency and bother level. Further studies are ongoing define sensory characteristics in a larger cohort and establish normal references.
Poster #NM63
IDENTIFICATION OF REAL-TIME SENSATION PATTERNS DURING URODYNAMICS

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Presented By: Zachary Cullingsworth

Introduction: The purpose of this investigation was to use a newly created bladder “sensation meter” to identify novel sensation patterns during urodynamics.

Methods: Ten patients with voiding dysfunction of various types completed pre-procedure ICIq-OAB surveys and then underwent urodynamics testing while simultaneously recording real-time sensation on a 0 to 100% scale using a touch-screen “sensation meter.” Data were sampled at 5% cystometric capacity increments and graphed as percent capacity vs. sensation curves. Demographic information including age and gender were also recorded.

Results: Patients were grouped as having low urgency (ICIq-OAB 5a =1) or high urgency (ICIq-OAB = 2 to 3). Individual normalized sensation-capacity curves showed distinct trends for the two groups (Fig 1A) and the average curves were significantly different between 40% and 90% capacity (Fig 1B, * = p<0.05, n=5/group). The low urgency pattern was generally r-shaped with a rapid increase in urgency at low capacity and then a leveling off after 50% capacity. The high urgency group was generally j-shaped with a slow increase in urgency at low capacity and then a rapid increase after 50% capacity. Both groups included three men and two women. Average bladder capacities for the low urgency group (209±28 ml) and high urgency group (333±87) were not different (p>0.05). The low urgency group (73±3 years) was older than the high urgency group (57±6).

Conclusion: In this study, the collection of real-time sensation data using our sensation meter during urodynamics identified distinct r-shaped and j-shaped sensation-capacity curve patterns. This allowed for differentiation between individuals with low and high urgency based on standardized survey scores. The study highlights collection of real-time sensation data during urodynamics could potentially identify novel bladder sensory patterns that could be used for subtyping of patients for future therapies and trials. However, further confirmatory studies are required.
Poster #NM64
SACRAL NEUROMODULATION AND PREGNANCY: A SYSTEMATIC REVIEW

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Presented By: Amr Mahran

Introduction: Our objectives are to evaluate the effects of sacral neuromodulation (SNM) on pregnancy and the impact of delivery on SNM function.

Methods: A systematic search for studies with pregnant women on SNM was performed through February 10, 2016.

Results: Out of 2316 studies, eight met our inclusion criteria and included 22 patients (26 pregnancies). SNM indications included Fowler syndrome in 11 patients, urinary retention in six, and one patient each with fecal incontinence, fecal and urinary urgency, overactive bladder, intractable interstitial cystitis, and myelodysplasia. SNM remained active in eight pregnancies while it was deactivated in the remaining 18 (one of such resulted in miscarriage early after IVF). During seven out of the remaining 17 pregnancies (41%), patients had recurrent urinary tract infections, including one with pyelonephritis. Two patients had requested SNM reactivation at 19 and 20 weeks gestation for recurrent symptoms of urinary retention and fecal and urinary urgency, respectively. Outcomes were reported in 25 pregnancies - 17 patients underwent C-section and eight delivered vaginally, including two operative deliveries. Only seven preterm labors were encountered and all of them occurred in patients with deactivated SNM. Out of 25 infants, two had pilonidal sinus and motor tic disorder (exhibited at two years of age) and both were from the same mother. After delivery, SNM was functional in 15 patients (60%): four required reprogramming, three required replacement (one had recurrence of fecal incontinence after her operative delivery with evidence of displaced leads and one patient reported decreased SNM effects after her two C-sections), and three decided to remove the device (two out of three patients were free of symptoms after SNM deactivation and requested removal).

Conclusion: Sacral neuromodulation seems to be safe during pregnancy. However, with the current limited evidence, decision of SNM activation or deactivation should be individualized. A registry for those patients is recommended.

Funding Source: None
PERIPHERAL NERVE EVALUATION CONVERSION RATES WITH AND WITHOUT THE USE OF FLUOROSCOPY

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Presented By: Dana Kivlin

Introduction: Peripheral nerve evaluation (PNE) is a minimally invasive procedure, performed in the clinic under local anesthesia, to determine eligibility for permanent InterStim implantation in patients experiencing significant urinary urgency, frequency, urge incontinence, or non-obstructive urinary retention. We sought to determine whether there is a difference in conversion rates to full implantation between patients undergoing PNE with and without the use of fluoroscopy.

Methods: A retrospective review was performed in two consecutive series of patients undergoing PNE with and without fluoroscopy use. Temporary leads were placed along the S3 nerves bilaterally. Physical landmarks were used to determine the location of needle insertion. When used, fluoroscopy confirmed temporary lead location in the S3 foramina bilaterally. For all patients, both verbal feedback (vibration or tapping sensation in the scrotum, vagina, or rectum) and motor responses (plantar flexion of the great toe and bellows contraction) confirmed stimulation of the S3 nerves. When the patient documented a 50% or greater reduction in symptoms, they proceeded with permanent device implantation. For those with less than 50% improvement, a staged InterStim trial was performed. N-1 Two Proportion test compared significance between groups.

Results: 49 patients underwent PNE: 28 with and 21 without fluoroscopy use. There were no differences in patient age or BMI between the groups. Overall, 14 (50%) patients had InterStim implantation after PNE where fluoroscopy was used and eight (38%) had InterStim implantation after PNE where fluoroscopy was not used (p =.41). Five patients in the fluoroscopy PNE arm underwent a staged trial of InterStim of which three went onto to full implantation. Similarly, one patient in the non-fluoro PNE arm underwent a staged InterStim trial and then went on to full implantation (p = 0.33).

Conclusion: Fluoroscopy may not be available in all settings and this limitation might hinder clinic peripheral nerve evaluations. Our preliminary data suggests that fluoroscopy use does not affect conversion rates to full InterStim implantation. As we expand our data, we hope to continue seeing results that support the technique without X-ray which completely removes radiation exposure to patients and staff and expedites the procedure.
REMOVAL OF SACRAL NERVE STIMULATION DEVICES FOR MAGNETIC RESONANCE IMAGING: WHAT HAPPENS NEXT?

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Presented By: Jessica C. Lloyd

Introduction: Sacral neuromodulation (SNS) is an effective therapy; however, these devices are not approved to undergo magnetic resonance imaging (MRI) of sites other than the brain. Therefore, when non-brain MRIs are required, devices are often removed prior to imaging. We assessed the frequency of device removal for MRI and the subsequent clinical course of these patients.

Methods: A retrospective review of all SNS procedures in the urology department at a tertiary care center from 2010-2015 was performed and explants identified. Cases explanted for MRI were analyzed to collect demographics, clinical characteristics, and post-removal management. Descriptive statistics were calculated and presented as mean (standard deviation) or median [interquartile range] as appropriate.

Results: A total of 90 patients underwent SNS device removal, with 21 (23%) occurring for MRI, of which all devices were implanted in 2012 or before. At explant, patients were 95% (N=20) female, 66 [52-72] years of age, and had a 29.6 [23.8-34.6] kg/m² body mass index. Suboptimal symptom control from SNS was noted in seven (33%) patients preoperatively and four patients in the cohort (19%) had Multiple Sclerosis. Only 16 (76%) patients explanted ultimately underwent MRI, a median of 13 [3-16] days after device removal. Of those imaged, 24% required MRI for neurologic and 57% for orthopedic concerns. The remaining MRI indications included abdominal masses (10%), genitourinary disease (5%), surveillance for prior spinal cord malignancy (5%), and cardiac disease (5%). MRI results actively impacted clinical management in half of the imaged patients, with no pharmacologic interventions, but instead surgical evaluation (5), physical therapy/rehabilitation (1), outpatient procedure (1), and a headache diary (1) being recommended. Only 10%(N=2) of explanted patients underwent device replacement, while two patients pursued Botulinum toxin, two utilized intermittent self-catheterization or an indwelling catheter, and 1 underwent cystectomy and ileal conduit urinary diversion. The remaining nine patients were lost to follow-up.

Conclusion: In patients receiving SNS therapy, device removal for MRI is a rare event, most commonly due to orthopedic and neurologic pathologies. About half of the MRIs performed impacted clinical management. As SNS replacement was rare in this cohort, research is needed on the safety of various MRI types with SNS devices in vivo.
Poster #NM67
SACRAL NERVE NEUROMODULATION IN PATIENTS WITH PARKINSON’S DISEASE

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Presented By: Iryna Crescenze

Introduction: Sacral nerve neuromodulation (SNM) is an effective treatment for patients with refractory urgency-frequency, urgency incontinence and idiopathic non-obstructive urinary retention. The use of SNM in patients with underlying neurogenic disease is not as well established - studies are needed to evaluate efficacy and outcomes in patients with various neurologic diagnoses. The objectives were to evaluate treatment efficacy of SNM in patients with diagnosis of Parkinson’s disease (PD) and to examine outcomes over time.

Methods: We identified ten patients with PD who underwent a trial of SNM at a single center from 2009 to 2015 – nine for refractory urgency and frequency or urgency incontinence and one for urinary retention and urgency. Patients with multiple systems atrophy were excluded. Patient’s electronic charts were retrospectively reviewed for analysis.

Results: Median time from PD diagnosis to implant was five years (1-15). Three patients were male and median age was 72 years (56-84). Of the ten patients, eight were implanted as they demonstrated at least a 50% improvement in their symptoms with stage I or PNE. These eight patients were followed for a median of 15 months (7-76). The mean number of voids decreased from 10.7 ± 2.7 to 8.0± 4.7 (p = 0.259) and number of pads from 4.1 ± 4.2 to 1.7 ± 2.3 (p =0.166). The patient with retention reported decreased need for self-catheterization from five times per day to two. Three of the eight patients reported continued subjective benefits from the SNM therapy at 8-18 months after implantation. Patients who experienced failures reported worsening symptoms over time (n=3), falls/accidents associated with loss of efficacy (n=3), generator site pain due to weight loss (n=1), and generator discharge despite replacement (n=1).

Conclusion: SNM can be effective in management of lower urinary tract symptoms in patients with PD. Effectiveness of SNM declines over time and may be due to disease progression but can also be associated with frequent falls/accidents leading to lead malfunction in this patient population. Larger studies are needed to identify PD patients who may be most likely to benefit from SNM.

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Poster #NM68
PREDICTORS OF NERVE STIMULATOR SUCCESS IN PATIENTS WITH OVERACTIVE BLADDER

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Presented By: Bennett Sluis

Introduction: Patient suffering from overactive bladder (OAB) without response to behavioral and pharmaceutical intervention may opt for third-line therapy with sacral nerve stimulation (SNS). SNS is performed in two stages, with a ‘trial period’ interceding initial lead placement and final device implantation. Patients with a successful trial as defined by a significant reduction in OAB symptoms have permanent implantation while unsuccessful trial leads to explant of the leads. Data predicting which patients will have a successful trial are limited. The present study examines patients undergoing SNS implantation to identify factors associated with successful SNS trial.

Methods: Patients undergoing treatment for OAB at Lahey Hospital and Medical Center between 2004 and 2016 were identified. Demographic, clinical and treatment data were extracted from patient charts. Univariate analyses were conducted to identify factors associated with SNS treatment success using chi-squared and t-test statistics as appropriate. A multivariate logistic regression model using the significant and a priori clinical factors to predict SNS treatment success was also created. Significance was defined at the α= 0.05 level.

Results: Of 268 patients in the OAB database, 123 patients met inclusion criteria. Of these, 95 (77.2%) had treatment success. On univariate analysis, sex, prior diagnosis of prostate cancer, diagnosis of BPH, and lower volume at first urge during urodynamic study (UDS) were associated with an unsuccessful SNS trial (Table 1). On multivariate analysis using age, sex, prostate cancer, BPH, and volume at first urge as covariates, female gender (OR 0.145, 95% CI 0.0360 -0.531) and higher volume at first urge on UDS (OR 0.982, 95% CI 0.967-0.995) were associated with successful SNS trial.

Conclusion: SNS is frequently successful at relieving OAB symptoms. Male patients and those with a lower volume at first urge on UDS are more likely to have an unsuccessful SNS trial. Patients in these groups should be counseled on the lower likelihood of SNS success. Further examination of factors associated with SNS from more diverse patient populations may aid in identification of other factors predictive of unsuccessful SNS trial.
Poster #NM69
CLINICAL AND URODYNAMIC FACTORS ASSOCIATED WITH SUBSEQUENT BOTULINUM TOXIN A INJECTION AFTER NEUROMODULATION

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Presented By: Jason P. Gilleran

Introduction: Despite initial response to sacral neuromodulation, some will seek additional treatment for recurrent or residual overactive bladder (OAB) symptoms. We identified if any patient characteristics or pre-treatment urodynamic factors were associated with patients undergoing intradetrusor onabotulinumtoxin-A (BTX) injections after chronic neuromodulation.

Methods: We retrospectively reviewed patients in our prospective neuromodulation database who underwent BTX injections after successful staged neuromodulator implantation, and compared them to those that did not receive BTX. Baseline characteristics, prior treatments, urodynamic data, and Interstitial Cystitis Symptom/Problem Indices (ICSIPI) and Overactive Bladder Questionnaire (OABq) scores were also compared between groups. Descriptive statistics were performed.

Results: Of 281 patients, 20 received a total of 37 BTX injections and were compared to 261 that did not receive BTX. Demographics, primary indication for neuromodulation, and treatments prior to neuromodulation did not differ between groups except that a higher proportion in the BTX group had a history of urethral sling (7/16; 43.8% vs. 31/227; 13.7%; p=0.005). Lead location also differed significantly between groups (p=0.0002) with the BTX group having a higher proportion of pudendal lead placement. A higher proportion in the BTX group also had detrusor overactivity (DO) (8/9; 88.9% vs. 56/116; 48.3%; p=0.033) and DO with leak (7/9; 78% vs. 40/110; 36.4%; p=0.028) on baseline urodynamics. Presence of sensory urge was higher but not statistically significant (4/8=50% vs. 26/93=28.0%, p=0.23). Baseline ICSIPI and OABq scores, and reoperation and explant rates, did not differ between groups. Of the seven patients in the BTX group who had InterStim reoperation, three had BTX before the reoperation, three had BTX after the reoperation, and the relationship between reoperation and BTX was unknown in one patient.

Conclusion: While symptom severity and demographics were not associated with the need for Botox after neuromodulation, more severe incontinence associated with DO may portend the need for additional treatment even with a successful neuromodulation procedure.
Poster #NM70
EVALUATION OF QUALITY OF LIFE IMPROVEMENTS AT 5 YEARS IN SUBJECTS WITH OVERACTIVE BLADDER TREATED WITH SACRAL NEUROMODULATION USING THE INTERSTIM® SYSTEM

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Presented By: Karen L. Noblett

Introduction: Changes in quality of life (QOL) at five years for subjects treated with sacral neuromodulation (SNM) using the InterStim® System were assessed as part of the InSite study, a prospective, multicenter, post-approval study. Subjects with bothersome symptoms of overactive bladder (OAB) including urinary urge incontinence (UI) and/or urgency-frequency (UF), who failed at least one, but not all, anticholinergic medications were included.

Methods: Subjects with successful test stimulation received an InterStim implant. QOL from baseline through five years was evaluated for all implanted subjects using the validated disease-specific International Consultation on Incontinence Modular Questionnaire (ICIQ-OABqol) and Female/Male Lower Urinary Tract Symptom sexual function (FLUTSsex and MLUTSsex), Beck Depression Inventory II (BDI-II) and Visual Analog Scale (VAS) for Pelvic Pain associated with urgency instruments.

Results: Of the 340 subjects who completed test stimulation, 272 subjects were implanted; 91% were female and the mean age was 57 years. At baseline, UI subjects had a mean of 3.1±2.7 leaks/day; UF subjects had a mean of 12.6±4.5 voids/day. At five years, subjects had significant improvements in leaks/day and/or voids/day (both p<0.0001). Subjects showed statistically significant improvement from baseline to five years in all measures of ICIQ-OABqol (Concern, Coping, Sleep, Social, Health Related Quality Life total score, and Interference; all p<0.0001). Results from the Interference measure show that 84% of subjects had improvements in their urinary symptom interference. A reduction in the severity of depression (BDI-II) and pelvic pain (VAS) were found (both p<0.0001). Improvements in sexual function were found for female subjects (p<0.01). The most common device-related adverse events were undesirable change in stimulation (60/272, 22%), implant site pain (40/272, 15%), and therapeutic product ineffective (36/272, 13%). One device-related AE of implant site erosion was serious.

Conclusion: This multicenter study shows that SNM results in sustained improvements in quality of life through five years of follow-up for subjects with OAB symptoms.
Poster #NM71
THE ROLE OF THE NEUROMETER CPT/C IN SACRAL NEUROMODULATION OF THE BLADDER

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Presented By: Magdy M. Hassouna

Introduction: The aim of the current research project is to study the role of the neurometer as a tool to predict responders to sacral neuromodulation therapy (SNM).

Methods: This is a prospective, open study in male and female patients, aged 18 and over with voiding dysfunction (refractory overactive bladder (OAB), non-obstructive retention and/or frequency urgency syndrome). The first group who are undergoing a screening test trial with percutaneous nerve evaluation (PNE) to determine whether they are candidates for SNM with the InterStim®. Prior to PNE testing, all patients will be tested for pain tolerance test (PTT) using the electro-diagnostic Neurometer CPT/C device. Patients who are responders to PNE testing will undergo to InterStim® Implant. Non responders will undergo for a staged implant. The second group has an InterStim® already implanted for voiding dysfunction. During the routine office follow up, those patients implanted with Interstim will be tested for pain tolerance test (PTT) using Neurometer CPT/C device. All the testing using the neurometer CPT/C were performed the day of the PNE (in first group) and the day of routine follow-up visit (in the second group). All the results were of the neurometer were kept blinded from the results of the PNE and those of the outcome of the follow-up visit by separate operators. The study received approval by the Research Ethics Board of the University Health Network (No. 14-8196)

Results: We recruited a total of 123 patients. The results presented here include 110 patients who completed the study. There were 48 patients in the first group and 62 patients in the second group. The statistical analysis used was as follows: Group 1 – Simple linear regression analysis and the linear discriminate analysis was performed. It was found that for patients without the InterStim® implant with a combined CPT/CPD of 800 and above, the Neurometer could predict the trial test screening results with an accuracy of 71%. Group 2 – Same analysis and tests were conducted for patients with the InterStim® implant and the results showed that if the patient had a combined CPT/CPD of 600 and above, the Neurometer could predict the patients’ satisfaction or unsatisfaction of the patients with the InterStim® implant with an accuracy of 72%.

Conclusion: Neurometer may play a role in predicting test trial positive responders and predict the patients’ satisfaction after implant.
EFFICACY AND LONGEVITY OF SACRAL NEURAL MODULATION AS A THERAPY FOR UROLOGICAL VOIDING DYSFUNCTION

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Presented By: Samantha M. Staley

Introduction: Lower urinary tract symptoms including overactive bladder (OAB) and urinary retention affect a significant portion of the world’s population. A guideline was established in 2012 to assist clinicians in managing the challenging problem of OAB. If conservative and medical therapy are ineffective, invasive procedures, including onabotulinum toxin A injections, percutaneous tibial nerve stimulation and sacral neuromodulation (SNM), exist. SNM was approved for the treatment of overactive bladder and urinary retention in 1997 and 1999, respectively. The objective of this study was to evaluate the efficacy and outcomes of SNM therapy in patients that have had procedures performed by a single high volume surgeon.

Methods: A retrospective chart review was performed on all patients ages 18 years and older who had an Interstim® device implanted by a single surgeon from 2005 to 2015 for lower urinary tract symptoms. Documentation of patient demographics, surgical interventions and outcomes were recorded and descriptive statistics were used to analyze the database.

Results: A total of 530 patients had SNM device trial or implant. The average patient age was 63.7 years ±15.1 years with 83% being female and 17% being male. The majority of patients (90%) had urinary frequency and urgency as an indication for intervention. Only 48 patients (9%) did not move on to therapy following a stage I trial. A total of 76 patients (14%) elected to have their device explanted with a mean time to explant of 34.4 ± 28.2 months. A total of 194 revisions were performed on 145 patients, with the most occurring from 2013 to 2015. The most frequent reason for revision was to replace a generator (52%) and the mean battery life was 42.7 ± 25.6 months.

Conclusion: SNM therapy is predominantly being used to treat patients with overactive bladder symptoms. Though the device was found to be effective, a considerable amount of secondary procedures are required, with battery replacement being the most common. It is estimated that the battery life is 5.5-9.2 years depending on the device settings; therefore, it is not surprising that most revisions occurred during the later years of the study. Given the average age of the patients being implanted and the need for revision years after implantation, close follow-up is important to ensure patients are not ignoring device failure and worsening symptoms.
Poster #NM73
SACRAL NEUROMODULATION IN MEN: DOES PRIOR TRANSURETHRAL PROSTATE SURGERY MATTER?

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Cleveland Clinic, Cleveland, OH
Presented By: Bradley Gill

Introduction: Sacral nerve stimulation (SNS) is effective for a number of refractory lower urinary tract conditions. Most SNS literature focuses upon women. This study investigates how prior transurethral prostate procedures (TUPP) relate to SNS utilization in men.

Methods: All SNS procedures from 2010-15 done by one of four urologists at a large tertiary academic center were analyzed retrospectively. Patient demographics, comorbidities, prior urologic treatments (transurethral prostate resection: TURP, button vaporization: BVP, laser photovaporization: PVP), and details of SNS utilization (indication, implantation, revision, explant) were collected. Descriptive statistics were calculated as mean (standard deviation) or median [interquartile range], while comparative statistics were performed with p<0.05 statistically significant.

Results: A total 59 men attempted SNS with 55 staged and four PNE trials. Of these, 13 had a prior TUPP with six PVP, five TURP, and two BVP noted. Primary and secondary indications for SNS did not significantly differ with or without a prior TUPP. Men who underwent a TUPP were significantly older than those who did not (67.8[61.6-72.6] vs 55.8[34.2-70.8], p0.04). However, no differences in body mass index, rates of diabetes, smoking, cardiovascular disease, stroke, multiple sclerosis, or neurogenic bladder existed. No differences in alpha blocker, anticholinergic, or beta-3 agonist use were noted. Men with prior TUPP, compared to those without, were significantly more likely (23% vs 2.2% p0.03) to undergo percutaneous nerve evaluation (PNE). There were no differences in PNE success (100% vs 100%), stage 1 success (80% vs 68%), or permanent implantation (77% vs 67%) with or without prior TUPP, respectively. Men treated for urgency incontinence, compared to urgency/frequency, had a significantly greater stage 1 success rate (85.7% vs 40% p0.004), which when stratified by TUPP remained significant without (84.2% vs 28.6%, p<0.001) but not with (100% vs 66.7% p1.00). Prior TUPP had no influence on SNS revision (23% vs 26%) or explant (9% vs 17%) rates.

Conclusion: Whether or not men undergo a transurethral prostate procedure prior to pursuing sacral nerve stimulation does not appear to impact their utilization of the therapy. It appears sacral nerve stimulation is a viable option for its indicated refractory lower urinary tract conditions in men with or without prior transurethral prostate procedures.
LESSONS LEARNED TO LOWER THE INFECTION RATE FOLLOWING SACRAL NEUROMODULATION SURGERY: A REVIEW IN TWO ACADEMIC INSTITUTES

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Presented By: Bilal Farhan

Introduction: The most significant complication following Sacral Neuromodulation (SNM) is wound infection. The infection rate from implantation requiring explanation varies between 5% and 11%. This study investigated the rate and risk factors for SNM device infections in two academic institutes by the same Urologist.

Methods: After institutional review board approval, retrospective review was conducted on SNM procedures performed between 2001 and 2009 at the Cleveland clinic, Florida (CCF) and from 2012 to July 2016 at the University of California, Irvine (UCI). Demographic and clinical data characteristics of the groups were identified. Descriptive statistics are presented as percentages, means, or medians. Data was analyzed using T-test and chi-Square as indicated.

Results: A total of 167 patients underwent SNM implant placement, 126 patients at CCF and 41 patients at UCI. The mean age was 64.1, females were 71%, and males were 29%. The average BMI was 28.2 [24.6-33.4], 14.5% of patients had diabetes, and 15.2% were smoked cigarettes. One stage implants accounted for 49% of patients (n=82), while 48% of patients (n=81) underwent staged procedure, and 3% of patients had replacement of their pre-existing interStimR. The average duration of testing in one stage procedure (PNE) was 5-7 days; while the two-stage procedure was 10-14 days. The rate of infection of all SNM procedures was 2.99% (n=5), all of which occurred after staged procedure. There was no wound infection after PNE or the single stage procedure. 1.2% (2) of patients who had surgical site infection required explantation. In both patients, wound site culture grew MRSA.

Conclusion: The overall infection rate was 2.99% with low explantation rate of 1.2%. As all occurred with the two stage procedure, it seems that reducing the time needed for permanent lead testing and performing one stage implantations are the main factors to decrease wound infection rates. Other factors that could explain our low infection rate include careful preparation and excluding patients who are MRSA carriers. Early recognition of infection and aggressive use of parental antibiotics improves the chances for salvaging explanted devices.

Funding Source: None
EFFECTIVENESS OF SACRAL NEUROMODULATION IN THE TREATMENT OF NON-OBSTRUCTIVE URINARY RETENTION IN WOMEN WITH SUBACUTE LOWER LUMBAR INJURY

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Presented By: Naveen Kachroo

Introduction: Patients with lumbar back injuries or who undergo lumbar back surgery can often develop persistent urinary symptoms, including urinary retention, which can be difficult to treat. This study aims to determine the success rate of Interstim placement in treating non-obstructive urinary retention in women with subacute lower lumbar back injury.

Methods: A single institution, retrospective analysis of women with a history of lower lumbar injury or recent lumbar back surgery and subsequent voiding abnormality who underwent sacral nerve stimulation with Interstim for refractory, non-obstructive urinary retention (proven on clinical and urodynamic evaluation) between January 2015 and August 2016. Institutional Review Board approval was obtained. Median post-operative follow up was six months. Differences in voiding frequency, volume per post void catheterization, catheterization frequency, AUA symptom scores, Quality of life (QOL) scores, Incontinence Severity Index (ISI) scores and Bother scores pre and post treatment were compared using paired t-tests (SPSS) to determine treatment efficacy.

Results: Ten patients were identified that met our study inclusion criteria. Two patients had prior lumbar back surgery and the other eight had lumbar injuries. The mean duration of urinary retention was 31 months (ranging from 2-223 months). No change was noted in voiding frequency after Interstim placement, however there was a significant reduction in post void residual urine volume (median pretreatment: 275mls vs post treatment: 100mls, p=0.003) with most no longer requiring regular intermittent self-catheterization. There was also a statistically significant improvement in AUA symptom scores (median: 14 vs 4, p=0.01) and QOL scores (median 6 (terrible) vs 1 (pleased), p=0.007). No post-operative complications were reported.

Conclusion: This study demonstrates the effectiveness of Sacral Neuromodulation in the treatment of non-obstructive urinary retention in women with a history of lower lumbar injury. A significant improvement was noted immediately in a number of voiding parameters resulting in a substantial improvement in patient QOL.
Poster #NM76
DO AMPLITUDES IN STAGE I SACRAL NERVE STIMULATION AFFECT STAGE II IMPLANTATION AND EARLY REVISION RATES?

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Presented By: Emily Zhang

Introduction: Sacral nerve stimulation (SNS) is used to treat overactive bladder (OAB) and non-obstructive urinary retention (NOUR). It is unclear what factors predict which patients will benefit most from SNS. This study tests the hypothesis that lower amplitudes during stage I indicate better electrode placement and are associated with higher stage II implantation and lower revision rates.

Methods: All 2015 and 2016 stage I SNS for urinary indications were retrospectively reviewed for implantation amplitudes and subsequent surgeries. Surgeries that did not have amplitudes recorded in the chart were excluded. An amplitude score was calculated by assigning a 1 for an electrode amplitude <2 V and a 0 for an amplitude ≥2 V and summing for all four electrodes. Stage II implantation and lead revision rates were analyzed using Fisher’s exact test, and amplitudes were analyzed using Wilcoxon rank-sum test, with p <0.05 significant.

Results: A total of 116 surgeries were included. Mean age at stage I was 58 years, mean BMI was 31 kg/m2, and 79% were female. Of these patients, 91 had OAB and 25 had NOUR. There was a stage II implantation rate of 84% and a 7% revision rate. The median electrode amplitude in those who received stage II was 1.9 V versus 2.5 V in those who did not, with p=0.1. Median amplitude did not differ between patients who underwent a revision and those who did not (1.9 V and 1.7 V, respectively, p=0.2). Those who progressed to stage II had a mean amplitude score of 2.2, while those who failed to progress had a mean amplitude score of 1.8 (p=0.4). Amplitude score did not differ between no revision and revision (2.1 and 2.9, p=0.3).

Conclusion: No significant associations between amplitudes and outcomes were observed. The trending association between stage II implantation and average amplitude suggests that amplitudes <2 V may be associated with better outcomes. Revisions infrequently occur during the first year of SNS, thus longer follow-up is needed to detect any associations between revisions and stage I amplitudes. It will be important to continue studying this group to examine long-term outcomes.
NEW NOVEL CHRONIC TIBIAL NEUROMODULATION (CTNM) TREATMENT OPTION FOR OAB SIGNIFICANTLY IMPROVES URGENCY (UI)/URGE URINARY INCONTINENCE (UUI) AND NORMALIZES SLEEP PATTERNS

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Presented By: Karl-Dietrich Sievert

Introduction: Percutaneous tibial nerve stimulation (PTNS) has been successfully used to treat symptoms of overactive bladder (OAB). PTNS currently relies on episodic stimulation of the tibial nerve once/week for 30min in an outpatient setting using an acupuncture needle and ground pad to create electrical stimulation. We investigated CTNM in OAB patients using this novel minimal-invasive chronic implantable device (StimGuard LLC®).

Methods: In 2014, two male patients (82 years old with Parkinson’s disease for 6 years and 69 years old with MS for 16 years) with neurogenic lower urinary tract dysfunction (nLUTD) were implanted. Both patients suffered from refractory UI and nocturia; detrusor overactivity and detrusor sphincter dyssynergia. In February-April 2016, six additional patients (one male: spina bifida; five female: iOAB) received the implants through a <5mm skin incision. Patients were asked to use the device while sleeping (max eight hours). Patients were followed with bladder diary, maximum flow rate (ml/sec), post void residual (PVR) and questionnaires on a regular basis (one month prior to surgery and two, four weeks, three and six months postop).

Results: Implantation of the electrode was well-tolerated by all patients and performed as an outpatient procedure without complication. The initial two patients reported significant improvement of nLUTD within 48 hours. Both patients were completely dry two months post-op; UI and nocturia disappeared (bladder diary). Both patients stopped CTNM due to the progression of their comorbidity, though a causal correlation could not be drawn. After 1.5 years the electrode of one patient migrated through the implantation path. In the second group, the male was excluded due to lack of improvement and required alternative treatment. Five female iOAB patients documented major improvements in bladder diaries. UUI episodes significantly decreased (base: 2.1/d vs. 2.5/m six months post-op) and nocturia vanished. Mean voided volume significantly increased to 70ml, without or increased PVR. In the five iOAB patients, all implants are currently in place and their efficacy confirmed.

Conclusion: CTNM offers a promising treatment option using a novel chronic implantable device and external charger. The new minimal invasive technology might revolutionize neuromodulation and offers those patients suffering from refractory OAB with low morbidities an opportunity to perform CTNM over several hours, even while sleeping.

Funding Source: Stimguard provided the implants
SPECIFIC CHANGES IN BRAIN ACTIVITY IN WOMEN WITH OVERACTIVE BLADDER AFTER SUCCESSFUL SACRAL NEUROMODULATION WITH INTERSTIM®: AN FMRI STUDY

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Presented By: Steven J. Weissbart

Introduction: Sacral neuromodulation (SNS) with InterStim® is efficacious for the treatment of overactive bladder (OAB); however, its mechanism of action is unclear, and there are no objective markers of response. Prior functional neuroimaging studies have suggested that women with OAB have increased brain activity in the cingulate cortex, insula, and frontal cortex, in response to bladder filling. The aim of this study was to investigate the effect of SNS on brain activity in women with OAB.

Methods: We conducted a prospective mechanistic study of women with OAB (measured on validated questionnaire) undergoing InterStim®. Prior to stage 1 InterStim®, women underwent BOLD fMRI during bladder filling. During filling, women were asked to signal the experience of urgency. Women who completed stage 2 InterStim® underwent a 2nd BOLD fMRI during bladder filling six weeks after InterStim® implantation. Brain activity during urgency was compared to no urgency, and analysis was stratified according to response to InterStim®.

Results: The study included 12 women with idiopathic OAB with normal emptying (median age 63.5, IQR 11 years). All women underwent pre-InterStim® fMRI, and seven completed stage 2 InterStim® and underwent post-InterStim® fMRI (i.e. seven responders, five non-responders). Among responders, brain activity decreased in the left cingulate gyrus (x,y,z coordinates: -5, 23, 39, p=0.048) and left frontal gyrus (-5, 23, 39, p=0.04) after InterStim® implantation (figure 1). There were no areas of increased brain activity after InterStim® implantation. Women who responded to InterStim® had increased brain activity on their pre-InterStim® fMRI in multiple cortical regions, including the cingulate cortex, inferior frontal gyrus, insula, and thalamus. There were no differences in ICIQ-FLUTS filling scores or pre-InterStim® fMRI filling volumes between responders and non-responders (p>0.05).

Conclusion: SNS with InterStim® appears to attenuate increased brain activity in women with OAB. Women with OAB and increased brain activity during bladder filling may experience greater treatment response. fMRI has preliminarily detected a phenotype of OAB that may predict therapeutic response to InterStim®.
NEUROMODULATION FOR CHRONIC UROGENITAL PAIN: A COMPARISON OF PUDENDAL AND SACRAL NERVE STIMULATION

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Presented By: Kenneth M. Peters

Introduction: Little evidence exists regarding the effect of chronic neuromodulation on urogenital pain. We evaluated outcomes between pudendal vs. sacral nerve neuromodulation.

Methods: Adults in our prospective database with primary/secondary diagnosis of pelvic pain (excluding interstitial cystitis) and quadripolar lead placed at the pudendal or sacral nerve were reviewed. History, pain scores (0-10; none to severe), Global Response Assessment (GRA), Interstitial Cystitis Symptom/Problem Index (ICSIPI) and Overactive Bladder symptom severity (OABq ss)/health related quality of life (HRQOL) collected at baseline, three and six months, and one and two years were analyzed with descriptive statistics and repeated measures over one year.

Results: Of 87 that had a lead placed, 72 (83%) had generator implantation and 65 had complete baseline data. 37/65 had a pudendal (12/37 had failed sacral stimulation) and 28 had a sacral lead. Group characteristics were similar except for pudendal had lower body mass index (median 24.8 vs. 28.6; p=0.009) and fewer with primary urinary urgency/frequency (8.1% vs. 39.3%; p=0.003). Pudendal patients more commonly had a primary diagnosis of pelvic pain that approached but was not statistically significantly (62.2% vs. 38.5%; p=0.06). Median follow up was 1.2 vs. 2.6 years in the pudendal and sacral groups respectively (p=0.0011). Median pelvic pain scores were similar between pudendal and sacral groups at baseline and each follow up, and both improved significantly over one year (p=0.0003 and p<0.0001). The pudendal group had lower ICSIPI and OABq ss scores at baseline (p=0.007 and p=0.035, respectively), but both groups improved over 1 year on the ICSIPI (p<0.0001 for both groups), OABq ss (p=0.005 and p=0.0002 respectively), and OABq HRQOL (p=0.027 and p<0.0001, respectively). Similar proportions in the pudendal and sacral groups had pain at each follow up except for at six months (17/19; 90% vs. 8/14; 57%; p=0.047); for those with pain, similar proportions (between 33% and 50%) had moderate/marked improved in pain on the GRA at each time point.

Conclusion: Both groups experienced modest but similar improvements in pelvic pain. Pudendal was effective in those who failed sacral neuromodulation and was used preferentially in patients with a primary diagnosis of pain. Neuromodulation should be considered in the management of chronic pelvic pain.

Funding Source: Philanthropy; Ministrelli Program for Urology Research and Education (MPURE)
Podium #29
CHANGES IN BRAIN ACTIVITY ON FUNCTIONAL MAGNETIC RESONANCE IMAGING DURING SACRAL NERVE STIMULATION FOR OVERACTIVE BLADDER

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Presented By: Bradley C. Gill

Introduction: Sacral nerve stimulation (SNS) is used for refractory overactive bladder (OAB). Its mechanism of action is unknown, but likely involves spinal reflexes and afferent signaling to the brain. This study assessed SNS effects on functional magnetic resonance imaging (fMRI) measured brain activity in OAB.

Methods: Following IRB approval, women with non-neurogenic refractory OAB who responded to SNS via InterStim II device, had a stable program for three or more months, and received no adjuvant OAB treatment were recruited. Enrolled patients completed pre-fMRI validated symptom and quality of life instruments [UDI-6, IIQ-7, PGI-S, Perceived Urgency Intensity (PUI)]. Stimulus settings were recorded, devices switched off for a five-day washout, and instruments repeated. Three fMRI scans below, at, and above stimulus sensory threshold were done. Images were 2-dimensional gradient echo-planar imaging blood-oxygenation level dependent contrast (EPI-BOLD) acquired over 5 stimulator-off and 4 on cycles of 42 seconds each. Output images use single voxel p-value 0.05 with false positive error of 0.05 (cluster-analysis determined).

Results: A total 13 patients were enrolled (three did not undergo fMRI, four were excluded for poor OAB symptom control or low image quality), six completed fMRI. The sample had a median age 52 [36-64] years. Urinary bother significantly worsened with ‘washout’ while symptoms worsened with a trend toward significance. Voiding diary data supported this. An overall pattern of brain activation generally progressed with increasing stimulation, but activation of the right inferior frontal gyrus remained stable, while deactivation of the pons and periacqueductal gray matter was only noted with sub-sensory stimulation. Sensory stimulation activated the insula but deactivated the medial and superior parietal lobes. Suprasensory stimulation activated multiple structures and the expected S3 sensory region. All devices had normal impedances after fMRI and PUI (p0.36) nor PGI-S(p0.36) changed from baseline.

Conclusion: Varying SNS stimulus influences fMRI signal intensity. These results suggest SNS may have a centrally-mediated mechanism of action.

Funding Source: Medtronic Research Grant
CHARACTERISTICS ASSOCIATED WITH NEUROMODULATION DEVICE EXPLANTATION FOR DECLINING EFFICACY

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Presented By: Jason P. Gilleran

Introduction: Patients with implanted neurostimulation devices for bladder symptoms may undergo explantation for a variety of reasons. We explored whether explantation for declining efficacy is associated with symptom severity or other patient characteristics.

Methods: We reviewed patients in our prospective database that had an implantable pulse generator (IPG) placed. Those that were eventually explanted for declining symptoms were propensity matched 1:2 with non-explanted controls on age, gender, lead location, primary indication for implant, and length of follow up. History, baseline voiding diaries, and Interstitial Cystitis Symptom/Problem Index (ICSIPI) and Overactive Bladder symptom severity (OABq ss)/health related quality of life (HRQOL) at baseline and 3 months were compared between groups with Pearson's Chi-square, Fisher's Exact, and Wilcoxon rank sum tests.

Results: Fifty-two explanted patients were matched with 104 controls. Explants were performed at years 1-6 in 19, 29, 39, 44, 49 and 52, respectively. Most in both groups had overactive bladder with urge incontinence. When compared, a lower proportion in the explanted group reported marked/moderate improvement in symptoms after lead placement and just prior to IPG implant (13/19; 68.5% vs. 58/63; 92.1%; p=0.016). After implant, more explanted patients had a complication (18/52; 34.6% vs. 3/104; 2.9%; p=0.0001). Explanted patients had more reprogrammings within the first year (median 2 vs. 0.5; p<0.0001). Baseline voiding diaries, and baseline and three-month ICSIPI scores, did not differ between groups. Although the explanted group overall had better HRQOL scores at baseline, in just those patients that completed both baseline and three-month measures there were no statistically significant differences at either time point between groups. In addition, the explanted group had fewer with hypertension (40.4% vs. 58.7%, p=0.031), fewer comorbidities (median 1 vs. 2, p=0.026), higher income (p=0.019), and more women on hormone replacement therapy (34.9% vs. 10.2%; p=0.0006) even though the proportions that were postmenopausal were similar.

Conclusion: Explanted patients had more comorbidities, complications, and lower rate of marked/moderate improvement after lead placement. Baseline and follow up symptom measures were similar indicating that symptoms are not associated with explanation.

Funding Source: Philanthropy; Ministrelli Program for Urology Research and Education (MPURE)
Podium #31
ELECTRICAL STIMULATION OF AFFERENT NERVES IN THE FOOT WITH TRANSCUTANEOUS ADHESIVE PAD ELECTRODES IN WOMEN WITH OAB: COMPARISON OF DIFFERENT STIMULATION DURATIONS

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Presented By: Christopher J. Chermansky

Introduction: A non-invasive and convenient OAB treatment with no major adverse events would be ideal. We previously showed that stimulation of afferent nerves in the foot for three hours daily with transcutaneous adhesive pad electrodes (FootStim) decreased incontinence and urgency frequency in women with refractory urgency urinary incontinence (UUI). Yet, the ideal stimulation duration remains unknown. We sought to compare OAB symptoms in women with UUI who underwent FootStim for either 30 minutes or three hours daily for one week.

Methods: Women with refractory UUI were recruited onto the study. All patients stopped OAB drug therapy two weeks prior to study initiation. A three-week voiding diary was obtained, and FootStim was applied during week 2. The patients underwent FootStim for either 30 minutes or three hours daily. Baseline voiding parameters were measured during week 1, and the post-stimulation effect was measured during week 3. Adhesive pad electrodes were attached to the bottom of the foot and connected to a transcutaneous electrical nerve stimulator. Stimulation parameters included pulse frequency of 5 Hz, pulse width of 0.2 ms, and intensity of 2-4 times the minimal stimulation necessary to induce a toe twitch. Responder was defined as having a statistically significant improvement in one or more OAB symptoms.

Results: Thirty-three women completed the study, of which 19 underwent stimulation for three hours and 14 underwent stimulation for 30 minutes. The response rates were 16/19 (84%) in the three-hour group and 10/14 (71%) in the 30-minute group. In the three-hour group incontinence frequency decreased from 3.7 to 2.8 leaks/day (p=0.04) and urgency frequency decreased from 7.6 to 6.6 episodes/day (p=0.03). Daytime voiding frequency (n=8) and nocturia (n=7) decreased in the three-hour group. In contrast, only incontinence frequency decreased in the 30-minute group, and this dropped from 5.3 to 4.3 leaks/day (p=0.03). In the 30-minute group urgency frequency improved in two, nocturia improved in one, and daytime urinary frequency improved in none. FootStim effects persisted in both groups for four days after treatment ended. There were no adverse events in either group.

Conclusion: FootStim for either 30 minutes or three hours daily decreased incontinence frequency in women with OAB; however, FootStim for three hours better improved the other OAB symptoms. Our results support further testing of FootStim to determine long-term efficacy and stimulation schedule.
OPTIMIZING LEAD PLACEMENT DURING STAGED SACRAL NEUROMODULATION (SNM): A SUMMARY OF PREDICTIVE FACTORS FOR PROGRESSION TO STAGE 2 AND SHORT TERM OUTCOMES

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Presented By: Sarah A. Adelstein

Introduction: Current practice at our high-volume tertiary referral hospital aims to optimize lead placement at the superior medial aspect of the S3 foramen and achieve lead thresholds under 2mA for all electrodes sites. This analysis aims to summarize our experience with optimized technique, and evaluate the impact of baseline factors on progression to stage 2 SNM implant.

Methods: This is a retrospective cohort study of all stage 1 lead placement SNM cases from August 2014-April 2016. After a 1-2 week trial period, patients received a stage 2 SNM pulse generator if voiding diaries reflected ≥50% symptom improvement. Otherwise, the lead was removed. Demographic, clinical and intraoperative factors were compared between those who progressed to stage 2, and those whose leads were removed. Statistical analysis was performed using Excel.

Results: There was 90% of the total 101 stage 1 lead placements progressed to stage 2. 90% of subjects were female. Indications for implant were 94% refractory urgency, 9.9% idiopathic urinary retention, and 13.9% fecal incontinence. Female gender was associated with progression to stage 2 implant (p=0.023). History of failed 3rd line therapy was associated with non-progression to stage 2 (p=0.018). The impact of other factors on progression was not significant (see table 1). With mean 13 months follow up, 4% and 4% of SNM implants were subsequently revised or removed, respectively, including 1% for infection. The UDI6 scores for the progression group were significantly improved at 11 months (42.6 vs 57.6, p=0.006). There was no difference between baseline and follow up scores in the removal group (p=0.45).

Conclusion: Optimized lead placement technique can achieve motor and sensory thresholds <2mA in all electrodes, improved symptom bother scores, and a 90% conversion rate to stage 2 SNM.
IC/Pelvic Pain/Geriatrics/BPH Moderated Poster Session
Friday, March 3, 2017
4:00 p.m. - 5:00 p.m.

Moderators: Larry T. Sirls, II, MD
John T. Stoffel, MD

Poster #M39
SYMPTOMATIC OVERLAP IN OVERACTIVE BLADDER AND INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME

A. Lenore Ackerman, MD, PhD¹; H. Henry Lai, MD²; Karyn S. Eilber, MD¹; Jennifer T. Anger, MD, MPH, FPMRS¹
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Presented By: A. Lenore Ackerman

Introduction: While bladder hypersensitivity syndromes (BHS), such as overactive bladder (OAB) and interstitial cystitis/painful bladder syndrome (IC/PBS), classically exhibit the predominant symptoms of urgency and bladder pain, respectively, there is considerable symptom overlap between the conditions. Given this finding, we sought to define the fundamental features of each syndrome and refine diagnostic criteria through retrospective comparison of self-reported symptoms in female patients with a range of clinical presentations and symptom severities.

Methods: We performed univariate analysis comparing responses to the Genitourinary Pain Index (GUPI), OAB Questionnaire (OABq) and O'Leary-Sant Indices (ICSI/ICPI) between 26 asymptomatic, 42 IC/PBS, and 27 OAB patients. Only five specific questions differed significantly between the IC/PBS and OAB groups, which assessed either urgency incontinence or bladder pain with filling. We used these questions to generate a novel composite scoring system with urgency incontinence (UI) and bladder pain (BP) domains to differentiate these populations.

Results: While all validated questionnaires could distinguish between controls and BHS, no composite symptom scores differed significantly between the IC/PBS and OAB patients (Figure 1A). Only the GUPI Pain Domain was significantly different between OAB and IC/PBS patients, but was not useful for diagnostic evaluation, resulting in a Positive Predictive Value (PPV) of only 56-60% for a range of cutoffs. Our composite score gave a PPV of 100% and Negative Predictive Value (NPV) of 85% for a diagnosis of IC/PBS, as well as a PPV of 90% and NPV of 53% for a diagnosis of OAB (Figure 1B). These results are reflective of the prevalence of significant bladder pain (35%) in OAB patients and the presence of incontinence in IC/PBS patients.

Conclusion: The significant overlap of urinary tract symptoms between OAB and IC/PBS suggests common pathological elements. Future studies aimed at assessing the diagnostic value of novel classification schemes that address symptoms rather than specific diagnoses may improve patient prognosis. Regardless, these data suggest a new paradigm for how we approach BHS.
THE NATURE AND SEVERITY OF MENTAL COMORBIDITIES IN PATIENTS WITH INTERSTITIAL CYSTITIS AND IRRITABLE BOWEL SYNDROME: RESULTS FROM AN NIH TRIAL

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Presented By: Tova Ablove

Introduction: Interstitial Cystitis/Painful Bladder Syndrome (IC) is a painful, disabling, common disorder that is difficult to treat. Complicating matters are the high rates of mental and physical comorbidities (e.g. irritable bowel syndrome (IBS), fibromyalgia, chronic fatigue syndrome). The purpose of this study is to characterize the nature of mental comorbidities in patients with functional gastrointestinal disorders with and without IC.

Methods: Subjects included 371 female patients (M age = 41 years) enrolled in an NIH funded trial for IBS. All patients met ROME III diagnosis for IBS confirmed by a study gastroenterologist. As part of baseline assessment, patients completed psychological testing (Beck Depression Inventory, Brief Symptom Inventory, State−Trait Anxiety Inventory) and underwent a psychiatric exam (MINI International Neuropsychiatric Interview) to characterize presence of DSM Axis I (Clinical) disorders. Comorbid medical conditions were assessed through self-report of 112 physician-diagnosed medical conditions.

Results: Of 371 patients, 20 (5.4%) had comorbid IC (IC+IBS). The most common psychiatric disorder among IC+IBS patients was Generalized Anxiety Disorder (intense worry about everyday life events) followed by agoraphobia (fear of leaving familiar situations), somatization (unexplained medical symptoms) and major depression. IC+IBS patients had significantly higher rates of diagnosable agoraphobia (30% vs. 13%, p < 0.05) and somatization (20% vs. 5%, p < 0.05) than IBS patients without IC. IC+IBS patients also reported significantly higher levels of depression, somatization, and trait anxiety (neuroticism) than IBS patients without IC (p’s < 0.05).

Conclusion: IBS patients with IC have significant mental comorbidities primarily manifested in Generalized Anxiety Disorder, agoraphobia, somatization and major depression. The risk of agoraphobia and somatization among patients with IBS+IC is 2 to 5 times higher than in patients without IC. Self-reported levels of depression, somatization, and trait anxiety among IC+IBS patients are significantly higher than patients with IBS alone. This study highlights the importance of comorbidity which may influence patient reporting of symptoms and their impact, obscure symptom presentation, undermine the patient–physician relationship, and delay accurate diagnosis.

Funding Source: NIH Grant 77738
THE EFFECTS OF A STRESS AND EMOTION INTERVIEW FOR WOMEN WITH UROGENITAL PAIN: A RANDOMIZED TRIAL

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Presented By: Kenneth M. Peters

Introduction: Women with urogenital pain conditions (interstitial cystitis, pelvic floor dysfunction, etc.) have elevated rates of lifetime trauma and mood disorders, which appear to trigger or exacerbate their pain, disability, and distress. Unfortunately, little research exists on procedures for assessing and intervening with stress and emotional processes in medical settings with women with urogenital pain conditions. Thus, our objective was first, to develop a comprehensive life-stress interview for women with urogenital pain that increases awareness of the links between stress, emotions, and physical symptoms through the use of experiential techniques, and second, to test whether it improves physical and psychological health.

Methods: There were 62 women (M = 46.03 years old) diagnosed with chronic urogenital pain recruited in a multidisciplinary women’s urology center and randomized to a life-stress interview condition or treatment as usual (TAU) condition. Questionnaires were administered at intake and at six-week follow up, including Pelvic Floor Disorder Inventory (PFDI; Ubersax et al., 1995), Brief Pain Inventory (BPI; Cleeland & Ryan, 1994), and Brief Symptom Inventory (BSI; Derogatis, 1993) for depression and anxiety. Patients in the interview condition had a single 90-minute intensive interview, which aimed to help patients examine the relationship between stress, emotional conflict, and symptoms and encouraged adaptive expression of inhibited emotions.

Results: ANCOVAs, controlling for baseline level of the DV and baseline depression, tested differences between Interview and TAU conditions at six weeks (See Table 1). The life-stress interview improved pelvic floor symptom distress and pain severity more than TAU. No effects, however, were found on symptoms of depression and anxiety, or pain interference.

Conclusion: It appears that this novel, emotional awareness and expression interview improves physical health but not psychological symptoms, among women with chronic urogenital pain within tertiary care women’s urology centers. This trial suggests that for this complex patient group, emotion-focused interviews can be a useful alternative to cognitive-behavioral interviews.
Poster #M42
HISTOPATHOLOGICAL CHARACTERISTICS OF INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME WITHOUT HUNNER LESION

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Seoul, South Korea
Presented By: Myung-Soo Choo

Introduction: The precise pathophysiology of subtypes of interstitial cystitis/bladder pain syndrome (IC/BPS) remains elusive. Therefore we investigated distinct histopathological characteristics and its clinical significance of IC/BPS without Hunner lesion compared to that with Hunner lesion.

Methods: We enrolled IC/BPS patients prospectively based on the cystoscopic findings as non-Hunner-type IC (NHIC) and Hunner-type IC (HIC). The bladder specimens from posterior wall of the bladder during hydrodistension in NHIC or from Hunner lesion/non-Hunner lesion during transurethral resection in HIC were histologically evaluated. Stress urinary incontinence patients with microscopic hematuria were selected as a control group (non-IC). The histopathological features such as infiltrating lymphocytes and mast cells, fibrotic changes as well as the amount of remnant epithelium in the specimen were analyzed and these findings were matched with clinical variables.

Results: The biopsy specimens were obtained from 15 HIC, 15 NHIC and five non-IC patients. Severe and moderate fibrosis was more frequently observed in NHIC than HIC and non-IC. NHIC exhibited more increased number of mast cells than HIC and non-IC (17.3 vs. 12.0 vs. 8.3 cells/mm3; p=0.035). However severe and moderate inflammation were more frequently observed in HIC than NHIC, and there was no difference for severity of inflammation between Hunner lesion (H-lesion) and non-Hunner lesion (non-H lesion) in HIC. The remnant urothelium was significantly decreased in HIC compared to NHIC and non-IC (71±5.4% vs. 70.7±16.8% vs. 83.3±5.6%; p<0.05). Patients showed significantly increased frequency, longer duration of symptoms and smaller bladder capacity in patients with severe fibrosis than those with moderate/mild fibrosis (14.1 vs. 9.8/day; 25.8 vs. 23.3 months; 140.0 vs. 223.4 ml; all p<0.05)

Conclusion: NHIC is characterized by severe fibrosis and increased infiltration of mast cells, however HIC is characterized by severe inflammation and urothelial denudation in both H and non-H lesion. Fibrosis in bladder of IC/BPS patients correlated with increased urinary frequency, decreased bladder capacity and long duration of symptoms.
OVERACTIVE BLADDER IS MORE STRONGLY ASSOCIATED WITH FRAILTY THAN AGE IN OLDER INDIVIDUALS

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Presented By: Anne M. Suskind

Introduction: Over half of older individuals suffer from overactive bladder (OAB) and the incidence of OAB rises with advancing age. While frailty, a decrease in physiologic capacity, also increases with age, the association between frailty and OAB has not been examined. The objective of this study is to investigate this association.

Methods: This is a prospective study of men and women ages 65 and over presenting to an academic non-oncologic urology practice between December 2015 and July 2016. All patients had a timed up and go test (TUGT), a parsimonious measure of frailty, on intake. Based on the TUGT, individuals were categorized as not frail (≤10 sec), intermediately frail (11-14 sec) and frail (≥15 sec). The TUGT and other clinical data were abstracted from the electronic medical record using Clarity software. We then used logistic regression to examine the relationship between frailty and the diagnosis of OAB, adjusting for other patient characteristics.

Results: Our cohort included 226 with individuals with OAB and 1137 individuals without OAB. Individuals with OAB tended to have a higher TUGT (13.4 ± 7.8 sec) than their non-OAB counterparts (10.9 ± 5.2 sec), p<0.0001, with 30.1% and 11.0% of OAB and non-OAB individuals being categorized as frail with a TUGT ≥15 sec. In multivariate analysis, frailty was a significant predictor of OAB [adjusted OR 2.0 (95% CI 1.5-2.7]. Age, however, was not associated with OAB (global p value of 0.255).

Conclusion: Patients with a diagnosis of OAB symptoms are significantly more frail than individuals seeking care for other non-oncologic urologic diagnoses. Frailty, but not age, has a statistically significant association with a diagnosis of OAB. Elucidation of the mechanisms behind this association and the impact of frailty on OAB-related outcomes warrants further investigation.

Funding Source: NIDDK K12 DK83021-07; K12 Urologic Research (KURe) Career Development Program
A RANDOMIZED, DOUBLE BLIND, PLACEBO CONTROLLED TRIAL OF TOPICAL ANESTHETIC USE IN PESSARY MANAGEMENT: THE TAP STUDY

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Presented By: Susanne K. Taege

Introduction: To determine the effect of 5% EMLA® cream (eutectic mixture of lidocaine 2.5% and prilocaine 2.5 %) applied at the time of pessary change on patient discomfort.

Methods: In this IRB approved double blind, randomized, placebo controlled trial, participants undergoing pessary change as part of routine care were randomized to four grams of 5% EMLA® cream or an equal volume of placebo cream. The cream was applied in a standardized manner, and after five minutes, pessary removal, speculum exam, and pessary insertion were performed per usual practice. The participants marked the visual analogue scale (VAS) pain score prior to placement of the study cream, immediately after pessary removal and immediately after pessary insertion. An analysis of covariance was used to evaluate pain at removal and insertion as a function of treatment assignment controlling for baseline pain. Demographic information was collected for each patient.

Results: The 53 participants, recruited over a six-month period, had a mean age of 77.8 years (57 - 92). A majority of patients were white (89%), multiparous (median parity of 3), and most (92%) were not sexually active within the last month. The mean duration of pessary use was 15 months (6 – 26). Pessary indications included prolapse (55%), incontinence (15%) or both (30%). The most common type of pessary used was a ring with support (43%), followed by incontinence dish (34%) and Gellhorn (9.43%). The study groups had similar mean baseline pain scores: 0.29 for the EMLA® group and 0.23 for the placebo group. After adjusting for baseline pain, participants assigned to the EMLA® group had significantly lower pain at pessary removal (1.76 ± 0.57 vs. placebo 3.81 ± 0.58, p = 0.02). This significance held after controlling for type of pessary and for the practitioner’s level of training. Although EMLA® participants had lower pain scores at insertion (0.61 ± 0.52 vs. placebo 1.68 ± 0.44), this was not statistically significant (p = 0.09, Figure 1).

Conclusion: Compared to placebo cream, EMLA® cream at the time of office pessary removal reduces pain. Clinicians may wish to include this simple intervention to optimize patient comfort and potentially compliance.
PREDICTORS OF URINARY RETENTION FOLLOWING ONABOTULINUMTOXINA INJECTION FOR OVERACTIVE BLADDER IN PATIENTS WITH LOW PREOPERATIVE POST-VOID RESIDUAL

Rachel Sosland, MD¹; Joshua A. Cohn, MD¹; Casey Kowalik, MD¹; David J. Osborn, MD²; W. Stuart Reynolds, MD, MPH¹; Melissa R. Kaufman, MD, PhD¹; Douglas F. Milam, MD¹; Roger R. Dmochowski, MD, MMHC, FACS¹
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Presented By: Rachel Sosland

Introduction: Although elevated preoperative post-void residual (PVR) is the primary risk factor for urinary retention after OnabotulinumtoxinA (BTX-A) injection for idiopathic overactive bladder (OAB), patients with low PVR remain at risk for this complication. We aimed to identify clinical or urodynamic parameters predicting for increased likelihood of retention in patients with low preoperative PVR, which could improve the utility of preoperative pressure-flow studies and reduce frustration associated with “unexpected” urinary retention.

Methods: This is retrospective analysis of patients with OAB and preoperative PVR less than 50 mL undergoing initial BTX-A injection with 100 units between 03/2004 and 07/2013. The primary outcome measure was postoperative urinary retention, defined as the need for intermittent catheterization or indwelling catheter following BTX-A. Clinical and urodynamic parameters were compared across patients who did and did not develop urinary retention.

Results: The study population was comprised of 74 patients with mean age 62 years, of whom 26 (35%) were male. Eleven (14.8%) patients experienced post-BTX-A urinary retention. Mean preoperative PVR was 11.4 (95% CI 8.1-14.8) and did not differ between patients who did and did not develop urinary retention (6.7 vs. 12.3, p=0.14). Although mean voiding efficiency was higher in those who developed retention (94.1% vs 97.6%, P= 0.034), no clinical (age, sex, body mass index, presence of diabetes) or urodynamic parameters (maximum detrusor pressure (Pdet), Pdet at maximum flow rate (Qmax), Qmax), were significantly different in patients with and without retention (Table).

Conclusion: Even in patients with low preoperative post-void residual (<50 mL), as many as one in seven patients may require catheterization for urinary retention after initial injection of 100 U BTX-A. We were unable to identify any significant relationship between preoperative pressure-flow data and postoperative urinary retention. It remains important to counsel all patients, including those with low PVR, about the risk of urinary retention following BTX-A injection for OAB.

Funding Source: None
Poster #M46

WITHDRAWN

Poster #M47

SPINAL ANESTHESIA FOR TRANSURETHRAL PROSTATE RESECTION OR VAPORIZATION IS ASSOCIATED WITH PROLONGED LENGTH OF STAY

Joseph Rodriguez, MD; William Boysen, MD; Melanie A. Adamsky, MD; Gregory T. Bales, MD; Glenn S. Gerber, MD

University of Chicago, Chicago, IL
Presented By: Joseph Rodriguez

Introduction: Men undergoing transurethral resection of the prostate (TURP) or photovaporization of the prostate (PVP) can receive general anesthesia (GA) or spinal anesthesia (SA). While some advocate avoiding GA when possible, no studies have directly compared outcomes of TURP or PVP by anesthesia type.

Methods: We queried the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database from 2011 to 2014 to identify patients undergoing TURP or PVP only, without bleeding disorders and under 90 years-old. The primary outcomes assessed were length of stay (LOS), 30-day complications, readmissions and death. Descriptive statistics were performed using the chi-squared test and two sample t-test as appropriate. Multivariate analysis was used to assess for the association of anesthesia type on primary outcomes.

Results: There were 11,582 cases under GA and 3,933 under SA. Patients in the SA group were less likely to be black (3% vs 6%; p<0.01), obese (25% vs 31%; p<0.01), smokers (9% vs 11%; p<0.01), or to have preoperative hematocrit less than 30 (1% vs 2%; p=0.03). They were more likely to be older (73.1 vs 70.5 p<0.01). A greater proportion of those undergoing SA had TURP vs PVP (82% vs 62%; p<0.01). Comorbidities were similar between groups as assessed by American Society of Anesthesiologists category and modified frailty index score (p=0.27). On multivariate analysis, SA was associated with LOS > 1 day (OR 2.62; p<0.01), but not with complications (p=0.50), readmissions (p=0.38), or death (p=0.16).

Conclusion: To our knowledge this is the largest series assessing the impact of anesthesia on outcomes after TURP or PVP. Low rates of complications, readmissions and deaths are maintained regardless of anesthesia type. Prolonged LOS is independently associated with SA.
Poster #M48
ARE NOMOGRAMS BASED ON FREE UROFLOWS HELPFUL TO EVALUATE URETHRAL OBSTRUCTION IN MEN?

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Presented By: Francoise A. Valentini

Introduction: Decrease of Qmax during intubated flow (IF) in women is due to a urethral reflex (foreign material) and has over-estimation of obstruction as consequence [1]. Our hypothesis is that a similar phenomenon could occur in men. Our purpose was to search for a method using results of a free uroflow (FF) preceding an IF to eventually correct the AG number estimation.

Methods: Retrospectively, analysis of 441 urodynamic studies of men suspected of bladder outlet obstruction (BOO) was performed (FF then IF catheter 8Fand AG estimation). The VBN model [2] links urethral obstruction (counter-pressure pucp exerted by the prostate) and the detrusor contractility (parameter k) to Qmax and pdet.Qmax. AG and pucp are strongly correlated [3]. Contractility cannot be approximated by simple linear approximations such BCI and mBCI; so an algebraic equation f(Qmax,pdet.Qmax) which graphical representation is a nomogram is computed. Cut off value for occurrence of a urethral reflex is Qmax.FF > 1.5*Qmax.IF. Using the nomogram a corrected AG (Cor_AG) was computed. All computations were made in Excel.

Results: A sketchy pathway for computation of Cor_AG is given in the figure. Only 362 files with Vini.FF > 90 ml were included. Cor_AG was compared to AG; for example (O for AG becoming E or NO for Cor_AG) (Table). When Qmax.FF > 1.5*Qmax.IF there was no significant difference in Vini (375±245 mL for FF vs. 410±139 mL for IF; n.s.). Increased BOO resulted from a urethral reflex during IF and AG gave an overestimation. Emended AG (Cor_AG) allowed a better classification of BOO. When Qmax.FF < 1.5*Qmax.IF Vini was significantly different (313±195 mL for FF vs. 431±154 mL for IF; p <.0001).

Conclusion: To obtain a reliable evaluation of BOO in men, it is suitable to perform a FF before IF. An easily usable Excel tool allows computation of a corrected AG. The proposed nomograms could be helpful for evaluation of BOO in men.

Poster #M49
URETHRAL STRICTURE DISEASE FOLLOWING LASER AND ELECTROCAUTERY TRANSURETHRAL PROSTATIC SURGERY

Amar J. Raval, MD; Ali Syed, MD; Ajay Puri, BS; Akhil K. Das, MD; Bradley D. Figler, MD; Whitney R. Smith, MD
Thomas Jefferson University Hospital, Philadelphia, PA
Presented By: Amar J. Raval

Introduction: Transurethral resection of the prostate with electrocautery (EP) is the gold standard surgical management of benign prostatic hyperplasia (BPH). Laser transurethral prostatic surgery (LP) is a promising alternative with potentially shorter hospitalization and catheterization time, lower risks of clot retention, and transurethral resection syndrome. While urethral stricture disease (USx) is a well-described risk of transurethral surgery, risk of USx after EP vs. LP has not been studied. We compared rates of USx following EP vs LP.

Methods: Claims data were used to identify 1) patients who underwent EP or LP for BPH at our institution (2008-2014) without a diagnosis of prostate cancer and 2) patients with a post-operative diagnosis of USx. Of the 914 cases, patients were excluded if they did not undergo EP or LP for BPH (110), had prostate or urothelial carcinoma (74), had prior BPH surgery (83), had concomitant EP and LP treatment (32), or transurethral incision of the prostate (30). Two-tailed t-test, Wilcoxon rank sum, and chi-square tests were used for unadjusted analysis. Logistic regression with stepwise backward elimination produced a multivariate model, presented as odds ratios (OR) with 95% confidence intervals (CI).

Results: The final cohort consisted of 585 men who underwent EP (235) or LP (350). Mean age (SD) at the time of procedure was 70.1 (10.4) for EP and 69.3 (9.2) for LP (p=0.3). Median follow-up days were 727 for EP and 493 for LP (p<0.01). Mean sheath size (SD) was 25.6 (1.21) for EP and 26.1 (0.9) for LP (p<0.001). Pre-operative USx was present in 9 (4%) EP and 6 (2%) LP patients (p=0.12). Post-operative USx was present in 16 (6.8%) of EP and 9 (2.6%) of LP patients (p=0.02): proximal bulbar/membranous urethra in 12 (48%), bulbar urethra in 7 (28%), meatus/fossa navicularis in 2 (8%) and not specified in 4 (16%). Median number of days to stricture was 101.5 for EP and 96 for LP (p=0.63). Adjusting for age and sheath size, LP was associated with a lower likelihood of USx (OR 0.34, 95% CI 0.12 - 0.98) in patients with no pre-operative USx.

Conclusion: In this modern single-institution cohort, LP appears to be associated with a lower likelihood of post-operative USx than EP. There are several theories to the reduced incidence of USx in the LP group but the exact mechanism is unknown. This study demonstrates an advantage of LP over EP for BPH treatment in the risk of developing USx.

Funding Source: None
Poster #M50
EVIDENCE OF TAMSULOSIN 0.4 MG AS INITIAL DOSE IN ASIAN BPH PATIENTS: CONSIDERATION THROUGH NETWORK META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Presented By: Su Jin Kim

Introduction: Tamsulosin 0.2 mg has been used as initial dose for the Asian BPH patient different from tamsulosin 0.4 mg for the Western patients. Generally, tamsulosin 0.4 mg is used for the Asian patients who do not show the improvement of symptoms after treatment with tamsulosin 0.2 mg. Recently, a study introduced that tamsulosin 0.4 mg might have better efficacy compared with tamsulosin 0.2 mg as initial dose for the Asian BPH patient. However, randomized controlled trials (RCTs) to compare the effect and safety between tamsulosin 0.2 mg and 0.4 mg are lacking. Therefore we compared the effect between tamsulosin 0.2 mg and 0.4 mg using network meta-analysis.

Methods: A literature search was conducted using the PubMed, Embase, and Cochrane Library for all RCTs published prior to August 31, 2016. Keywords used were “BPH”, “tamsulosin”, “placebo”. Effective size was measured using standardized mean difference (SMD) and index effect size was decided using random effect model. Experimental groups were defined as Tamsulosin 0.2 mg and 0.4 mg and common control group was defined as placebo. Frequent approach was used for adjusted indirect treatment comparison (AITC).

Results: Seven studies were analyzed and the population of placebo, tamsulosin 0.2 mg, and 0.4 mg were 1234, 344, and 1189 persons, respectively. AITC SMD of total International Prostate Symptoms Score (IPSS) and quality of life (QoL) score of IPSS were 0.05 (-0.28, 0.39) and -0.07 (-0.37, 0.23), respectively. AITC SMD of maximal flow rate (Qmax) and postvoid residual urine volume (PVR) were 0.06 (-0.6, 0.72) and -0.07 (-0.39, 0.24), respectively. Total IPSS, IPSS QoL score, Qmax, and PVR were not significantly different between tamsulosin 0.2 mg and 0.4 mg. AITC SMD of mixed treatment comparison including one direct comparison study showed inconsistency (p<0.001).

Conclusion: Network meta-analysis with indirect direct comparison showed no difference of efficacy between tamsulosin 0.2 mg and 0.4 mg. Inconsistency of mixed treatment comparison including indirect and direct comparison meant the difference between treatment results by indirect comparison and one direct comparison study. Therefore, the evidence of tamsulosin 0.4 mg as initial dose for Asian BPH patient seems not to be sufficient. Therefore, further well-designed study is necessary to decide initial dose of tamsulosin for the Asian BPH patient.
Poster #NM78
ASSESSMENT OF PHYSICIANS’ PRACTICES IN SCREENING AND TREATING WOMEN WITH BACTERIURIAS

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Presented By: Erica L. Ditkoff

Introduction: Evidence-based screening and treatment for bacteriuria is crucial to prevent antibiotic overuse and increasing antimicrobial resistance. The Infectious Disease Society of America (IDSA) released guidelines in 2005 and 2011 on the management of asymptomatic bacteriuria (ASB) and uncomplicated urinary tract infections (UTIs) in women. We hypothesized that these guidelines have not been widely adopted. This study assessed physicians’ practices in screening and treating women with bacteriuria relative to guideline recommendations.

Methods: Between 7/2016 and 9/2016, cross-sectional data from physicians in relevant fields were collected using an anonymous questionnaire. Multivariable logistic regression analysis identified independent predictors of adherence to guidelines for ASB and uncomplicated UTIs in women.

Results: Data were collected from 225 physicians (33.8% internal medicine, 29.8% urology, 18.2% OB/GYN, 10.7% emergency medicine 6.7% family medicine). Over half of physicians surveyed were unfamiliar with the IDSA guidelines (55.6%) and over-treated ASB (56.4%). Independent variables associated with over-treating ASB included a non-academic practice (OR 4.82, p= 0.014) and practicing as an OB/GYN (OR 5.13, p= 0.003). Physicians reporting a practice composed of 50% or >50% female patients were more likely to report only prescribing antibiotics in clinical scenarios where treatment is recommended by the IDSA (50%: OR 6.75, p = 0.003; >50%: OR 4.44, p = 0.019), as were physicians familiar with both IDSA guidelines (OR 2.78, p=0.041). Nearly one third (32.4%) of physicians reported prescribing an antibiotic other than a recommended first-line agent for uncomplicated UTIs, including 8.9% who chose a fluoroquinolone. Urologists and OB/GYNs were more likely to prescribe a recommended first-line agent to women with uncomplicated UTIs (OB/GYN: OR 12.06, p= 0.003; Uro: OR 3.93, p= 0.005) compared to internists. Of those who correctly selected a first-line agent, 27.2% prescribed a longer than recommended duration of therapy.

Conclusion: Most physicians surveyed were unfamiliar with guidelines related to managing ASB and uncomplicated UTIs in women, likely contributing to over-screening and overtreatment of ASB and the use of inappropriate antibiotic regimens in treating uncomplicated UTIs. Antibiotic stewardship is superior among physicians reporting knowledge of IDSA guidelines, suggesting that wider guideline dissemination is imperative.

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POSTER #NM79

UTILITY OF CATHETERIZED SPECIMENS IN REDUCING OVERDIAGNOSIS OF URINARY TRACT INFECTIONS IN WOMEN

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Presented By: Erica L. Ditkoff

Introduction: Urinary tract infection (UTI) is a common diagnosis associated with significant healthcare costs and antibiotic use. In an era of increasing antimicrobial resistance, it is crucial that healthcare providers avoid over-diagnosis and overtreatment of UTIs. The purpose of this study was to assess the utility of collecting catheterized specimens in a subset of women with vague urinary symptoms.

Methods: Billing data was used to retrospectively identify patients who underwent straight catheterization during outpatient urology appointments at our institution between 5/2014 and 8/2016. Women included in the cohort presented with vague urinary complaints such as suprapubic discomfort, frequency, or chronic dysuria; they also all had mid-stream clean-catch and catheterized urine specimens for comparison. We excluded patients who had taken antibiotics within two weeks of urine collection, had a foreign body within the urinary tract, had urolithiasis, or performed clean intermittent catheterization. Multiple logistic regression analysis was performed to identify patient characteristics associated with a negative catheterized specimen despite a positive voided specimen.

Results: There were 107 women included in the study. The mean age was 62.9±18.1 and 79.6% were post-menopausal. Although all patients had positive voided specimens, only 53 patients (49.5%) had positive catheterized specimens. Patients with <10 WBC/HPF in voided urine were more likely to have a negative than a positive catheterized culture (OR=1.7) and the adjusted odds of having a negative catheterized sample increased by a factor of 1.2 (p=0.02) when the WBC/HPF in voided urine changed from >10 to <10. Age, menopausal status, BMI, pelvic organ prolapse, atrophic vaginal tissue and pad use were not predictive of negative catheterized specimens.

Conclusion: The majority of our cohort had false positive voided specimens, and if we had not obtained catheterized samples they would have received unnecessary antibiotics. The presence of <10 WBC/HPF in voided urine was predictive of having a negative catheterized culture. When female patients present with vague voiding symptoms and positive voided urine cultures, catheterized specimens should be considered, especially when patients have unimpressive urinalyses. Larger, prospective studies testing our hypothesis are necessary, and would greatly assist in establishing clinical practices that reduce the amount of antibiotics inappropriately prescribed.

Funding Source: None
SAFETY, TOLERABILITY AND PRELIMINARY EFFICACY OF LIRIS® 400 MG IN WOMEN WITH ULCERATIVE INTERSTITIAL CYSTITIS

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Presented By: Kenneth M. Peters

Introduction: Ulcerative interstitial cystitis (IC) is an inflammatory bladder condition with characteristic lesions (Hunner’s lesions) that are associated with bladder pain and voiding frequency. LiRIS is a passive, nonresorbable, intravesical system designed to provide a continuous, controlled release of lidocaine into the bladder over a two-week period.

Methods: This two-center, open-label, Phase 1b study in women ≥18 years evaluated the safety, tolerability and preliminary efficacy of LiRIS 400 mg over two 14-day treatment periods and up to 12-weeks follow-up (Day 112). Inclusion criteria included a pain Numeric Rating Scale (NRS) score of 3–9.5, ≥1 Hunner’s lesion at screening, and ≥8 daily voids. A LiRIS was inserted on Day 0 and removed on Day 14. A second LiRIS was inserted at Day 14 (if Hunner’s lesions improved or were unchanged on Day 14) and removed on Day 28. Treatment-emergent adverse events (TEAEs), pain, voiding frequency, and O’Leary-Sant IC Symptom Index (ICSI)/IC Problem Index (ICPI) scores were recorded.

Results: Ten patients were enrolled (mean age 57.2 years). Three patients were excluded from the analysis: one had only one LiRIS treatment, one expelled LiRIS before Day 28, and one did not complete follow-up. The per-protocol population included seven patients. By Days 14 and 28, respectively, 6/7 patients (86%) and 7/7 patients (100%) responded to treatment with a decreased Hunner’s lesion affected area, lesion number, and/or lesion severity. Pain NRS scores (5.5 at baseline, BL), decreased significantly at all time points (P<.05), including 12 weeks following LiRIS removal; decreases from BL on Days 14, 28, and 112 were -2.97 (P=.004), -4.27 (P=.003), and -4.4 (P=.029), respectively. Mean daily voids (18.2 at BL) were reduced significantly from Day 7 through Day 56 (P<.05), except on Day 14 (P=.055). ICSI/ICPI scores were reduced from BL at Day 20 through at least Day 56 (P<.05). No patient discontinued due to TEAEs, which occurred in 6/10 patients (two procedure-related, two device-constituent-related, one dysuria, one pollakiuria).

Conclusion: This small proof of concept study of LiRIS 400 mg in women with ulcerative IC and Hunner’s lesions demonstrated a favorable safety profile and long lasting improvements in lesions, pain, voiding frequency, and ICSI/ICPI scores. Additional double-blind, placebo-controlled studies will be necessary to confirm the safety and effectiveness of LiRIS in larger numbers of patients.

Funding Source: Allergan, plc
Poster #NM81
RISK FACTOR AFFECTING RECURRENCE OF CYSTITIS AFTER URO-VAXOM TREATMENT FOR FEMALE PATIENTS WITH RECURRENT CYSTITIS

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Presented By: Ji-Yeon Han

Introduction: In recurrent acute cystitis in women, low dose antibiotic prophylaxis can be recommended. However, antibiotics can lead to resistance of the causative microorganisms. The increasing prevalence of E.coli isolates that are resistant to antimicrobial agents has stimulated interest in nonantibiotic methods such as the oral immunostimulant OM-89 (Uro-Vaxom®) for the prevention of recurrent acute cystitis. In the meta-analysis the risk ratio for the development of at least 1 urinary tract infection (UTI) was significantly lower in the Uro-Vaxom® group and mean number of UTI was about half compared to placebo. In clinical perspective, however, the recurrence of acute cystitis is not uncommon after Uro-Vaxom® treatment for several months. The objectives were to evaluate the risk factors affecting recurrence of cystitis after Uro-vaxom treatment for female patients with recurrent cystitis.

Methods: We retrospectively reviewed and analyzed the medical records of patients who received Uro-vaxom treatment for at least six months. We excluded the patients with post-voided residual urine volume ≥ 200ml, a history of urological condition such as cancer, urinary tract abnormality, indwelling catheter in urinary tract or urologic surgery. Patients were categorized into two groups: (1) no recurrent cystitis and (2) recurrent cystitis after Uro-vaxom treatment for female patients with recurrent cystitis. We compared the risk factors between two groups. The recurrent cystitis was defined as two more infections in six months or three or more in one year.

Results: A total 52 of women were included. Group 1 had 35 (67.3%) patients and Group 2 had 17 (32.7%). Before and after Uro-vaxom treatment, the mean cystitis episodes for six months of patients was 4.19±4.6 (2-24) and 1.17±1.79 (0-6), which were significantly decreased (p<0.001). For the recurrence of cystitis after Uro-vaxom treatment, only risk factor was uncontrolled diabetes (fasting plasma glucose level >120mg/dL ± casual plasma glucose >180mg/dL) (p=0.002). There were no significant differences in the age, menopause, daily water intake, hormone replacement therapy or history of ESBL-producing E.coli.

Conclusion: Uro-vaxom treatment was effective for management of recurrent cystitis in women. However, the uncontrolled diabetes was a risk factor for failure of Uro-vaxom treatment.

Funding Source: None
**Poster #NM82**

**PHYSICAL THERAPY FOR PELVIC PAIN AND ORCHALGIA IN MEN**

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Presented By: Matthew A. Nielsen

**Introduction:** Chronic pelvic pain (CPP) and orchalgia are challenging conditions to treat in urologic practice. Recent research and treatment programs have begun to focus on musculoskeletal dysfunction as a major contributor to pelvic pain. The objective was to assess the clinically reported outcomes of patients in our center that presented with CPP and orchalgia who underwent physical therapy.

**Methods:** A retrospective chart review was conducted on men who initially presented to our practice with CPP and orchalgia from January 2009 to June 2016 and referred for pelvic floor physical therapy. Each patient had a urologic assessment prior to physical therapy referral. Patients were evaluated and treated by our physical therapy team according to any presenting musculoskeletal impairments. Treatment included pelvic alignment exercises, therapeutic stretching/strengthening, manual therapy modalities, dry needling and EMG biofeedback. Following treatment, a global response measure was assessed based on patients’ self-reports of pain reduction. Additionally, if available, NIH Chronic Prostatitis Symptom Index (NIH-CPSI) data was collected.

**Results:** A total of 392 patient charts met inclusion criteria for this retrospective study. Average age was 42.8 years with mean longevity of symptoms of 32.8 months. 49.1% had co-existing urinary complaints. Pre-treatment average day pain was 4.5 (analog scale 1-10); worst day pain was 7.6. 83.2% of patients indicated their pelvic and testicular pain was better, 16.1% reported no change and 0.7% reported worsening of their pain at average follow up of 6.4 months. There was no statistical significance in the patients’ ages, duration of symptoms, or number of physical therapy treatment sessions. 150 patients (38%) completed a NIH-CPSI questionnaire both pre and post treatment. Of these patients, those who reported improvement in their pain (n=138) had decrease in pain scores from average of 16.7 to 11.3, decrease in urinary score from 2.6 to 2.0, and decrease in QOL score from 8.1 to 4.2; each was statistically significant (p<0.01).

**Conclusion:** Physical therapy serves as a valid and effective treatment option for patients with CPP and orchalgia, following a comprehensive urologic examination. The significant improvement reported by this group of patients with no adverse side effects points towards early referral to a pelvic physical therapy practice.
THE MISDIAGNOSIS OF INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME

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Presented By: Jennifer T. Anger

Introduction: The complexity of Interstitial Cystitis/Painful Bladder Syndrome (IC/PBS) has led to a great deal of uncertainty around not only the diagnosis but also the prevalence of the condition. IC is defined by SUFU/AUA as “an unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than six weeks duration, in the absence of infection or other identifiable causes.” Under the hypothesis that IC/PBS is overdiagnosed at a high frequency, we sought to assess the accuracy of the ICD-9 code for IC/PBS using a national dataset.

Methods: Using the Veterans Affairs Informatics and Computing Infrastructure (VINCI), we identified a random sample of 100 patients with an ICD-9 diagnosis of IC/PBS (595.1) by querying all living patients in the Veterans Affairs (VA) system. Patients were considered to truly have IC if they had two visits complaining of bladder centric pain in the absence of positive urine culture at least six weeks apart or a history of bladder pain/irritative symptoms with one additional visit complaining of bladder centric pain. Patients were excluded if they had pelvic radiation or systemic chemotherapy prior to IC diagnosis, bladder cancer at any time point, or metastatic cancer prior to IC diagnosis.

Results: Of the 100 patients, 48 were female and 52 were male. Sixteen were excluded (Figure 1), all of whom were male. Of the 84 patients independently diagnosed, 46% truly had IC/PBS according to our diagnostic criteria, and 36% did not have IC/PBS (Figure 1). Of the patients who did not have IC, 43% complained only of overactive bladder (OAB) symptoms. In addition, 47% never complained of bladder centric pain.

Conclusion: Of the 84 patients included in the study, 36% of patients diagnosed with IC did not have true IC/PBS on thorough record review. These results indicate that IC/PBS has a high misdiagnosis rate and is easily confused with OAB and other pelvic pain conditions. There also appears to be misuse of the code for IC/PBS in place of radiation cystitis. These findings shed light on the diagnostic complexity of the condition.

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Poster #NM84
SLING EXCISION FOR PAIN: CAN WE PREDICT WHO BENEFITS FROM SURGERY?

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Presented By: Elizabeth V.H. Dray

Introduction: De novo pain following mid-urethral synthetic sling for stress incontinence can have dire consequences for patient quality of life. In this study, we sought to better characterize the presentation of de novo sling pain, define rates of pain resolution after sling excision, and determine which, if any, patient or operative factors influence pain outcomes.

Methods: This is a retrospective review of mesh excision for a primary complaint of pelvic pain or dyspareunia. Patients with a history of vaginal mesh for pelvic organ prolapse, mesh erosion, and urinary retention were excluded. The outcomes assessed were patient reported improvement in pain along with abstracted demographic information, comorbidities, prior surgical history, number and type of mesh revisions performed, and exam findings.

Results: Between 2006 and 2016, 107 mesh excisions met our inclusion criteria. Average patient age was 51.2, parity was 2.3 and follow-up was 14.1 months. The majority of our patients had undergone prior TOT (59.4%), while 28.7% had a prior TVT and 11.9% had a mini-sling. At presentation, 92.4% of patients had de novo pelvic or vaginal pain and 81.1% reported new dyspareunia. On exam, tenderness along the sling was found in 55.3% of patients, levator muscle plus sling tenderness in 14.6% and isolated levator or non-focal tenderness in 17.5%. Following surgery, 48.5% of patients reported complete resolution of pain, 23.3% reported moderate relief, and 26.2% of patients reported minimal or no improvement in symptoms. On analysis of patient factors, current smoking status was associated with a higher rate of persistent pain when compared with former or non-smokers (40% v. 20.3%, p=0.036). Premenopausal status and concomitant chronic pain syndromes were both associated with a trend towards non-resolution of pain when compared with postmenopausal patients and patients without chronic pain, respectively (p=0.07 and 0.06). No effect on resolution of pain was seen when exam findings, obesity, prior sling type, prior attempts at mesh excision or extent of mesh excision were analyzed.

Conclusion: Moderate to complete resolution of pain occurred in 71.8% of the patients who underwent sling excision in our study. While some patient factors may portend worse outcomes, our study demonstrates that women with de novo pain following sling placement may benefit from excision even if focal sling tenderness is absent or prior attempts at mesh excision have been undertaken.
OUTCOMES OF KENALOG/HEPARIN/LIDOCAINE/GENTAMYCIN SUB-MUCOSAL INJECTION FOR INTERSTITIAL CYSTITIS/PAINFUL BLADDER SYNDROME

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Presented By: Nikil Uppaluri

Introduction: Interstitial cystitis/painful bladder syndrome (IC/PBS) is a potentially debilitating condition that impacts quality of life. After patients fail conservative treatments, injection of ulcers and/or fulguration of lesions is recommended. Here, we examine outcomes associated with an injection consisting of 80-200 mg kenalog, 80 mg gentamicin, 2% lidocaine and 10,000 units heparin. Each drug is thought to target a different component of IC/PBS.

Methods: Patient data were retrospectively collected from one institution between 2010 and 2016. Patient characteristics examined included gender, race, age, frequency of urinary symptoms, and previous treatments. Outcomes analyzed included symptom resolution and duration between injections or reported length of symptom resolution.

Results: There were 35 patients who met study criteria. The study population consisted of 24 females and 11 males. 86% of patients were white. All patients failed conservative management prior to injection. Of patients, 71% had at least one procedural intervention prior to injection, including the following: hydrodistention (12), other injection (7), Interstim (7), pudendal nerve surgery (5), transcutaneous electrical nerve stimulation (4), and percutaneous tibial nerve stimulation (1). Following kenalog/heparin/lidocaine/gentamycin injection, 27 patients (77%) reported symptom relief, one patient (3%) reported an uncertain outcome, and seven patients (20%) reported no symptom relief. Of those without relief, all but one had glomerulations and hypervascularity, whereas all those who reported relief had Hunner's ulcers. On cystoscopy, 91% of patients had multiple lesions or diffuse glomerulations. 66% of patients received more than one injection. The average time between injections was 37.7 weeks (range 6.9-65.0). Among patients receiving one injection, the average follow-up with reported symptom relief was 6.0 weeks (3.1-10.1). Possible side effects of the injection included urinary tract infection and initial temporary increase in pain.

Conclusion: Submucosal injection of kenalog, gentamicin, lidocaine, and heparin provides patients with IC/PBS reprieve from their symptoms for an average of 38 weeks and as much as 65 weeks. Given the rarity of IC/PBS and therefore small patient cohort, further studies are warranted. However, for a disease with limited treatment options, this injection provides a safe and effective option to IC/PBS patients who have failed other interventions.
MANAGEMENT OF MICROHEMATURIA IN POST-MENOPAUSAL WOMEN: ARE WE ADHERING TO THE GUIDELINES?

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Presented By: Eliza Lamin

Introduction: Microscopic hematuria (MH) is common in the postmenopausal female population, with a prevalence of approximately 20%. There are several benign etiologies including vaginal atrophy and irritation, pelvic organ prolapse, and localized trauma. Despite the higher prevalence of MH found in this patient population, no specific guidelines on the diagnosis and workup of MH have been formulated. The AUA guidelines published in 2012 recommend a full MH workup after one urinalysis showing three or more RBCs in male and female patients over age 35.

Methods: A retrospective chart review was performed on 368 consecutive postmenopausal female patients (ages 48-99) referred to an urologist in our practice (between 2014-2016) for MH. The charts were reviewed for type of workup performed including cystoscopy and/or upper tract imaging, as well as diagnoses made including carcinomas.

Results: There were 73% (266/368) of postmenopausal women with MH who were scheduled for a MH workup. Of the remaining 27%, 11% had a UTI and therefore hematuria evaluation was deferred and 16% did not have a work up for several other reasons including recent prior workup, known kidney stones, or the patient declined. 62% (229/368) of the women underwent cystoscopy. 18 (4.9%) were found to have an erythematous area that was biopsied and benign, three (0.8%) were diagnosed with cystitis cystica, one (0.2%) was diagnosed with PUNLMP, one (0.2%) with urothelial cell carcinoma, two (0.5%) with renal neoplasm and one (0.2%) with upper tract urothelial cell carcinoma. 52% (193/368) had a CT or MR Urogram and 14% (52/368) had renal ultrasound (with or without retrograde pyelograms). In 36% (96/266), no cause for the hematuria was identified; 34% (93/266) were diagnosed with a non-malignant etiology including 37/266 (14%) with UTIs, one with prolapse, one with mesh erosion, and 38/266 (14%) with non-obstructing kidney stones. Vaginal atrophy, a likely contributing cause in postmenopausal women, was not well documented.

Conclusion: In postmenopausal women referred for MH, 73% were scheduled for a hematuria workup, 62% underwent their scheduled cystoscopy and 58% had appropriate imaging per AUA guidelines. A total of 5/229 (2.2%) women with complete MH evaluations were found to have urinary tract cancer. Poor adherence to AUA guidelines appears to be the result of both patient reluctance and physician determination that a full work up is not needed. This is potentially due to the low yield of cancer detection.
Poster #NM87
ASSESSMENT OF PATIENT FRAILTY AND PERIOPERATIVE COMPLICATIONS AFTER UNDERGOING MINIMALLY INVASIVE APICAL PROLAPSE REPAIR

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Presented By: Zaid Chaudhry

Introduction: Frailty scores have been correlated with increased risk of perioperative complications after certain gynecologic and urologic procedures. However, the usefulness of frailty scoring has not been explored in women undergoing pelvic reconstructive procedures. Therefore, the purpose of this study is to determine whether frailty scores are associated with postoperative complications after minimally invasive apical prolapse repair.

Methods: Current Procedural Terminology (CPT) codes were used to identify 2640 patients who underwent vaginal uterosacral colpopexy (CPT 57283), vaginal sacrospinous colpopexy (CPT 57282), or laparoscopic/robotic sacrocolpopexy (CPT 57425) between 2011 and 2014. Preoperative frailty scores were determined for each patient as previously described in the literature; briefly, frailty scores take into account cardiovascular, pulmonary and neurologic comorbidities. Association between frailty score and 30-day postoperative readmissions, cardiovascular, infectious and bleeding complications was determined using nominal logistic regression modeling after controlling for American Society of Anesthesiology (ASA) class, body mass index (BMI) and age.

Results: Patients who underwent minimally invasive apical vault suspension had a median age of 65, mean BMI of 27.8, mean ASA class of 2.21, and mean frailty score of 0.055. Univariate analysis revealed an association between frailty score and infectious complications (OR 1.27, p = 0.049), cardiovascular complications (OR 2.11, p < 0.001), bleeding complications (OR 2.02, p < 0.001), and readmission (OR 1.52, p = 0.005). Multivariate analysis controlling for ASA class, BMI and age revealed an association between frailty score and infectious complications (OR 1.35, p = 0.033), cardiovascular complications (OR 1.85, p = 0.001), and bleeding complications (OR 1.91, p = 0.004).

Conclusion: Higher frailty score was associated with an increased likelihood of hospital readmission, and developing cardiovascular, infectious and bleeding complications within 30 days of minimally invasive apical suspension procedures. In our analysis, frailty score was superior to age and ASA class for predicting adverse postoperative events. Frailty scores can be easily calculated and used to triage and counsel patients undergoing pelvic operations for benign disease. Future studies will focus on validating frailty scoring in prospective fashion.
IMPROVEMENT IN LOWER URINARY TRACT SYMPTOMS ACROSS MULTIPLE DOMAINS FOLLOWING VENTRICULOPERITONEAL SHUNTING FOR IDIOPATHIC NORMAL PRESSURE HYDROCEPHALUS

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Presented By: Sarah C. Krzastek

Introduction: The purpose of this study was to evaluate the change in lower urinary tract symptoms following ventriculoperitoneal shunting in patients with idiopathic normal pressure hydrocephalus (iNPH).

Methods: In a specialized multi-disciplinary NPH clinic, patients with new-onset iNPH were prospectively evaluated using validated questionnaires from the International Consultation on Incontinence to assess overactive bladder (ICIQ-OAB), incontinence (ICIQ-UI), and quality of life (ICIQ-LUTqol), as well as the American Urological Association Symptom Score bother scale, prior to and following ventriculoperitoneal shunting. Sub-analysis was performed based on gender, age and medical comorbidities.

Results: There were 23 consecutive patients with new-onset iNPH who were evaluated prior to, and following, surgical intervention for iNPH via ventriculoperitoneal shunting. Shunting resulted in a significant improvement in urinary urgency, urge incontinence, ability to perform physical activities, and overall quality of life based on validated questionnaire data. Women had improvement across more domains than men following shunting, particularly in terms of urinary urgency and overall quality of life. Younger patients experienced significant improvement in survey scores following shunting as compared to older patients. Patients with two or more medical comorbidities, as well as those with fewer than two comorbidities, reported a significant improvement in overall quality of life.

Conclusion: Surgical intervention for iNPH resulted in significant improvement in urinary symptoms, particularly in terms of urinary urgency and urge incontinence as well as overall quality of life. The improvement was most-pronounced in women and younger patients.
REVIEW OF THE MOST COMMONLY USED HERBAL SUPPLEMENTS FOR “PROSTATE ENLARGEMENT”: WHERE IS THE EVIDENCE?

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Presented By: Michelle Kim

Introduction: To describe the ingredients and to assess efficacy of herbal supplements marketed for benign prostatic hyperplasia (BPH).

Methods: We conducted a search of all Amazon products using the search term “prostate enlargement”. Out of the 85 products found, 41 were identified as herbal supplements claiming to relieve BPH symptoms. Information including product name, company, price, claimed effects, consumer satisfactions, active and inactive ingredients were extracted from each product. We categorized scientific evidence for each ingredient into human (systematic reviews, randomized−control trials, cohorts, case−controls, epidemiology), animal, and In Vitro (cellular/molecular) studies.

Results: Of 41 products, 34 (82.9%) were produced by American companies. The price per month supply ranged from $2.63 to $319.98 (Median: $26.47). Less than half (46.3%) had a money back guarantee. The most commonly used ingredients were Saw palmetto (74.1%), zinc (74.1%), Lycopene (51.9%), β−Sitosterol (51.9%), Pygeum Aficanum (44.4%), and Stinging Nettle (44.4%). Ten ingredients showed clinical efficacy in human studies. There was no statistically significant correlation between number of effective ingredients and monthly supply cost (p=0.53) or consumer satisfaction (p=0.51).

Conclusion: Herbal supplements are widely available and heavily advertised to patients with BPH symptoms. These products are quite diverse in their active and inactive ingredients with scant scientific evidence supporting their efficacy. Physicians, particularly urologists, should be more familiar with these products given their widespread use and play more active role in educating their patients in this regard.
DECISION-MAKING IN MEN CONSIDERING USE OF NON-PRESCRIPTION TAMSULOSIN FOR LOWER URINARY TRACT SYMPTOMS

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Presented By: Joshua A. Cohn

Introduction: Tamsulosin is undergoing evaluation for non-prescription (OTC) use in men with lower urinary tract symptoms (LUTS). We aimed to assess appropriate decision-making and LUTS in men choosing to use tamsulosin in a simulated OTC setting.

Methods: Adult men not taking a prescription medication for benign prostatic hyperplasia (BPH) were shown a mock-up of the drug packaging and asked if the medication would be appropriate for their personal use. Criteria for appropriate “self-selection” included: two or more specified LUTS for at least three months, absence of any “Do Not Use” warning symptoms, and no allergy to sulfa or tamsulosin. Compliance with “Ask a Doctor Before Use” conditional warnings was assessed in a separate analysis. Three urologists reviewed the data of men reporting the product to be appropriate for their use who did not meet appropriate self-selection criteria. Their decision was revised to appropriate if deemed so by two out of three (“mitigated” analysis).

Results: There were 470/619 (75.9%) eligible men self-selected. Mean age of men self-selecting use was 61.7 years, 82 (17.4%) had low health literacy, and 365 (77.7%) reported seeing a physician at least once per year. Mean AUA-SI total, voiding, and storage subscores were 16.5, 8.1 and 8.3, respectively, and 360 (80.9%) reported LUTS duration of >1 year. The proportion of men meeting appropriate self-selection criteria on unmitigated and mitigated analyses was 92.8% (95% CI 90.0-94.9%) and 97.9% (95% CI 96.1-99.0%), respectively, with similar findings in men with low health literacy. When considering planned compliance with “Ask a Doctor Before Use” warnings 82.8% (95% CI 79.0-86.1%) and 96.8% (95% CI 96.8-98.2%) of men made an appropriate selection decision on unmitigated and mitigated analysis, respectively.

Conclusion: Men self-selecting use of tamsulosin are characterized by chronic LUTS with a voiding component, suggesting potential benefit from the medication. The decision to use tamsulosin based on indications and warnings was appropriate for most men, including those with low health literacy, which may mitigate risks associated with self-directed use.

Funding Source: Boehringer-Ingelheim (authors received no direct compensation related to the development of this abstract. AV and JW are employees of the sponsor)
Increased transitional zone size correlates with increased laser energy used in HoLEP procedures and decreased preoperative urine flow

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Presented By: Whitney R. Smith

Introduction: The transitional zone (TZ) of the prostate is believed to account for lower urinary tract symptoms (LUTS) associated with benign prostatic hyperplasia (BPH). Holmium Laser Enucleation of the Prostate (HoLEP) is a proven effective treatment option to the surgical management of BPH. This study aims to evaluate any correlation between TZ size and holmium laser energy used during enucleation. We also sought to evaluate any correlation between preoperative (preQmax) and postoperative (postQmax) maximum urine flow with regard to TZ.

Methods: Using our IRB-approved database, we evaluated 127 total consecutive patients who underwent HoLEP procedures at our institution from November 2014 to February 2016. 46 patients had TZ size, HoLEP energy used, preQmax and postQmax measured. Exclusion criteria included repeat HOLEP procedures. TZ size was measured using transrectal ultrasound. Total laser energy used was recorded using a continuous laser power of 80 and 100 watts. PreQmax was measured in the outpatient setting prior to surgery. PostQmax was measured at follow-up four weeks post-operatively. Spearman’s Correlation Coefficients (rho) were calculated using SPSS Statistics software.

Results: There was a high positive correlation between TZ size and HoLEP energy used (rho = +0.60, P<0.05). A significant negative correlation was demonstrated between TZ size and preQmax (rho =-0.31, P=0.031). No correlation was found between TZ size and postQmax (rho =-0.15, P=0.29).

Conclusion: Laser energy used in HoLEP procedures increases as TZ size increases. This correlates to longer operating time for enucleation of prostates with larger transitional zones. Interestingly, PreQmax rates tends to decrease as TZ size increases suggesting that enlarging periurethral TZ may contribute to obstruct urine outflow. Importantly, TZ size does not impact postQmax rates after HoLEP procedures.
Female Urology/Incontinence Moderated Podium Session  
Friday, March 4, 2017  
8:00 a.m. - 9:30 a.m.  

Moderators: Stephanie J. Kielb, MD  
Yahir A. Santiago-Lastra, MD

Podium #33  
EFFECTS OF BARIATRIC SURGERY ON FEMALE LOWER URINARY TRACT SYMPTOMS AND SEXUAL FUNCTION

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Presented By: Asnat Groutz

Introduction: Obesity is an established factor for urinary incontinence (UI), but comprehensive data regarding the effect of weight loss on other pelvic floor disorders are lacking. The present study was undertaken to assess the effect of surgically induced weight loss on various aspects of pelvic floor disorders and related quality of life (QOL).

Methods: Fifty consecutive obese women (mean age 42.6±12.8), who underwent laparoscopic sleeve gastrectomy in a single medical center, were prospectively enrolled. Four validated questionnaires on UI (ICIQ-UI), lower urinary tract symptoms and QOL (BFLUTS-SF), pelvic organ prolapse (POP) and colorectal-anal distress (PFDI-20), and incontinence-related sexual dysfunction (PISQ-12) were used to evaluate patient's symptoms before and 3-6 months after surgery. A positive answer to the question “How often do you leak urine?” on the ICIQ-UI questionnaire was used to define the presence or absence of UI. Patients were further divided into two subgroups according to the presence or absence of preoperative UI.

Results: Preoperatively, 56 (37.3%) women (mean age 47±11.9 years) had UI, 33 (59%) of whom had stress UI, 17 (30.4%) had mixed UI, and 4 (7.1%) had urgency UI. Mean age and parity were significantly higher in women with versus without preoperative UI. Pre and postoperative results of the 56 preoperatively incontinent women are presented in Table. The mean BMI before and after surgery were 41.2±4.9 kg/m² and 32±5.1 kg/m², respectively. Surgically induced weight loss was associated with a significant improvement of UI, filling symptoms, POP scores, and QOL parameters. Further, 27 (48.2%) women reported complete resolution of their UI. A significant improvement in sexual function was documented in sexually active patients, according to both PISQ-12 and BFLUTS questionnaires.

Conclusion: In conclusion, surgically induced weight loss is associated with resolution of UI in half of preoperatively incontinent women and subsequent improvement in QOL, sexual function, and POP symptoms. Further studies are required to explore the pathophysiology of pelvic floor disorders among obese patients, as well as the optimal measurement tools and treatment modalities of these disorders.
EFFECT OF TYPE OF DELIVERY AND NUMBER OF DELIVERIES ON PATIENT REPORTED URINARY OUTCOMES: RESULTS FROM A NATIONWIDE SAMPLE

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Presented By: Natasha Ginzburg

Introduction: Urinary incontinence (UI) is a common problem in women, affecting approximately 30% of women in the US. During pregnancy and childbirth the female pelvic floor experiences significant trauma and strain that can predispose women to UI. Rates of cesarean sections (CD) have been consistently rising over the past 30 years. We aim to evaluate patient-reported UI rates in women in the US that have undergone childbirth since 1985 in both primiparous and multiparous women using a nationwide sample.

Methods: The NHANES database was queried for all women during the years 2005-2011. Women were included that had known age and BMI. Women were excluded that underwent both vaginal delivery (VD) and CD, prior hysterectomy, pelvic organ prolapse, had given birth greater than 20 years from the time of survey and had given birth less than 2 years from time of survey. Nulliparous women (NP) aged 20-65 years were used for baseline incontinence rates. Cohorts were created composed of NP, single VD (PVD), single CD (PCD), multiple VD (MVD), and multiple CD (MCD). Multivariable logistic regression was performed to assess the effect of delivery and number on urinary outcomes adjusting for age and BMI.

Results: There were 969, 189, 182, 666 and 276 women in the NP, PVD, PCD, MVD, and MCD cohorts, respectively. MVD had the highest rates of any UI (56.8%) and stress UI (SUI) (50.7%), compared to all other groups. When adjusting for age and BMI; PVD, MCD, and MVD had significantly increased UI and SUI. There were no differences in urge UI (UUI) between any groups. Bother with UI was higher in women that had undergone VD (OR 1.4 (PVD) and 2.1 (MVD)). Moderate or severe incontinence was greater in women that had undergone multiple deliveries regardless of type (OR 1.7 (MCD) and 2.2 (MVD)).

Conclusion: The rate of UI was quite high among this cohort of US women, exceeding prevalence rates previously reported. It appears that type and number of delivery has a large effect patient-reported UI rates. Women with a single CD report UI outcomes similar to NP women. Interestingly, women with VD are more bothered by their UI, whereas, women undergoing multiple deliveries regardless of type have increased severity of incontinence.
DIFFERENCES IN CONVALESCENCE AFTER PUBOVAGINAL SLING OR SYNTHETIC MIDURETHRAL SLING

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¹Jackson, MI; ²Ann Arbor, MI

Presented By: Anne K. Pelletier-Cameron

Introduction: It is believed that women who chose an open surgical approaches to stress incontinence with autologous pubovaginal sling (PVS) have a significantly worse recovery period compared to that following placement of synthetic midurethral slings (MUS), and that this is the “cost” to the patient of avoidance of mesh. However, the impact of this difference has not been rigorously studied. We utilized a validated measure of surgical recovery to compare the short-term (6-week) convalescence of MUS and PVS to determine the impact on four domains and how long these differences persisted.

Methods: In this prospective study validated Convalescence and Recovery Evaluation (CARE) surveys were administered to women undergoing sling procedure preoperatively, and two, four, and six weeks postoperatively. CARE assesses pain, gastrointestinal function, cognitive state, and physical activity. For each subscale, the scores are standardized to range from 0 to 100 with higher score indicating better function. The overall CARE score is a mean of four domains. The patients’ demographic, relevant medical information and surgical details were compared between the two groups. The CARE scores were used to quantify and compare the short term outcomes between the two samples.

Results: A total of 55 women (mean age 55.7) underwent sling procedures, including 36 PVS and 19 MUS. There were no differences in patient medical history, co-morbidities, prior pain conditions or demographics, other than the PVS patients having a history of more prior vaginal surgical procedures (16/35 PVS vs. 0/19 MUS, p=0.0003). There were no significant differences in the pre-surgery CARE survey scores between groups (81.3 PVS vs. 79.6 MUS p=0.99). At two weeks the PVS patient had worse CARE gastrointestinal function scores (78.8 PVS vs. 84.6 MUS, p=0.035), CARE pain scores (78.2 vs. 86.3 p=0.0224), and overall CARE scores (67.3 vs. 81.1 p=0.0167). There were no significant differences between the two slings at four or six weeks in any subscale, and notably at six weeks both groups had better CARE scores than preoperatively.

Conclusion: In this prospective study MUS resulted in less pain and gastrointestinal disability at two weeks, when compared with PVS placement. However, by four weeks after surgery, the outcomes measured by the CARE survey were not different. These findings suggest that the differences between patient experience with MUS and PVS might be less than commonly estimated.
LONGTERM FOLLOW UP IN PATIENTS WITH MID-URETHRAL SLINGS WITH BMI GREATER THAN 40

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Presented By: Solafa Elshatanoufy

Introduction: Mid-urethral slings (MUS) are the most widely accepted and studied minimally invasive procedure for the management of stress urinary incontinence (SUI). However, studies have suggested decrease in efficacy of MUS procedures in the morbidly obese patients. In our urban population, we are encountering an increasing number of morbidly obese patients (BMI ≥ 40) with stress urinary incontinence interested in surgical options. The aim of our study was to assess the success rate of MUS in morbidly obese patients. Our secondary outcome was to assess difference in complication rates between patients with BMI ≥ 40 and <40.

Methods: This is a retrospective chart review. Data was collected on all patients that have undergone a sling procedure between 2010 and 2015. Failure was defined as reported SUI symptoms or treatment for SUI. Variables collected were BMI, smoking status, comorbidities, peri-operative complications (within 24 hours), short term (within 30 days) and long term complications (>30 days) and follow-up time. Analyses included ANOVA, Chi-square test, logistic, Kaplan Meier method and Cox regression.

Results: We identified 382 patients, 80 were eliminated as they had a sling procedure other than MUS or, for follow-up time <6 months. Analysis included 302 patients, 36 were morbidly obese (mean=44.8 +/- 5.6), 119 with BMI of 30-39 (mean=33.7 +/- 2.52) and 69 with BMI ≤25 (mean=23.1 +/- 1.69). Our mean follow-up time was 54 months. There was no difference in failure rate between all three groups (p=0.6) even after controlling for potential confounders such as diabetes mellitus (DM), smoking status, or chronic obstructive pulmonary disease (COPD) (p=0.61). COPD independently was associated with an increased risk of failure, odds ratio (OR)=2.11 (1.07 - 4.06) p=0.03. BMI category was not a significant predictor of peri-operative, short-term post-operative or long-term post-operative complications (p=0.41, p=0.19 and p=0.18 respectively) and also after controlling for other comorbidities as potential confounders. However, active smoking status was linked to a significantly higher risk of long-term post-operative complications than nonsmokers OR=4.14 (1.16-13.56) p=0.02.

Conclusion: BMI has no significant impact on the success of MUS in the morbidly obese patients. Smoking status was linked to an increased risk of long term post-operative complications. COPD independently and after stratification based on BMI category was associated with a higher failure rate and recurrence of stress urinary incontinence.
Introduction: Pelvic floor disorders in women are common and include constipation, diarrhea, fecal incontinence, pelvic organ prolapse (POP) and sexual dysfunction. However, their frequency among women with lower urinary tract symptoms (LUTS) has not been well described. We assessed these conditions among women presenting for treatment of LUTS, comparing scores from validated self-report measures in women with and without urinary incontinence (UI) and by UI subtype.

Methods: Women with LUTS (n=510) were enrolled in an observational cohort at six U.S. tertiary care sites. Women with urologic pain conditions or pelvic malignancy were excluded. At baseline, the Genitourinary Pain Index (GUPI), Pelvic Floor Distress Inventory (PFDI-20), Pelvic Organ Prolapse/Incontinence Sexual Questionnaire (PISQ-IR), and PROMIS GI Diarrhea, Constipation, and Fecal Incontinence Scales were administered. The LUTS tool was used to identify women with and without UI and subtype into urgency (UUI); stress (SUI) and mixed (MUI) urinary incontinence.

Results: Mean age among the 510 women was 56.4 ± 13.8 years; 82% were white, 46% obese, and 15% reported diabetes. Women who reported UI (n=425) had significantly higher mean scores of the PROMIS GI Diarrhea and Constipation Scales representing poorer bowel function (Table). Among sexually active women (n=256), those with UI had significantly lower PISQ scores indicating poorer sexual function. When comparing the women with different UI subtypes those with MUI (n=242) had more prolapse symptoms, fecal incontinence and worse sexual function compared to those with SUI (n=76) and UUI (n=82). Compared to women with SUI, women with MUI had worse scores in all PROMIS GI bowel function scales, indicating more diarrhea, constipation and fecal incontinence.

Conclusion: Treatment-seeking women with LUTS who report UI had significantly worse constipation, diarrhea, fecal incontinence, and sexual function compared to women without UI. Among women with UI, those with MUI had worse sexual function and more POP symptoms compared to those with SUI or UUI.

Funding Source: The Symptoms of Lower Urinary Tract Dysfunction Research Network (LURN) is supported by grants from the NIDDK.
Podium #38
THE ECONOMIC BURDEN OF OVERACTIVE BLADDER (OAB) AND ITS EFFECTS ON THE COSTS ASSOCIATED WITH OTHER CHRONIC, AGE-RELATED COMORBIDITIES IN THE UNITED STATES

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Presented by: Emily Durden

Introduction: OAB tends to co-occur with a number of other prevalent chronic conditions. However, the impact of OAB on the healthcare costs in patients with other comorbid conditions is not well understood. The objectives of this study were to quantify the impact of OAB on total healthcare expenditures and to assess the potential moderating effects of OAB on chronic, age-related comorbidities.

Methods: Adults ≥18 years of age with either a diagnosis of OAB or an OAB therapy prescribed between 1/1/2008 and 12/31/2013 were identified from the MarketScan® Commercial and Medicare databases (index date = qualifying claim date). Patients were required to have ≥12 months of pre- and ≥1 month of post-index continuous enrollment. A propensity score-matched cohort of patients without OAB were identified and compared to the OAB case cohort. Log-transformed, total per patient, per month (PPPM) expenditures were evaluated for the case and control cohorts. Total PPPM costs were modeled using ordinary least squares regression including main effects and interactions of the chronic comorbidities depression, dementia, diabetes, hypertension, and osteoporosis with OAB. Values for the comparisons of interest were calculated on the original dollar scale by the use of smearing estimators. The level of statistical significance for all tests was set at 0.05.

Results: There were 110,059 OAB cases identified and propensity score-matched to the same number of non-OAB controls. The mean, multivariable-adjusted, estimated PPPM all-cause healthcare costs of OAB cases from the model without interactions were $3,003.42, compared to $1,122.80 for the matched controls (P<0.0001). In the model assessing the interactions of the chronic comorbidities with OAB, those OAB patients with comorbid depression, dementia, diabetes, hypertension, and osteoporosis incurred significantly higher healthcare expenditures than non-OAB controls with these comorbidities. The synergistic effect of the interaction between OAB and the presence of the comorbid conditions was estimated to be between $95 and $574 PPPM.

Conclusion: Within this US-based insured population, the healthcare costs of OAB patients were more than 2.5 times those of similar patients without OAB. Additionally, patients with OAB and a series of chronic, age-related comorbidities incurred higher healthcare costs than non-OAB controls with the same comorbidities.
Podium #39
HOW TO IMPROVE PUBOVAGINAL SLING OUTCOMES: COMPARISON OF TWO TECHNIQUES FOR SLING TENSIONING IN 177 PATIENTS

Michael Maccini, MD; Tamara P. Lhungay, BS; Tyler Doumaney; Aleksander C. Blubaum, BA; Stephen Blakely, MD; Brian J. Flynn, MD
Aurora, CO
Presented by: Aleksandar C. Blubaum

Introduction: There has been renewed interest in autologous pubovaginal slings (PVS) due to the transvaginal mesh controversy. However, unlike midurethral slings, postoperative retention is more common due to lack of standardization of tensioning. Our objective was to determine if standardization of our tensioning technique improved outcomes and reoperation rates.

Methods: We reviewed 177 patients who underwent autologous rectus fascia PVS placement by a single surgeon (BJF). Between 2006 and 2013, we had no standardized method for sling tensioning (group 1). Since 2013 we have used a standardized method (group 2). Logistic regression analysis was used to determine if there was a difference in continence, retention and reoperation rates in the two groups. Before tying the suspension sutures above the rectus fascia in group 2, the following tensioning protocol was used. A rubber shoed was placed on the suspension sutures at the level of the fascia bilaterally. A second rubber shoed was placed at a defined distance above the fascia and the suspension sutures were tied. This predetermined distance was as follows: 0 cm spacing for occlusive slings, 1 cm spacing for patients with severe ISD, and 2 cm spacing for the remaining population. The overwhelming majority of patients in this study were tensioned with 2 cm spacing.

Results: Of 177 patients reviewed, 168 patients had data sufficient for outcome analysis. The overall SUI cure rate (<1 pad per day) was not significantly different between the two groups (69 of 87 for group 1 and 62 of 81 for group 2, p = 0.59). Rate of improvement in SUI was 95.5% for group 1 and 97.5% for group 2 (p = 0.46), with a total of 6 patients having no improvement in incontinence. The standardized tensioning group had a decreased risk of both post-operative retention and reoperation (OR = 0.41 and 0.22, respectively). Concurrent mesh removal at the time of PVS placement was associated with increased risk of post-operative urinary retention (OR = 3.61). Increasing BMI was associated with decreasing risk of post-operative retention (p = 0.041). Increasing surgeon experience did not demonstrate independent association with improving outcomes.

Conclusion: Standardizing tensioning technique for autologous PVS placement reduces the risk of post-operative retention and reoperation while maintaining excellent continence outcomes. This technique offers reproducible tensioning which could reduce the learning curve for autologous PVS procedures.
Podium #40
THE EFFECT OF MIXED URINARY INCONTINENCE ON CATHETERIZATION RATE AFTER INTRADETRUSOR ONABOTULINUMTOXINA: IS STRESS INCONTINENCE PROTECTIVE?

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Presented By: Dianne Glass

Introduction: Intradetrusor OnabotulinumtoxinA (ONA) is frequently used to treat urgency urinary incontinence. One possible side effect is incomplete bladder emptying requiring the temporary use of clean intermittent catheterization (CIC). The goal of this study is to examine if patient reported stress urinary incontinence (SUI) had an effect on the rate of CIC.

Methods: A retrospective chart review of patients receiving ONA in the New York University Urology faculty practice between 5/2010 and 9/2016 was conducted. Unique subjects were identified by CPT and/or J codes for intradetrusor injection of ONA. Charts were reviewed for demographic information, past medical and surgical history, symptoms of SUI (patients with SUI had urgency predominate mixed incontinence), post void residual (PVR) before and after first ONA injection and whether catheterization was required after their first ONA injection. Subjects with a diagnosis of neurogenic bladder or a history of Multiple Sclerosis, Parkinson’s disease, Cerebral Vascular Accident with residual deficits, spinal cord injury, spinal surgery, urethral stricture, baseline catheterization requirement or prior anti-incontinence surgery were excluded from the analysis. In general, CIC was recommended for patients with a PVR 200–349 ml with symptoms or a PVR ≥ 350 ml with or without symptoms. The association between SUI and the need for CIC after ONA was examined using a Fischer’s Exact Test.

Results: There were 265 charts identified as having undergone intradetrusor ONA injection. A total of 115 subjects were included in the analysis. Subject age at the time of injection ranged from 20–95 years with a mean age of 67.0 +/- 17.2 years. Subjects with SUI had a mean age of 72.6 +/- 10.1 years. 61.7% of subjects were female. Subjects with and without SUI had similar pre-injection PVRs (28.3 ml +/- 47.2 ml and 37.7 ml +/- 46.4 ml, respectively). The overall rate of CIC was 14.7%. There were 85 patients without SUI and the CIC rate was 18.8% compared to a CIC rate of 3.3% for the 30 subjects reporting symptoms of SUI (P=0.041).

Conclusion: In this retrospective chart review, subjects with SUI demonstrated a significantly lower rate of incomplete bladder emptying requiring CIC. This may be due to a decrease in outlet resistance associated with SUI. As we gain more experience with the use of ONA in varied clinical settings and patient populations we can look for populations with extremely low rates of CIC.
Female Sexual Dysfunction Treatment: A Meta-Analysis of the Placebo Effect Across Randomized Controlled Trials

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Presented By: James Weinberger

Introduction: Female Sexual Dysfunction (FSD) is a highly prevalent disease that has an immense impact on personal relationships and quality of life. The literature describes various treatment modalities with mixed effects across the four domains: hypoactive sexual desire disorder, arousal disorder, orgasmic disorder, and sexual pain disorder. The limited efficacy of medical treatment likely speaks to a significant psychological component of the disease. The purpose of this meta-analysis of randomized controlled trials (RCTs) was to quantify the placebo effect of various pharmacologic modalities for FSD.

Methods: Utilizing MOOSE guidelines, we conducted a systematic review of PubMed®, EMBASE®, clinicaltrials.gov, and the Cochrane Review databases. Using search terms “female sexual dysfunction” and “treatment,” in combination with “vulvovaginal atrophy,” “vaginismus,” “vaginal atrophy,” “vulvodynia,” and “vestibulitis,” There were 603 relevant articles retrieved. Twenty-two RCT’s met initial inclusion/exclusion criteria and included a placebo arm. Of these, eight studies that utilized the primary outcome measure, the Female Sexual Function Index (FSFI), were ultimately selected for meta-analysis. The placebo effect on FSFI was compared to the respective study’s treatment effect using inverse-variance weighting in a random effects analysis model.

Results: Across the eight studies, 1,723 women with clinical pretreatment FSD received placebo. 2,236 women were in the treatment arm of the respective studies and received various pharmacologic interventions including flibanserin, bupropion, onabotulinum toxin A, intravaginal Prasterone, intranasal oxytocin, ospemifene, and bremelanotide. Women receiving placebo improved 3.62 [95% CI: (3.29–3.94)] on the FSFI (Figure 1). The treatment arm had a corresponding increase of 5.35 [95% CI: (4.13–6.57)].

Conclusion: This meta-analysis of Level 1 evidence demonstrates that 67.7% of the treatment effect for FSD is accounted for by placebo. This is consistent with the current literature. Further, this study suggests that the current treatments for FSD are, overall, minimally superior to placebo alone which reinforces the significant psychosocial element of the disease process in women.
Poster #M51

WITHDRAWN

Poster #M52

DYNAMIC PELVIC MRI IN THE EVALUATION OF PELVIC ORGAN PROLAPSE AND CORRELATION WITH PHYSICAL EXAM FINDINGS

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Presented By: Frank C. Lin

Introduction: Dynamic Pelvic Floor Magnetic Resonance Imaging (dMRI) provides objective evaluation of pelvic organ prolapse (POP), and few studies have compared physical examination (PE) to dMRI. We present the largest series comparing dMRI with PE findings.

Methods: A total of 274 consecutive patients underwent dMRI with defecography, and charts were retrospectively reviewed for Baden-Walker grading of POP (Grade 0-4), absolute dMRI values, and grading by dMRI (Grade 0-3). Exclusion criteria included incomplete PE or dMRI, and males. Clinically significant POP was defined as Baden-Walker (B-W) Grade ≥ 3 and dMRI Grade ≥ 2 with clinically insignificant POP defined as B-W Grade 0-1 and dMRI Grade 0. Spearman correlation was performed between absolute dMRI values and POP grade.

Results: In total, 178 female patients had both PE and dMRI as part of their POP assessment. In the anterior compartment, there was a moderate positive correlation (r=0.652) between dMRI values and PE. PE and dMRI had 90.7% agreement in patients without clinically significant cystocele. Clinically significant cystoceles on PE were read as Grade ≥2 on dMRI in 84.6% of subjects. Correlation between PE and dMRI for apical prolapse was poor (r=0.195). For patients without significant apical prolapse, PE and dMRI had 59.2% agreement. Clinically significant apical prolapse on PE was read as dMRI Grade ≥2 in 62.9% of subjects. However, dMRI detected 30 patients with enterocele with PE agreeing in only nine patients. Three of these 30 patients (10%) with pure enterocele were misdiagnosed as rectocele on PE. Conversely, PE detected 20 patients with enteroceles with dMRI confirmation in nine cases. Correlation between PE and dMRI was also poor in the posterior compartment (r=0.277). PE and dMRI had 55.4% agreement in patients without significant posterior prolapse, whereas clinically significant rectoceles were read as dMRI Grade ≥2 in 77.7% of subjects.

Conclusion: This is the largest study to date comparing dMRI to PE for the evaluation of POP. dMRI correlated well with PE in the anterior compartment but yielded little additional diagnostic value. Correlation in the posterior compartment was poor, but dMRI tended to agree with PE in higher grades of POP. dMRI was superior to PE in the detection of enterocele and was better able to distinguish enterocele from rectocele. dMRI may add the most diagnostic value in cases where the presence of enterocele is unclear.
Poster #M53
THE IMPACT OF CONCURRENT PROCEDURES ON PERIOPERATIVE OUTCOMES AMONG WOMEN UNDERGOING ABDOMINAL SACROCOLOPEXY: MIDURETHRAL SLING PLACEMENT IS ASSOCIATED WITH INCREASED RISK OF COMPLICATION

William Boysen, MD; Andrew Cohen, MD; Melanie A. Adamsky, MD; Joseph Rodriguez, MD; Sarah Faris, MD; Gregory T. Bales, MD
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Presented By: William Boysen

Introduction: Abdominal sacrocolpopexy (ASC) is the gold standard surgical correction for apical prolapse, but there is variability in concurrent procedures. Given the paucity of data on the impact of concurrent procedures on perioperative outcomes, we assessed if hysterectomy or midurethral sling (MUS) placement incur an increased risk of 30-day complications.

Methods: We queried the American College of Surgeons National Surgical Quality Improvement Project database using current procedure terminology codes to identify women who underwent ASC between 2006 and 2013 and any concurrent procedure. Statistical analysis of outcomes was performed using chi-square test and multivariate regression.

Results: A total of 4,944 women underwent ASC, with open approach used in 1,302 (26.3%) and laparoscopy in 3,642 (73.7%). The majority were performed by gynecologists (92.3%) and surgical approach did not differ by specialty (p>0.05). Hysterectomy was performed in 2,963 cases (59.9%) and MUS was placed in 1,699 cases (34.3%). Gynecologists were more likely than urologists to perform a concurrent hysterectomy (64.0% vs 11.4%, p<0.01) and/or place MUS (34.8% vs 29.6%, p=0.04). There was no difference in overall complications or 30-day readmission based on surgeon specialty, resident involvement, or concurrent hysterectomy (p>0.05). Overall rate of reoperation was low (1.5%) and did not differ if concurrent procedure was performed (p>0.05). Relative to patients undergoing ASC without MUS, patients who had MUS placed had a higher incidence of urinary tract infection (4.94% vs 2.31%, p<0.01) and overall complications (7.71% vs 6.07%, p=0.03), but no difference in 30-day readmissions (1.9% vs 2.6%, p=0.1). On multivariate regression analysis, MUS was associated with increased odds of urinary tract infection (OR 2.6, p<0.01) and overall complication (OR 2.09, p<0.01), and laparoscopic approach was associated with decreased odds of overall complication (OR 0.49, p<0.01; Table 1).

Conclusion: At time of ASC, MUS placement is associated with increased risk of urinary tract infections and overall complications. Resident involvement, performing hysterectomy, and surgeon specialty are not associated with differences in complications or readmission.
THE IMPACT OF CONCOMITANT SUI SURGERY ON PATIENTS UNDERGOING VAGINAL PROLAPSE REPAIR: ANALYSIS OF HOSPITAL SURGICAL QUALITY MEASURES.

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Presented By: Dominique R. Malacarne

Introduction: Stress urinary incontinence (SUI) is a common problem, and often co-exists with pelvic organ prolapse. There is an estimated 11-20% lifetime risk of a woman requiring surgery for either condition. We utilize shared decision making when considering placement of slings at the time of prolapse surgery. In order to better understand the implication of sling placement we investigated hospital based quality measures.

Methods: The American College of Surgeons National Surgical Quality Improvement Project Dataset from 2012 to 2014 was analyzed. Patients having vaginal hysterectomy with anterior colporrhaphy and apical suspension were identified using CPT codes. A retrospective cross-sectional study was performed to assess for differences in length of hospital stay and rates of various complications when comparing women undergoing vaginal prolapse repair with concomitant sling versus vaginal prolapse repair alone. T-tests, Fisher's exact and Chi-squared tests were used to compare differences between groups.

Results: The 157 cases of vaginal hysterectomy with prolapse repair combined with concomitant sling were compared with 506 cases of vaginal prolapse repair alone. Baseline characteristics of age and BMI showed no statistical significance when comparing groups. There was no significant difference between groups in length of hospital stay (1.46 days for repair with sling versus 1.44 days without sling (p=0.55). 11/157 (7%) patients with concomitant sling had a post-operative urinary tract infection (UTI) versus 16/506 (3%) patients with prolapse repair alone, (p=0.058). There was a trend toward an increase in post-operative UTI rate in the sling group. There was a 1.9% rate of intra-operative transfusion in the patients with sling versus 1.1% rate in the non-sling group (p=0.44) and a 0.6% rate of wound infection in the sling versus 0.4% rate in the non-sling group (p=0.55). There were no significant differences in rates of these complications between the groups.

Conclusion: In a national representative sample of prolapse surgeries it was found that there are no major concerns when comparing complications of concomitant sling with vaginal prolapse repair versus vaginal prolapse repair alone. There was a trend toward increased risk for post-operative UTI and patients should be counseled accordingly. Though we did not reach statistical significance, our study was underpowered. Larger studies are needed to detect this difference.
Poster #M55
TEN-YEAR REVIEW OF SURGICAL MANAGEMENT OF ICS/IUGA CATEGORy 1-4 TRANsvAGINAL MESH COMPLICATIONS FOLLOWING PROLAPSE KITS

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Presented By: Aleksandar C. Blubaum

Introduction: Polypropylene mesh kits have been shown to improve anatomic outcomes in pelvic organ prolapse (POP) surgery, however, there is an 18% re-operation rate for complications directly related to mesh. Our objective was to categorize transvaginal mesh (TVM) complications and describe the surgical management at a single institution.

Methods: We retrospectively reviewed medical records of patients undergoing transvaginal removal of polypropylene mesh from the vagina and lower urinary tract due to complications from TVM prolapse kits. Patients were categorized according to the ICS/IUGA classification system of urogynecologic graft complications. Patients who had only complications from mid urethral sling were excluded from this study. All patients underwent near total removal of the TVM prolapse kit, wash out protocol, reconstruction followed by selective prolapse repair.

Result: There were 114 patients who underwent near total surgical removal of TVM POP kit with a mean follow-up of 14 months. An isolated transvaginal approach was used in 91 (80%) patients that required only POP kit removal, while 23 (20%) patients required concomitant retropubic approach for removal of a retropubic mesh sling. The mean age was 59 years and mean BMI was 28.5. Fifty (44%) patients had prior attempt of partial mesh excision. The indication for mesh removal was ICS category 1 (mesh pain with intact epithelium), 2−3 (small−large mesh exposure), and 4 (urinary tract perforation) in 48 (42%), 50 (44%) and 16, (14%) respectively. Concomitant reconstructive procedures occurred in 102 patients, and included reinforced repair with native tissue 53 (52%) vs allograft 39 (38%). Near complete removal of mesh was accomplished in all patients. Post-operative complications included blood transfusion (n=4), rectovaginal fistula (n=2), ureteral obstruction (n=3), urethrovaginal and vesicovaginal fistula in one patient each (n=2), pelvic abscess (n=1), and neuropathy (n=2). Residual symptoms included vaginal pain (n=6), incomplete bladder emptying (n=10), SUI (n=20) and urge incontinence (n=7). Additional surgery included rectovaginal fistula repair (n=2), pubovaginal sling (n=21), colporraphy (n=9), open abdominal sacrocolpopexy (n=2), and robotic sacrocolpopexy (n=21).

Conclusion: TVM excision can resolve complications after placement of TVM prolapse kits in a single operation.
Poster #M56
DIRECT TO CONSUMER ADVERTISING FOR ROBOTIC ASSISTED SACROCOLPOPEXY: ARE PATIENTS GETTING THE RIGHT INFORMATION?

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Presented By: Brent Medoff

Introduction: Direct to consumer advertising targeting the patient has an increasingly pervasive effect on patient care. To date, however, we have little information addressing how this information is portrayed to patients on consumer websites. To analyze whether centers made unsubstantiated claims regarding outcomes of sacrocolpopexy, we examined whether web sites provided clinical data or referenced peer-reviewed publications as part of their advertising.

Methods: We compiled an electronic database for the clinical direct-to-consumer advantages and/or disadvantages of robotic sacrocolpopexy using the first three Google pages with the search term "robotic sacrocolpopexy." Advertising was then classified based on presentation of benefits only, risks only, and both risks and benefits to determine the balance of information provided to consumers. We further classified the information based on whether or not peer-reviewed references were present on the webpages.

Results: A total of 25 of 29 websites were found to have information on advantages/disadvantages of sacrocolpopexy. Four were excluded because they had no discussion of advantages/disadvantages. Of the 25, eight were research articles all containing references, zero were insurance websites, 14 were hospital specific websites, 13 of which had no supporting references. Of the hospital websites, five were academic medical centers, four of which had no references. Three were non-academic medical centers containing no references, and six were individual practices, all of which had no references. Seven were gynecology practices, all with no references, six were urology practices, five of which had no references. The most common advantages presented for the robotic approach included shorter hospital stays/recovery time (15) and decreased blood loss (13), with the most common disadvantage being high cost (5, see Table1).

Conclusion: Direct to consumer advertising in robotic sacrocolpopexy had many websites reporting benefits without describing risks or referencing the material on the websites. We need to ensure our advertising messages to consumers offer a balanced view of surgical interventions in accordance with the American Medical Association Code of Ethics Opinion on Advertising and Publicity.
THE EFFECT OF RESIDENT INVOLVEMENT IN PELVIC PROLAPSE SURGERY: A RETROSPECTIVE STUDY FROM A NATIONWIDE INPATIENT SAMPLE

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Presented By: Maxx K. Caveney

Introduction: Conflicting evidence exists regarding the impact of resident involvement on surgical outcomes. The primary aim of this study is to assess the impact of resident involvement on perioperative complications in pelvic organ prolapse surgery using the National Surgical Quality Improvement Database (NSQIP).

Methods: The NSQIP database was queried from 2009 through the end of 2013 to identify all cases of pelvic organ prolapse repair using relevant Current Procedural Terminology (CPT) codes. This analysis included both urologic and gynecologic surgeons. We first stratified and analyzed this data by resident participation. To control for the effect of pre-operative comorbidity, propensity scores of resident involvement were calculated. The probability that any given case would be assigned to the “Resident Involvement” arm is represented on a scale of 0 to 1. To analyze cases according to similar probabilities, all cases were then divided into quartiles. Because the 25th and 50th quartiles were the same value (probability of 0.407), three groups were created (Q1/2, Q3, Q4). Stratification by resident involvement and comparison of perioperative outcomes were performed within each group. As a control, complications of transurethral resection of prostate (TURP) and nephrectomy (both total and partial) were stratified by resident involvement.

Results: We identified 2,644 cases that included resident participation. Across all groups, resident involvement was associated with increased post-operative urinary tract infections, overall perioperative complications and procedure length. Resident involvement in cases was without significant change with 481/1159 (41.5%) in 2009 to 685/1624 (42.2%) in 2010 to 598/1356 (44.1%) in 2011 and finally 595/1399 (42.5%) in 2012. In the first group, resident involvement was associated with increased readmissions, pulmonary embolism, and sepsis. In the second and third groups, resident involvement was associated with increased rates of superficial surgical site infection. Nephrectomy cases demonstrated similar outcomes. Resident involvement in TURP was associated only with increased procedure lengths and decreased post-operative length of stay.

Conclusion: Resident involvement in pelvic organ prolapse surgery was associated with an increased risk of adverse outcomes. A similar effect was seen with nephrectomy but not with a more simple endoscopic urologic procedure.

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Poster #M58
POSTERIOR COMPARTMENT PROLAPSE OCCURRENCE AFTER ANTERIOR VAGINAL WALL SUSPENSION

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Presented By: Rena D. Malik

Introduction: To identify posterior compartment prolapse occurrence in women undergoing anterior vaginal wall suspension (AVWS).

Methods: A prospectively maintained, institutional review board approved surgical prolapse database was reviewed for women who underwent AVWS for any degree of anterior compartment prolapse with minimum of 6-month follow-up. Demographic data, smoking status, parity, and uterine status were collected. The primary outcome was need for delayed posterior compartment prolapse repair.

Results: A total of 481 women met inclusion criteria with a mean age of 64.7±10.7 years, mean BMI of 26.1±5.9 kg/m2, and a mean parity of 2.5±1.4. Fifty-eight women (12.1%) had uterine-sparing AVWS, 132 (27.4%) had concomitant hysterectomy and 291 (60.5%) had hysterectomy prior to AVWS. Eighty-eight (18.3%) required delayed posterior compartment repair with mean follow-up of 6.6±4.3 years. Of those 88 patients, Sixty-one (69%) had abdominal reconstruction, whereas 27 (31%) were repaired vaginally. Seventy-five percent underwent repair within 3.5 years after AVWS. Women who had uterine-sparing AVWS were less likely than those who had concomitant or prior hysterectomy to require posterior compartment repair (8.6% vs. 20.5% & 19.2%, p=0.121) (Figure 1). Of those undergoing hysterectomy, vaginal or abdominal approach was not associated with delayed posterior compartment prolapse surgery (p=0.284).

Conclusion: At long-term follow up, less than 20% of women undergoing AVWS will require posterior compartment prolapse repair. Uterine-sparing AVWS may be associated with a reduced risk of delayed posterior compartment prolapse repair.
UNDERSTANDING SIMPLE CYTSECTOMY FOR BENIGN DISEASE: A UNIQUE PATIENT COHORT WITH SIGNIFICANT RISKS

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Presented By: Carrie Mlynarczyk

Introduction: Cystectomy with urinary diversion is most commonly performed for bladder cancer with significant morbidity and mortality. Another indication is simple cystectomy for severe refractory voiding dysfunction. Due to the relative rarity of this procedure, there is limited data on this cohort, mostly limited to small case series. The objective was to explore comorbidities and complications of simple cystectomy for benign disease.

Methods: Current Procedural Terminology codes were used to identify patients within the National Surgical Quality Improvement Program database who underwent cystectomy (2005-2014). ICD9 codes were used to classify patients with benign or malignant diagnoses. Perioperative complications (30-day) were identified and Logistic regression analysis was used to identify factors associated with morbidity.

Results: We identified 389 patients who had a cystectomy for benign diagnosis. 235 (60.4%) had complications recorded. The most frequently reported complication was bleeding (requiring a transfusion within 72 hours) in 150 (38.6%) patients. Other complications were wound infection (63; 16.2%), respiratory complication (29; 7.5%), wound dehiscence (8; 2.1%) renal complication (9; 2.3%), cardiovascular complication (6; 1.5%), and post op DVT (8; 2.1%). The reoperation rate was 5.7%. Four patients (1%) had a recorded death in the database. On multivariate analysis diabetes (OR 1.9, p=0.04) and smoking (OR 1.8, p=0.03) were associated with increased odds of any complication. Compared to those with cystectomy for malignancy this cohort was younger, with higher ASA scores and CKD stages. In the benign cohort fewer had COPD, HTN, or smoked, and more had preoperative wound infections (table 1). Operative time was shorter for simple cystectomy (327±125 vs 353±124 min, p=0.001) and there was no difference in post-operative hospital stay.

Conclusion: This is the first multi-center nationwide study to examine morbidity of cystectomy for benign diseases. Our data suggests that the benign and radical cystectomy patients are different, with benign patients being younger with higher ASA class. Even in benign disease, cystectomy is not without risk and patients should be counseled accordingly.

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Poster #M60
POST-OPERATIVE URETHROPLASTY MANAGEMENT: IS PERICATHETER RUG A BETTER IMAGING ALTERNATIVE?

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Presented By: Rachael D. Sussman

Introduction: In light of the recent AUA Guidelines on male urethral stricture disease, there is not a standard recommendation on how to best assess urethral healing after urethroplasty. The literature supports both voiding cystourethrography (VCUG) and retrograde urethrogram (RUG). A pericatheter RUG (pcRUG) may be performed without removal of the urethral catheter and can serve as a safe and effective imaging modality to assess post-operative urethral healing. Our aim was evaluate the utility of a pcRUG to detect a clinically significant leak after urethral reconstruction.

Methods: Patients with a pcRUG after urethroplasty at a single institution were retrospectively evaluated. The pcRUG was performed in the oblique position with the penis on stretch. Radiopaque contrast was instilled through an angiocath alongside the indwelling urethral catheter under dynamic fluoroscopy. A single urologist fellowship-trained in genitourinary reconstruction examined all images for evidence of contrast extravasation. In the absence of contrast extravasation the urethral catheter was removed.

Results: From 2012 to 2016, 113 total pcRUGs were performed on 100 patients after urethroplasty. Of these 100 patients, 86 (86%) had no extravasation on initial pcRUG. Fourteen patients (14%) demonstrated extravasation on initial pcRUG, with 12 of those patients (12%) undergoing a repeat pcRUG at an average of 19 days later (range 12-34). One patient required a third pcRUG prior to catheter removal. There were no infectious complications after the pcRUG. Of the 96 pcRUGs without extravasation and subsequent catheter removal, one patient presented with a scrotal abscess and delayed urinary leak.

Conclusion: The pcRUG technique appears to be accurate and safe in effectively assessing urethral healing after urethroplasty. pcRUG may be a viable alternative to VCUG or traditional RUG obviating the risks of premature catheter removal and subsequent replacement.
SUPRAMEATAL URETHROLYSIS WITH MARTIUS FLAP INTERPOSITION FOR REFRACTORY IATROGENIC BLADDER OUTLET OBSTRUCTION FOLLOWING ANTI-INCONTINENCE SURGERY IN WOMEN

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Presented By: Janine L. Oliver

Introduction: Iatrogenic female bladder outlet obstruction (BOO) refractory to initial urethrolysis is a challenging condition to treat. We present a novel technique and outcomes of suprameatal urethrolysis with Martius flap interposition (SMUM) for persistent iatrogenic BOO after failed transvaginal urethrolysis (TVU).

Methods: We performed a chart review to identify female patients who underwent SMUM between January 2010 and August 2016 after failed TVU for BOO due to prior anti-incontinence surgery. Diagnosis was based on clinical, cystoscopic, fluoroscopic, and urodynamic exam findings including urethral angulation or fixation. All procedures were performed by SR. SMUM was performed as described by Blaivas et al with the novel modification of Martius flap interposition between the pubis and urethra (1). Outcomes assessed included patient ability to void spontaneously without indwelling or intermittent catheterization (IIC), change in post-void residual volume (PVR), and need for additional surgery for BOO.

Results: Ten patients were identified. The prior surgery resulting in BOO was a Burch procedure in two, mesh retropubic sling in three, mesh transobturator sling in one, single-incision mesh sling in one, cadaveric and biologic bone-anchored retropubic sling in one each, and anterior vaginal wall prolapse repair with mesh in one. Median age at time of surgery was 61 years (range 40–74) and mean number of prior TVU was 1.5 (±0.53). Median preoperative PVR, Qmax, and maximum Pdet during voiding were 254 cc (110–462), 7 cc/s (3–22), and 16 cm H20 (10–42). After a median follow-up of 10.6 months (1.4–15.9), 8 (80.0%) patients were voiding spontaneously without need for IIC. Among the six patients who required IIC preoperatively, four (66.6%) recovered spontaneous voiding. Postoperative median PVR was 79 cc (0–144) and median change in PVR was a 205 cc (29–600) decrease (P < 0.01). Two patients continued to require IIC and underwent additional surgery for BOO. No patient developed de novo stress incontinence.

Conclusion: SMUM was successful in relieving refractory iatrogenic BOO in this complex patient population. We believe Martius flap interposition is critical to preventing recurrent fixation of the urethra to the pubic bones and thus achieving improved voiding.

Funding Source: None

THE IMPACT OF MESENTERIC WINDOW CLOSURE AFTER HARVESTING ILEUM FOR UROLOGIC RECONSTRUCTIVE SURGERY

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Presented By: Michael Avallone

Introduction: Classic surgical teaching advocates for closure of the mesenteric window (MW) after bowel anastomosis but the necessity of this maneuver is controversial in the general surgical literature. We sought to evaluate the importance of MW closure at the time of harvest of ileum for urologic reconstructive surgery by analyzing the incidence of gastrointestinal adverse events (GIAE) in patients with and without MW closure.

Methods: A retrospective review was conducted on patients >16 years of age undergoing GU reconstructive surgery (GURS) with ileum to identify the incidence of GIAE: ileus, small bowel obstruction (SBO), gastrointestinal fistula and stoma complications.

Results: 288 patients met the inclusion criteria and 93% of GURS was for urinary diversion following cystectomy. MW was closed in 194 cases (67%). Median follow up was 19 months. Early (<30 day) GIAE rates were 16.5% (n=32) and 21.3% (n=20) in the closure and non-closure groups (p =0.22), respectively. The rate of early ileus or SBO requiring nasogastric tube decompression or laparotomy were similar after closure (15.0%) and non-closure (21.3%) p=0.18. The late GIAE rates were 5.7% (n=11) and 6.4% (n=6) in the closure and non-closure groups (p= 0.56), respectively. The rates of late SBO were similar between groups and no cases of early or late SBO in either group were due to internal herniation. Non-closure patients had a higher rate of late fistulae (0% vs 3.2%, p=0.013) although most of these had potential etiologies unrelated to the MW status. In multivariate analysis, increasing BMI was associated with both early and late GIAE. There were trends towards increased risk of late GIAE with prior pelvic radiotherapy and following ileal neobladder compared to conduit. Previous intraperitoneal surgery and closure of MW were not associated with early or late GIAE.

Conclusion: After harvesting ileum for urologic reconstruction, the MW can safely be left open as we found no association between non-closure and early or late GIAE.
SHORT AND LONG-TERM ORAL COMPLICATIONS OF BUCCAL MUCOSAL GRAFT HARVEST FOR MALE AND FEMALE URETHROPLASTY

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Presented By: Hazel Ecclestone

Introduction: To delineate the long-term and oral complications of all patients having buccal mucosal graft (BMG) urethroplasty and identify risk factors (if any) for these complications.

Methods: A review of a prospectively gathered database of all patients (male and female) having BMG urethroplasty was conducted for length and site of BMG harvest, method of closure (or not) of harvest site, patient demographics and short and long-term complications of BMG harvest.

Results: There were 128 men of mean age 42.8 years (range 16-74) and 14 women of mean age 45.3 years (range 33-56) who had BMG harvest as part of their urethroplasty procedure between 2001 and 2015 for men and 2009 and 2015 for women. 96% of men and 100% of women had their harvest site left unsutured after careful haemostasis. The mean harvest length was 3 cm for the female patients and 5.5 cm for the male. There were no acute returns to theatre for bleeding. One male patient with an unsutured graft site required suture of a troublesome bleeding site on ward the night of their surgery. There were no other acute complications reported. One male patient had a secondary bleed from their unsutured graft site ten days post discharge following recommencement of clopidogrel on day five post-surgery – this patient was readmitted to another hospital and had a 2 unit blood transfusion after which his haemoglobin was 12 g/dl. 2.8% (n=4) of patients reported persistent oral complications at > 12 months requiring further attention. These complications included: prominent/tight scar in two cases and poor fitting of dentures in two patients requiring change in dentures in one of them.

Conclusion: BMG harvest is a very safe procedure with side-effects occurring in only 3.5%. These side-effects are: post-operative bleeding in 0.7%, scar prominence and rigidity in 1.4%, poor fitting denture in 1.4% and change in dentures in 0.7%. These side-effects are generally self-limiting and require treatment in only 1.4%.
BIOSIMILAR DEVICES FOR AUTOGRRAFT AND ALLOGRAFT REPLACEMENTS: A NOVEL BIOMIMETIC STUDY USING ELECTROCHEMICAL ALIGNED COLLAGEN-BASED BIOTEXTILES AND HUMAN MESENCHYMAL STEM CELLS (HMSCS).

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Presented By: Raymond R. Rackley

Introduction: Biological materials in the form of newly designed, biosimilar, reconstituted collagen-elastin nanoparticles, or biotextiles, are in growing demand for reconstructive applications. With their natural composition and well-tolerated degradation products, they are not perceived as foreign matter by the body and carry low risks of unacceptable host responses and potential of infection that allograft and synthetic materials do. Sharing similar mechanical properties to autografts, biotextiles may further stimulate cells to promote functional tissue repair and regeneration not typical of other materials. Biotextiles are preferred over autografts with inherent harvest site morbidity, highlighting a need to develop biosimilar materials with controlled architecture, composition, and biocompatibility, as elucidated in this study.

Methods: Controlled molecular assembly of dialyzed collagen and elastin compositions was produced using a planar electrochemical process that moves proteins in a pH gradient produced by the electrolysis of water. Under electric force, the charged proteins were isoelectrically focused and congregated to form densely-packed structures at the isoelectric point/plane due to hydrophobic interactions inside an electrochemical chamber composed of two plate-shaped electrodes. Following electrolysis, macroscopic biological sheets were collected from the cathode side. Samples were serially dehydrated and imaged by SEM. For culture of hMSCs, a transparent aligned collagen sheet was seeded with hMSCs. The cells were allowed to attach to the aligned collagen sheet and incubated. Cell viability was examined using a Live/Dead Viability Kit and imaged by an inverted fluorescence microscope.

Results: Electrochemically aligned collagen-elastin sheets are transparent and thin. SEM showed pure collagen sheets had a layered structure with nearly 30nm collagen fibril diameter. Novel in-vitro biocompatibility was confirmed as hMSCs proliferated well and were almost confluent on the collagen sheet after 72 hours.

Conclusion: Novel collagen-elastin based biotextile sheets can be easily biomimetically fabricated via electrochemical alignment using planar electrodes and have excellent stem cell in vitro biocompatibility. Further biomechanical studies are warranted on in-vitro testing of collagen-elastin based biosimilar devices.

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THE EFFECT OF SOLIFENACIN ON POST-VOID Dribbling IN WOMEN: RESULTS OF A RANDOMIZED, PLACEBO-CONTROLLED TRIAL

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Presented By: Tova Ablove

Introduction: Post void dribbling (PVD) is a poorly understood type of urinary incontinence. The objective of our study is to determine the efficacy of solifenacin for treating PVD episodes. This is a 12-week, multicenter, double-blind, randomized, placebo-controlled, parallel design study. Subjects were recruited from the University of Wisconsin, Marshfield Clinic, and Aurora Health Care.

Methods: Women aged 18-89 years with PVD that occurred at least twice a week were included in this study. In total, 118 subjects were randomized, 58 to solifenacin and 60 to placebo. Subjects received solifenacin (VESIcare®) 5 mg versus placebo once daily for 12 weeks. Subjects also completed a daily voiding diary and monthly quality of life questionnaires. The percent reduction in PVD episodes was the primary endpoint. Secondary endpoints included the percentage of patients with ≥ 50% reduction in PVD episodes (“response rate”) and changes in quality of life (QOL) questionnaires.

Results: No significant differences in percent reduction in PVD episodes (59.8% versus 42.1%; p=0.1135), response rate (69.8% versus 55.5%; p=0.0919), or QOL questionnaires were observed between the solifenacin and placebo groups in the entire study cohort. However, in a subgroup of patients with more pronounced baseline disease (> 1.5 PVD episodes/day), a larger reduction in PVD day rate (2.30 versus 1.19; p=0.0398), greater percentage of PVD day rate reduction (60.3% versus 32.1%; p=0.0348), and higher response rate (68.1% versus 45.8%; p=0.0476) were observed with solifenacin treatment. A strong placebo response was noted in both the entire study cohort (55.5%) and in the subgroup of women with the most severe symptoms (45.8%).

Conclusion: Solifenacin was not effective for treating PVD in the entire study cohort. Because of the powerful placebo response seen in this study, behavioral-based interventions may prove to be useful for treatment of PVD.
PATIENT REPORTED OUTCOMES FROM SYNERGY, A RANDOMIZED, DOUBLE-BLIND, MULTICENTER STUDY EVALUATING COMBINATIONS OF MIRABEGRON AND SOLIFENACIN COMPARED WITH MIRABEGRON AND SOLIFENACIN MONOTHERAPY

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Presented By: Elizabeth R. Mueller

Introduction: The Phase III SYNERGY study compared efficacy, safety and tolerability of mirabegron (M)+solifenacin (S) combinations vs monotherapy and placebo in 3398 patients with overactive bladder (OAB). Co-primary efficacy variables were change from baseline to end of treatment (EoT) in mean number of incontinence episodes and micturitions/24 h. Secondary efficacy variables - patient-reported outcomes (PRO) - are shown here.

Methods: Adults with wet OAB for ≥3 months recording ≥8 micturitions and ≥1 urgency episode/24 h, and ≥3 incontinence episodes in a 7-day micturition diary after a 4-week placebo run-in were randomized to double-blind treatment (2:2:1:1:1:1 ratio, S5+M50mg [combination 5+50]; S5mg+M25mg [combination 5+25]; S5mg; M25mg; M50mg; or placebo for 12 weeks), followed by a 2-week single-blind, placebo run-out. PROs included change from baseline to EoT in OAB-q Symptom Bother score, Health-related Quality of Life (HRQoL) total score, Patient Perception of Bladder Condition (PPBC), Treatment Satisfaction-Visual Analogue Scale (TS-VAS) and responder analyses (≥10-point improvement in OAB-q Symptom Bother score and HRQoL total score, ≥1- or ≥2-point improvement in PPBC). Double- and triple-responder analyses included those with 50% reduction in incontinence episodes/24 h plus 1 or 2 other responder categories, respectively.

Results: Although the primary objective was not met for incontinence, improvements for combination therapy were observed in micturition frequency. At EoT, both combinations resulted in significantly greater improvements vs monotherapies in OAB-q Symptom Bother score, PPBC, HRQoL total score and concern, coping and sleep subscale scores (5+50 vs M50mg not significant vs monotherapy on the social subscale). Mean adjusted change from baseline to EoT for TS-VAS were greater in combination groups vs monotherapies and placebo. There were statistically significant odds ratios in favor of combination vs monotherapy in responders with ≥10-point improvement in OAB-q Symptom Bother score and in patients with ≥1-point improvement from baseline in PPBC (except for combination 5+25 vs S5mg). Double and triple-responder analyses showed statistically significant improvements for combination 5+50 vs both monotherapies for three of five variables.

Conclusion: Combination therapy provided clinically relevant improvements to monotherapy for many PRO parameters.

Funding Source: Astellas Pharma
Podium #45

AUA WHITE PAPER: NON-NEUROGENIC CHRONIC URINARY RETENTION: CONSENSUS DEFINITION, MANAGEMENT STRATEGIES, AND FUTURE OPPORTUNITIES

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Presented By: John T. Stoffel

Introduction: The American Urological Association Quality Improvement and Patient Safety (QIPS) Committee created a White Paper on non-neurogenic chronic urinary retention to: 1) Characterize patients with CUR into clinically definable index populations in adult men and women. 2) Propose diagnostic and treatment algorithms for CUR patients. 3) Propose outcome endpoints for patients with CUR.

Methods: CUR was prioritized by the US Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ) for evaluation. The AUA QIPS CUR working group performed a literature review between 1946 and 2016 and developed key questions regarding CUR from AHRQ report and literature review. Recommendations for the CUR White Paper were based on a review of the literature and consensus expert opinion of the CUR White Paper group.

Results: The AUA CUR White Paper work group defined CUR as an elevated post void residual of >300 mL that has persisted for at least six months and is documented on two occasions. This definition differentiates CUR from either acute/transitory urinary retention or urinary retention caused by a neurologic, oncologic, or traumatic etiology. The work group proposed that CUR be categorized by risk (high vs low) and symptomatology (symptomatic versus asymptomatic). High risk CUR was defined as a patient having hydronephrosis on imaging, Stage 3 Chronic Kidney Disease, or recurrent culture proven UTI. Symptomatic CUR was defined as a patient having urinary symptoms impacting QOL. The work group recommended that four primary outcomes should be assessed in determining effectiveness of CUR treatment. These include 1) Symptoms improvement, as measured by quality questionnaires, 2) Risk reduction, as defined by resolution of hydronephrosis, renal failure, recurrent UTI, urosepsis, 3) Successful trial of voiding without catheterization, and 4) Stability of symptoms and risk over time.

Conclusion: Standardizing an approach to CUR will hopefully open comparative research to improve understanding of this challenging condition.
Podium #46

EFFICACY AND SAFETY OF ONABOTULINUMTOXINA 100U FOR TREATMENT OF URINARY INCONTINENCE DUE TO NEUROGENIC DETRUSOR OVERACTIVITY IN NONCATHERIZING MULTIPLE SCLEROSIS PATIENTS

Alfred D. Kohan, MD, FACS¹; Francisco Cruz²; Pierre Denys³; Blair Egerdie⁴; Emmanuel Chartier-Kastler⁵; Andrew Magyar⁶; JP Nicandro⁷; Brenda Jenkins⁷; Benjamin M. Brucker, MD⁸

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Presented By: Alfred D. Kohan

Introduction: A multicenter, double-blind study evaluated the efficacy/safety of onabotulinumtoxinA (onabotA) 100U in patients with neurogenic detrusor overactivity (NDO) due to multiple sclerosis (MS) who were not using clean intermittent catheterization (CIC) at baseline and were inadequately managed by an anticholinergic (ACH).

Methods: Eligible patients received one treatment of onabotA 100U (n=66) or placebo (n=78) given as 30-1mL intradetrusor injections via cystoscopy. Patients could request one additional open-label onabotA treatment if they qualified for retreatment (≥12 weeks since first treatment, ≥2 UI episodes and ≤1 UI-free day over three days and a post-void residual volume [PVR] <200 mL). Assessments were change from baseline at week six in UI episodes/day, maximum cystometric capacity (MCC), maximum detrusor pressure (MDP) during first involuntary detrusor contraction (IDC), and Incontinence-Quality of Life (I-QOL) total summary score. Also assessed were proportions of patients achieving 100% UI reduction at six weeks, duration of effect (DOE), adverse events (AEs), and CIC initiation.

Results: OnabotA, compared with placebo, significantly improved UI episodes/day (-3.3 vs -1.1; P<.001), MCC (+127.2 vs -1.8 mL; P<.001) and MDP during first IDC (-19.6 vs 3.7 cm H2O; P<.01). A significantly greater proportion of onabotA patients achieved 100% UI reduction vs placebo (53.0% vs 10.3%; P<.001). Improvements in I-QOL total summary score were significantly greater with onabotA vs placebo (40.4 vs 9.9; P<.001) and approximately three times the minimally important difference (+11 points). DOE for onabotA was significantly longer vs placebo (11.9 vs 2.9 months; P<.001).

Conclusion: This is the first multicenter, randomized, double-blind, placebo-controlled clinical trial to investigate a low dose of onabotA in noncatheterizing MS patients with UI due to NDO who were inadequately managed by an ACH. Treatment with onabotA resulted in significant and clinically meaningful improvements in UI, MCC, MDP at first IDC, I-QOL, and DOE vs placebo. OnabotA was well-tolerated with AEs primarily localized to the urinary tract, and a relatively low rate of CIC due to urinary retention/elevated PVR.

Funding Source: Allergan, plc
Podium #47

SER120 NASAL SPRAY IS EFFECTIVE FOR THE TREATMENT OF NOCTURIA IN PATIENTS REGARDLESS OF ETIOLOGY: A POOLED ANALYSIS OF TWO RANDOMIZED, PLACEBO-CONTROLLED PHASE 3 TRIALS

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Presented By: David O. Sussman

Introduction: Nocturia (waking at night to void) is a bothersome condition associated with many underlying etiologies. Two randomized, placebo-controlled phase-3 trials demonstrated the efficacy/safety of SER120, a very low-dose desmopressin nasal spray formulation in patients (pts) with nocturia. A pooled analysis of the two trials compared the efficacy of SER120 in nocturia pts with contributing etiologies of nocturnal polyuria (NP), overactive bladder (OAB), and benign prostatic hyperplasia (BPH).

Methods: Two phase-3 trials enrolled pts ≥50 y of age with ≥2 nocturic episodes/night (irrespective of etiology) for at least six months. Pts (N=1333) were randomized 1:1:1 to SER120 0.75 mcg, 1.5 mcg or placebo for a 12-week treatment period after a 2-week double-blind, placebo lead-in phase. Data from the two phase three trials were pooled for analysis by the contributing etiologies of NP (n=1045); OAB (n=366); and BPH (n=518). The co-primary efficacy endpoints were mean change from baseline in nocturic episodes/night and percentages of pts with ≥50% reduction in mean nocturic episodes.

Results: Overall, the baseline mean nocturic episodes/night were 3.3, 3.4 and 3.3 in the SER120 0.75 mcg, 1.5 mcg, and placebo groups, respectively. SER120 at both doses resulted in significantly greater reductions in nocturic episodes/night vs placebo, regardless of etiology. The mean reductions in nocturic episodes with SER120 0.75 and 1.5 mcg vs placebo were -1.4 and -1.5 vs -1.2 in pts with NP (P<.0001 for both doses); -1.4 and -1.5 vs -1.0 in OAB pts (P=.0015; P<.0001); and -1.3 and -1.4 vs -1.1 in BPH pts (P=.0236; P=.0063). A significantly higher percentage of pts achieved ≥50% reduction in nocturic episodes/night in groups with NP (37.3% and 48.0% vs 27.5%; P=.0055; P<.0001), OAB (40.2% and 48.9% vs 28.3%; P=.0452; P=.0005) and BPH (31.4% and 38.3% vs 22.5%; P=.0012 for 1.5 mcg).

Conclusion: SER120 at doses of 0.75 mcg and 1.5 mcg is effective for the treatment of nocturia in pts with any etiology or a combination of etiologies, including those diagnosed with NP, OAB and BPH. Pts experienced significantly greater reductions in mean nocturic episodes with SER120 at both doses, regardless of etiology. Significantly higher responder rates were achieved with SER120 at both doses in pts with NP and OAB, and with SER120 1.5 mcg dose in pts with BPH. SER120 had an adequate safety profile and was well tolerated.

Funding Source: Allergan, plc; Serenity Pharma LLC.
Podium #48
PREDICTORS OF A RETURN OF VOLITIONAL VOIDING AFTER SPINAL CORD INJURY

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Presented By: Christopher S. Elliott

Introduction: Impaired bladder function after spinal cord injury (SCI) is common with over 75% of patients unable to volitionally void at the time of discharge from rehabilitation. A significant number of patients with SCI have dissatisfaction related to their bladder care and for many, improving their bladder condition is more important than improving their motor function. The ability to predict a return to volitional voiding would be useful.

Methods: We assessed data for the years 2000 to 2013 using the National Spinal Cord Injury Database. Each patient’s bladder management method was determined at discharge from inpatient rehabilitation and at 1-year follow-up. We evaluated patient variables most likely to affect volitional voiding at 1 year follow-up: patient age; gender; American Spinal Injury Association Impairment Scale (AIS) classification; presence of deep rectal sphincter sensation/contraction; lowest sensory level; and a composite bilateral lower extremity motor score for levels L2-S1 (possible range 0-50). Our models were run separately for each AIS Class given the large variance between AIS A-D for voiding return.

Results: Of the 3307 persons evaluated, 681 (20.7%) were volitionally voiding at discharge from inpatient rehabilitation. This increased to 29.9% at 1-year follow-up. Both AIS classification and composite lower extremity motor score were the largest predictors of volitional voiding (p<.001) (Figure 1). Persons in the AIS A and B categories rarely had return of voiding at 1-year follow-up (1.4% and 4.5% respectively) as compared to AIS C and D (27.7% and 74.4% respectively). We identified several predictors of volitional voiding based on AIS Class. For those with AIS C, younger age and higher composite lower extremity motor score were significant predictors of volitional voiding. These were also significant in the AIS D population in addition to female gender and the combination of deep rectal sensory and motor function (as compared to sensory alone).

Conclusion: Volitional voiding after SCI is predicted well by AIS Class and lower motor extremity function composite score. In addition, several other patient characteristics help to further predict future voiding.
Podium #49
ASSOCIATION BETWEEN URINARY SYMPTOM SEVERITY AND AUTOMATED SEGMENTATION OF WHITE MATTER PLAQUE IN WOMEN WITH MULTIPLE SCLEROSIS

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Presented By: Siobhan M. Hartigan

Introduction: Multiple sclerosis (MS) is characterized by demyelinated white matter plaque throughout the central nervous system. Patients with MS frequently experience a range of bothersome urinary symptoms. The cingulate cortex, insula cortex, and prefrontal cortex are three cortical brain regions that regulate micturition, and plaque involvement in these regions may be associated with urinary symptom severity. The aim of this study is to investigate the relationship between cerebral plaque volume (PV), location and urinary symptoms in women with MS.

Methods: We conducted a prospective case control study of women with MS undergoing routine yearly brain MRI. Women were administered the AUA Symptom Score (AUASS) and divided into two groups: women with severe urinary symptoms (AUASS $\geq$ 20) and women with mild symptoms (AUASS $\leq$ 7). MS PV and location in the brain were determined using a validated automated white matter lesion segmentation algorithm. Mann Whitney U and Spearman’s rank tests were used to investigate the relationship between PV, location, and AUASS subscale scores.

Results: The study included 36 women with a median age of 50.1 years (IQR 27.1) and BMI 26.6 kg/m2 (IQR 5.8) with no significant differences between groups, $p>0.05$. The median total PV was 2523.5mm$^3$ (IQR 11705.5) and did not differ between the groups, $p=0.52$. Women with severe urinary symptoms had larger median PV in the left frontal lobe (LFL) (623.5mm$^3$ IQR 2652 vs 184mm$^3$ IQR 908; $p=0.04$) and right limbic lobe (RLL) (1.5mm$^3$ IQR 10 vs 0 IQR 0; $p=0.02$) compared to women with mild urinary symptoms. Within the RLL, women with severe symptoms had larger median PV in the cingulate gyrus (median 1 IQR 4 vs median 0 IQR 0; $p=0.02$). There was moderate correlation between LFL lesion volume and the voiding symptom subscore (coefficient 0.4, $p=0.03$) as well as RLL lesion volume and the voiding symptom subscore (coefficient 0.5, $p=0.002$). However, these regions did not correlate with the storage subscore. There were no significant relationships between symptoms severity and PV in the insula, cerebellum, corpus callosum, occipital or parietal lobes ($p>0.05$).

Conclusion: Urinary symptom severity in women with MS is associated with plaque in the cingulate gyrus and LFL, and not total cerebral plaque volume. The AUA voiding symptom subscore correlated with the volume of plaque in these locations. Further research to assess spinal cord plaque characteristics is underway.

Funding Source: P20 DK097819
SURVEILLANCE CYSTOSCOPY HAS MINIMAL DIAGNOSTIC YIELD IN PATIENTS WITH AUGMENTATION CYSTOPLASTY

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Presented By: Ronak Gor

Introduction: Despite little evidence supporting surveillance cystoscopy in patients with augmentation cystoplasty, it remains common practice in the neurogenic bladder (NGB) community. We review our experience with cystoscopy for cause and for surveillance >10 years after augmentation cystoplasty, hypothesizing minimal diagnostic yield of surveillance.

Methods: Among patients with NGB who underwent cystoscopy between 2004 and 2015, 63 were identified as receiving cystoscopy >10 years after augmentation. Cystoscopy for cause was defined as being done for gross hematuria (GH), recurrent (>3/year) infections (rUTI), or radiographic abnormalities. In the absence of these findings, cystoscopy was considered surveillance. The primary outcome was identification of bladder tumors on surveillance cystoscopy. The secondary outcome was identification of bladder stones not seen on imaging. We perform annual renal bladder ultrasound in all NGB patients.

Results: Median cohort age was 30 years; median time since augmentation was 15 years. Underlying diagnosis was spina bifida in 75% (47/63); others were cerebral palsy, spinal cord injury, meningitis, or traumatic brain injury. In total, 128 cystoscopies were performed: 113/128 (88%) surveillance and 15/128 (12%) for cause. No tumors were identified amongst the surveillance cystoscopies but tumors were identified in 6/15 (40%) for cause cystoscopies: 3 reported GH and 3 reported rUTI. Median years since augmentation in patients with and without tumors were 24 [IQR 15.5-35] and 15 [IQR 12-20] respectively (p=0.0007). Pathology from all patients presenting with GH was urothelial carcinoma, while pathology from all patients presenting with rUTI was adenocarcinoma. Surveillance cystoscopy discovered stones in 5/113 (4%); by definition, all had no symptoms and no stones were seen on surveillance imaging. For cause cystoscopy identified stones in 7/15 (47%); 6/7 were seen on imaging whereas one had GH and negative imaging.

Conclusion: The diagnostic yield of surveillance cystoscopy in patients with augmentation cystoplasty is low. Tumors present with GH or rUTI. The majority of stones present with similar symptoms or are seen on non-invasive imaging. A rigorous follow-up protocol selecting symptomatic patients can adequately identify patients with malignancy. Surveillance cystoscopy is no longer performed after augmentation in our practice. We reserve cystoscopy to for cause cystoscopy or in patients over 50 years of age.
Pelvic Organ Prolapse/Reconstruction Non-Moderated Poster Session
Saturday, March 4, 2017
8:00 a.m. - 9:30 a.m.
*Not CME Accredited

Poster #NM92
TRANSVAGINAL MESH INCREASES THE RISK OF BLEEDING, ORGAN SURGICAL SITE INFECTION, AND PULMONARY EMBOLISM IN VAGINAL PELVIC RECONSTRUCTION SURGERY: RESULTS FROM A MULTI-INSTITUTIONAL DATASET

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Presented By: Maxx K. Caveney

Introduction: Vaginal reconstructive surgery can be performed with or without mesh based on surgeon preference. To elucidate small differences in perioperative morbidity following vaginal reconstructive procedures, we elected to look at a national dataset to determine whether using mesh during vaginal pelvic reconstruction surgery impacts rates of various perioperative complications and readmission. This is an expansion on an abstract previously submitted.

Methods: Using the National Surgical Quality Improvement Program (NSQIP) database we concatenated surgical data from multiple vaginal procedures, including anterior and posterior colporrhaphy, paravaginal defect repair, enterocele repair, and colpopexy using CPT coding. We stratified this data by the modifier associated with mesh usage at the time of the procedure. In measuring multiple covariates, we compared various 30-day perioperative outcomes, postoperative complications, and readmission rates.

Results: We identified 10685 procedures without mesh and 1688 procedures using mesh in the NSQIP dataset from 2009 through 2013. Procedures using mesh had a higher rate of perioperative bleeding requiring transfusion than procedures not using mesh (1.72% vs 0.49%, p < 0.001). In the 28 cases using mesh that required blood transfusion, nine transfusions occurred the same day of surgery and eleven occurred on the first post-operative day. Procedures using mesh also had a higher rate of organ surgical site infection and pulmonary embolism (0.41% vs 0.17%, p < 0.05, and 0.30% vs 0.09%, p<0.05, respectively). Patients undergoing procedures using mesh were more likely to experience complications (9.68% vs 7.64% p<0.05). There were no significant differences in rates of readmission, superficial or deep surgical site infections, pneumonia, urinary tract infection, sepsis, or renal failure. The data set does not capture surgeon or site specific complications or type of kits/trocars used with the mesh.

Conclusion: In a review of NSQIP data, vaginal pelvic reconstruction procedures using mesh have a higher rate of perioperative bleeding requiring transfusion, organ surgical site infection, and PE than procedures not using mesh. Patients undergoing these procedures should be counselled preoperatively concerning these risks.

Funding Source: None
**Introduction:** Variations on the degree of Valsalva effort during POPQ assessment are expected to reveal concomitant changes in POPQ measurements. However, these variations have not been objectively assessed. The objective was to investigate correlation between the degree of Valsalva effort, using Peak Flow Meter (PFM), and changes in “C” point during POPQ evaluation.

**Methods:** Total 11 subjects undergoing pelvic floor evaluation, who met the study criteria, were recruited. Clinical variables included age, height, weight, parity, smoking status and history of hormone treatment. The “C” point was elected as reference point of POPQ and “routine” Valsalva effort was obtained by requesting “bear-down”. 1st Assessment: POPQ and PFM with basic instructions only during routine Valsalva effort. 2nd Assessment: POPQ and PFM with specifically directed written instructions and practice trial. The correlation analysis was performed between changes in Peak Flow Rate (PFR) and changes in the degree of “C” point descent between two assessments, using SAS 9.3. p< 0.05 was considered statistically significant.

**Results:** The mean age, height and weight were 65.2 years, 157.9cm and 76.7kg, respectively. Five subjects had history of smoking and two used hormone therapy in the past. All subjects showed positively increased PFR (the mean Δ 136 L/min) during second assessment, compared to first assessment. Seven subjects showed more descent of the “C” point (the mean Δ 0.9cm); two subjects with no change of “C” point and two subjects with less descent (Δ -1cm) during second assessment, compared to first assessment. There was a statistically significant negative correlation between changes of PFR and changes of “C” point descent (r=-0.71, p = 0.0149).

**Conclusion:** These preliminary findings objectively indicate that variations in the Valsalva effort influence the POPQ assessment. The increase in PFR negatively correlated with descent of “C” point. The more “air” being blown through the peak flow meter, the less Valsalva effort. It is likely that a direct measurement of intraabdominal pressure will yield more specific results. We expect these observations will help to standardize even further the use of POPQ.

**Funding Source:** None
DEFINING THE PREVALENCE OF ASYMPTOMATIC MICROSCOPIC HEMATURIA AMONG WOMEN WITH PELVIC ORGAN PROLAPSE: IMPLICATIONS FOR RECOMMENDING SUBSEQUENT DIAGNOSTIC EVALUATION

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Presented By: Brian J. Linder

Introduction: Conflicting reports exist regarding the prevalence of asymptomatic microscopic hematuria (AMH) in women with prolapse, with rates as high as 20% having been reported. Thus, we sought to evaluate the prevalence of AMH in women presenting with pelvic floor disorders and the relationship of prolapse stage with AMH.

Methods: The charts of women evaluated in a Female Pelvic Medicine and Reconstructive Surgery clinic between January 2015 and July 2016 were retrospectively reviewed. The prevalence of AMH (defined as ≥3 red blood cells per high power field on microscopy on one urinalysis) for women presenting with symptomatic pelvic organ prolapse was recorded. As a comparison cohort, the rate of AMH was determined as well for women evaluated for urinary incontinence (UI) without symptomatic pelvic organ prolapse. Prolapse stage was evaluated by Pelvic Organ Prolapse Quantification system. Patient features were evaluated for association with the presence of AMH using Pearson chi-square and Wilcoxon rank-sum tests.

Results: Overall, 455 of the 498 patients evaluated (91%) had a urinalysis with microscopy. The prevalence of AMH was 3.3% (15/455), and was not significantly different between women presenting for prolapse (9/264, 3.4%) versus UI (6/191, 3.1%; p=0.87). Likewise, the presence of stage ≥2 anterior prolapse was not associated with an increased rate of AMH (p=0.91). Increased rates of AMH were associated with voided versus catheterized specimens (15.2% vs 2.4%; p=0.003). Hematuria evaluation identified two cases of urothelial bladder cancer (one low-grade non-invasive, one muscle-invasive), one urethral mesh erosion, and one asymptomatic kidney stone, while the remaining evaluations were negative.

Conclusion: We found a prevalence of AMH in women with pelvic organ prolapse lower than previously reported and consistent with prior population screening studies, as well as with patients presenting for UI. As such, AMH noted among women with pelvic organ prolapse should not be ascribed solely to the presence of prolapse.
Poster #NM95
SECONDARY COMPARTMENT PROLAPSE OCCURRENCE AFTER OPEN MESH SACROCOLPOPEXY WITH VERY LATE FOLLOW-UP

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UT Southwestern Medical Center
Presented By: Connie N. Wang

Introduction: To report on long term occurrence of secondary compartment pelvic organ prolapse (POP) after open mesh sacrocolpopexy (MSC).

Methods: A prospectively maintained, IRB-approved, database of non-neurogenic women with symptomatic triple compartment POP who underwent open repair with MSC between 1999 and 2011 was reviewed. Subjects were categorized based on length of follow-up: intermediate (1-3 yr), late (3-5 yr), and very late (>5 yr). All surgeries were performed by the same surgeon. Demographic data, history of prolapse repairs, physical exam with Baden-Walker grading, validated questionnaires (UDI, QoL), and outcomes at each follow-up visit were recorded. Failure was defined by either secondary compartment prolapse recurrence (BW >2) on examination or re-operation for symptomatic POP at the last visit.

Results: There were 61/68 women who met inclusion criteria. Mean age was 66 ± 11, Mean BMI was 26.1 ± 4.5, mean parity was 2.8 ± 1.4 and cohort was mostly Caucasian. 87% had prior hysterectomy and 72% had prior anterior posterior repair. Mean follow-up was 6.8 ± 3.9 years with over 75% in the late or very late categories. There were 4/61 (7%) clinical failures, three of which underwent surgical repair, including two cystocele and one rectocele repairs. Time to surgical failure was 2.2, 2.2, and 12.4 years, respectively. Mean changes between baseline and last visit for UDI-6 total score and QoL are presented in Table 1.

Conclusion: Following open MSC, the rate of secondary prolapse compartment requiring repair was found to be low at long term follow-up. In addition to satisfactory anatomical results, the functional results were sustained over time.
Poster #NM96
TRANSVAGINAL MESH IS NOT ASSOCIATED WITH CARCINOGENESIS

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Presented By: Bilal I. Chughtai

Introduction: Synthetic mesh for vaginal prolapse surgery has been placed under scrutiny, with concerns about a causal association between mesh and carcinogenesis. There is a lack of data regarding the systemic response to polypropylene mesh implantation. We sought to determine if there was a potential link between carcinogenesis and synthetic polypropylene mesh implantation using statewide administrative data.

Methods: Adult women undergoing surgery for pelvic organ prolapse (POP) with vaginal mesh between January 2008 and December 2009 in New York State were identified using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) procedure codes and Current Procedural Terminology Coding System, Fourth Edition (CPT-4) codes. This two-year time period was chosen because it occurred after the mesh insertion code (57267) came into use, yet allowed for long-term follow-up with respect to the outcomes of interest. The types of cancers chosen were the ten most commonly occurring cancers in women based upon data collected from the CDC and NCI. Patients in the mesh cohort were 1:3 individually matched to a control cholecystectomy cohort based on comorbidities and procedure date. The development of carcinogenesis was determined before and after matching for one-year, two-year and entire follow-up (up to five years until December 2014). Differences between groups, defined by frequency of new diagnoses of malignancy were assessed using chi-squared ($\chi^2$) tests in the entire cohort and using stratified Mantel–Haenszel $\chi^2$ tests for paired data in the matched cohort.

Results: A total of 2,301 patients underwent mesh based POP surgery between January 2008 and December 2009. 1,699 patients undergoing POP surgery with mesh were matched to 5,097 patients undergoing cholecystectomy based on demographics, comorbidities and procedure date. Vaginal mesh surgery was not associated with an increased risk of developing a cancer diagnosis at one year [risk ratio (RR) 0.41, 95% CI 0.23-0.75], 2-year (RR 0.57, 95% CI 0.39-0.84) and during entire follow up of up to five years (RR 0.67, 95% CI 0.53-0.84).

Conclusion: Vaginal surgery with implantation of mesh was not associated with the development of cancers. This data refutes claims against mesh as a cause of carcinogenesis.
Poster #NM97
VAGINAL PARAVAGINAL DEFECTS: IS REPAIR WITH MESH BETTER?

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Presented By: Nima Shah

Introduction: Anterior defects are common and have a high failure rate, possibly due to lateral defects. Mesh augmentation has lower anatomic failure but may have higher complications. The objective was to compare intraoperative and postoperative complications of vaginal paravaginal defect repair (VPVR) with and without mesh and evaluate short-term outcomes.

Method: This retrospective cohort study evaluated women with symptomatic stage 2-4 cystocele who underwent vaginal mesh augmented repair (MAR) or vaginal native tissue repair (NTR) of paravaginal defect (CPT 57285) from 2011-2015. Inpatient and outpatient electronic medical records were reviewed at a single tertiary care center with 3 FPMRS surgeons. Demographics, intra- and postoperative complications, POP-Q measurements and Pelvic Floor Distress Inventory (PFDI) questionnaires were collected. Descriptive statistics, chi-squared, Fisher’s exact and student t-tests were used for data analysis.

Result: Analysis included 251 women with a mean age 64 years, with 180 women undergoing NTR and 71 women undergoing MAR. Demographics between groups were similar, except for apical stage (mesh=1.0, native=1.4, p=0.004). Table 1 describes surgical complications. The average length of stay for both groups was one day. One (0.4%) patient underwent surgery within 30 days for removal of stitches for presumed obstruction. Of the 251 women, 224 (89.2%) presented for three month follow-up (MAR 64, 90.1%, NTR 162, 90%). Both groups showed improvement of POPQ point Ba (+2.4 to 0.5:p<0.001, +2.5 to 0.3:p<0.001). All PFDI domains statistically improved (p<0.001), with no difference between MAR and NTR (p=0.92). Based on a composite of outcomes, there was no difference in anterior recurrence between MAR and NTR (n=5 vs n=3 p>0.05). Seven (9.8%) patients with MAR had mesh erosion at three months, and three (4.2%) underwent revision by one year. Although 17 (24.0%) patients with MAR underwent surgery by one year, only one was for recurrent prolapse (1.4%). Similarly with NTR, 15 (8.3%) had surgery, but only one (0.5%) was for recurrence.

Conclusion: Vaginal paravaginal repairs are safe and effective. MAR and NTR have similar outcomes, but MAR is associated with higher blood loss, and less intraoperative time.
TRENDS IN SURGICAL APPROACH TO APICAL PELVIC ORGAN PROLAPSE IN A NATIONAL SAMPLE

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Presented By: Emily Slopnick

Introduction: There are multiple surgical routes to treat apical pelvic organ prolapse (POP), and abdominal sacral colpopexy (ASC) is associated with lower rates of recurrence than vaginal repairs. Despite evidence for superior outcomes of ASC, drivers for surgical method are unknown. Our objective is to describe national trends of abdominal versus vaginal apical POP repair and compare perioperative outcomes between surgical methods.

Methods: The 2006-2012 National Surgical Quality Improvement Program Database was queried for Current Procedural Technology (CPT) codes for ASC (laparoscopic/robotic and open) and vaginal apical POP repairs (uterosacral, sacrospinous, and iliococcygeus ligament suspensions). Patients were stratified by timing of hysterectomy: concurrent hysterectomy (CH) with POP repair or post hysterectomy (PH). Multivariable logistic regression was performed to identify patient factors associated with surgical approach, and Chi square analyses were used to compare 30-day postoperative outcomes. We had no financial funding.

Results: There were 6,621 patients who underwent apical POP repair with or without CH: 32.2% (2,130) ASCs and 67.8% (4,491) vaginal suspensions. In this cohort, 57.2% (3,789) underwent CH at the time of POP repair. Urologists performed 14.9% of PH repairs and 0.6% with CH, and the remainders were performed by gynecologists. Median age was 52 years at PH repair and 42 years with CH. In both CH and PH groups, only age was associated with surgical route on multivariable logistic regression, with older patients less likely to have ASC (CH: OR 0.18, CI 0.06-0.52, p=0.001 for age ≥60 years; PH: OR 0.12, CI 0.05-0.29, p<0.001). For all apical repairs, the proportion of ASCs increased over the study period (p<0.001). ASC had a longer median operative time (PH 173.5 vs. 95 min, p<0.001; CH 191.5 vs. 127 min, p<0.001). Complications were more likely after PH ASC (10.3% vs. 7.6%, p=0.029). Overall rates of unplanned readmission (2.1%) and reoperation (1.2%) were not statistically significant between surgical modalities.

Conclusion: In this national sample, most apical POP repairs are performed via the vaginal approach by gynecologists. Increase in age was predictive of the vaginal route for both groups. ASCs had longer operative times and higher complication rates in PH patients. Still, there is increased utilization of ASC over time. Further research is needed to determine the gold standard approach for PH and CH POP repair.
ADOPTION OF ROBOT-ASSISTED SACROCOLPOPEXY: OUTCOMES AND COMPARISON WITH OPEN SACROCOLPOPEXY

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Presented By: James E. Pilkington

Introduction: Abdominal sacrocolpopexy (ASC) is considered the gold standard for surgical repair of vaginal vault prolapse; however, it carries significant morbidity of open surgery. In the last four years, we have transitioned to a robot-assisted ASC (RASC). We aim to describe anatomic and functional outcomes in those who have undergone RASC and compare with a historical cohort of open ASC (OASC) patients.

Methods: This is an IRB-approved, retrospective chart review of all women who underwent ASC at our institution from 2004-2016 and had ≥6-week follow-up (FU). Women who underwent previous pelvic surgeries for incontinence or prolapse or those who had concomitant procedures at time of ASC were included. All women had undergone prior hysterectomy. POP-Q staging was performed before and after surgery. Perioperative and demographic details were abstracted from the clinic and hospital records.

Results: Since April 2012, 73 women underwent RASC (mean age 63±7 years, mean FU 8±11 months). Preoperatively, 51% had overt stress urinary incontinence (SUI) and 21% had occult SUI. Mean discharge day was 1.2±0.5. Significant mean reduction in prolapse stage was observed for all three compartments. Forty of 52 women with overt or occult SUI underwent concomitant retropubic midurethral sling (RMUS) surgery. There were five Clavien-Dindo Grade ≥II complications, with three conversions to OASC. Three women underwent anterior (2) and posterior (1) colporrhaphy for recurrent or symptomatic prolapse. In comparison, 138 women underwent OASC (mean age 59±9, mean FU 49±25 months). Mean discharge day (2.2±0.7) was significantly longer than after RASC. One hundred seven women (78%) had a concomitant RMUS or rectus sling, all for overt or occult SUI. Four women had Clavien-Dindo Grade ≥II complications. Three women underwent transvaginal mesh excision for extrusion and three others underwent anterior colporrhaphy. Significant mean reduction in prolapse stage was likewise observed for all three compartments in OASC and satisfaction was similarly high after both open and robotic procedures.

Conclusion: When compared to OASC, transition to RASC has been associated with satisfactory support of significant vaginal vault prolapse in the short-term, with the added benefit of a shorter hospital stay and low complication rate. OASC is associated with longer FU and, thus, vigilant FU after RASC is necessary to determine if the anatomic and functional outcomes are durable in the long term.
Poster #NM100
FEASIBILITY OF SAME DAY DISCHARGE AFTER ROBOTIC ASSISTED PELVIC FLOOR RECONSTRUCTION
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Presented By: Juan M. Guzman-Negron

Introduction: Robotic surgical procedures have increasingly become more common in the field of female pelvic reconstruction. Purported benefits of robotic assisted pelvic floor reconstruction (RAPFR) procedures include: shorter hospital stay, quicker recovery, minimal blood loss, and decreased postoperative pain. Following RAPFR procedures, the current accepted practice is discharge after a one-night hospitalization. We assessed whether same day discharge (SDD) affects the short-term safety of robotic-assisted pelvic floor reconstructive procedures, relative to those who remain hospitalized overnight.

Methods: We retrospectively reviewed the charts of 12 women who underwent RAPFR procedures between May 2016 and September 2016. A same day discharge protocol for RAPFR was initiated in July 2016. To date, six patients have undergone SDD. These patients were compared to the prior 6 consecutive patients who stayed overnight. To evaluate short term safety, we reviewed the medical record for any unscheduled Cleveland Clinic emergency department (ED) and/or office visits within seven days of the RAPFR procedure. Demographic, perioperative, and postoperative data were compared using Student’s t test and Fisher’s exact test.

Results: In our series, 91.7% (11/12) of patients underwent robotic assisted sacrocolpopexy (RASC). Only one patient (8.3%) had a different RAPFR procedure, a robotic assisted vaginal mesh excision. Concomitant robotic assisted supracervical hysterectomy (SCH) was performed in 33.3% (2/6) of the patients in the overnight group, whereas none of the SDD patients underwent SCH. Women in the SDD group had higher BMIs (32.1 vs 25.6, p=0.01) and revealed a trend toward less estimated blood loss (32 ml vs 50 ml, p=0.08). There were no significant differences between groups with regards to age, surgery start time or duration, concomitant sling surgery, early complications, NSAID use, or comorbidities. Ultimately, patients in the SDD group were no more likely than the overnight group to require an unscheduled ED or office visit in the early postoperative period. Indeed, both groups had no unscheduled ED and/or office visits within seven days of undergoing a RAPFR procedure.

Conclusion: Same day discharge after RAPFR procedures appears to be safe and feasible with no increase in unscheduled ED and/or office visits in the early postoperative period. RAPFR procedures were well-tolerated regardless of length of stay.
Poster #NM101
“PATIENT-TAILORED” MESH GRAFT FOR ANTERIOR COMPARTMENT REPAIR USING VERTESSA LITE MESH: JUST ENOUGH BUT NOT TOO MUCH - TWO YEAR OUTCOMES

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Presented By: Matthew E. Karlovsky

Introduction: Small mesh grafts intra-operatively sized to the patient’s anterior compartment after colporraphy may offer the benefit of mesh reinforcement while minimizing mesh load. Since the FDA bulletin of 2011 and mesh reclassification of 2016, fewer mesh kits are available and fewer physicians implant mesh. I investigated the ongoing outcomes of an experienced single surgeon in a series of patients electing repair with “patient-tailored” mesh grafts at two years follow-up.

Methods: There were 65 consecutive patients with symptomatic cystocele who had reconstruction with patient tailored graft using Vertessa Lite mesh (Caldera Medical Inc.) sized to the anterior compartment after midline plication. Vertessa Lite is (23.8 gm/m2) polypropylene type 1 mesh that is 0.275 mm thick, and appears to have a “square type” weave whose pore size is 1300 μm, with an interstitial pore size 170 μm. Post-plication anterior compartment length and width were measured with an intraoperative ruler and the graft was then cut from a 10 cm x 20 cm pre-packaged Vertessa Lite mesh. Its four points were then sutured to the pelvic side wall fascia, and the proximal vaginal apex and distal bladder fascia. Mean and median post-operative follow up, post-operative Baden Walker grade and POPQ stage were recorded, as well as incidence of extrusion and dyspareunia.

Results: Mean age and BMI were 65.07 and 28.33. Mean pre-operative BW grade and POPQ stage were 3.32 and 3.1. Mean graft size was 3.5 cm length x 5.7 cm width. There were 14 simultaneous TVH, 19 vault suspensions, and 34 concomitant midurethral mesh slings. Follow up range was 2.0 months to 33 months. Mean and median follow up were 15.6 months and 14 months. Mean post-operative BW grade and POPQ stage were 0.46 and 0.51. There were two extrusions within 12 weeks, both excised in the office. There were three cystocele recurrences, all within six month of surgery. One elected repeat surgery with mesh (with original mesh removal), the second elected a pessary, the third had repeat colporraphy with mesh removal. Of the 41 sexually active patients pre-op, 26 were sexually active and 18 had no dyspareunia.

Conclusion: "Patient-tailored" mesh grafts for cystocele repair are feasible, and is a viable compromise by reducing mesh implant load. In the age of FDA reclassification of transvaginal mesh kits with large mesh implant loads, tailor made small mesh grafts can become a popular option. Continued follow up is warranted.
Poster #NM102
TRANSVAGINAL MESH PLACEMENT AND THE INSTRUCTIONS FOR USE: A SURVEY OF NORTH AMERICAN UROLOGISTS

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Presented By: Gina Kirkpatrick

Introduction: With the introduction of transvaginal mesh for prolapse and the exponential rise in its utilization came newfound complications. In 2008 the FDA issued a public health notification regarding serious complications associated with transvaginal placement of surgical mesh in repair of pelvic organ prolapse and stress urinary incontinence. Litigation has been brought against the companies that have manufactured these products, as well as physicians who have utilized them. Much of the litigation has focused on the Instruction For Use (IFU) documents provided with the mesh kit. The purpose of this study is to evaluate what type of providers are utilizing transvaginal mesh kits for incontinence and/or prolapse and their utilization of the IFU provided with each mesh kit.

Methods: A 14-question survey was emailed to all urologists registered within a geographic section of the AUA. Seven of the eight geographic sections of the AUA agreed to participate with a survey link to its members. The survey inquired about the utilization of transvaginal mesh kits for prolapse and incontinence.

Results: There were a total of 314 responders. The majority of responders, 79.3%, identified as general urologists, with 12.7% being FPMRS trained urologists. Nearly 30% of responders have placed over 200 midurethral slings in their career, with only 8.6% stating they have never performed the surgery. However, 20.8% have not placed a sling in the past year. Over half (55.2%) of responders have never utilized a mesh kit for prolapse. 79.2% have not performed any in the last year. 36.9% of responders who have implanted a midurethral sling kit reported having never read the IFU. For those who have implanted a mesh prolapse repair kit, 23.1% have never read the IFU. Of those providers who read the IFU, most common frequency was once prior to utilization.

Conclusion: The advent of transvaginal mesh for POP and SUI has shaped two shifts in pelvic floor management. The first being the exponential rise in POP surgery as more surgeons utilized mesh kits. The second is a decline in the use of mesh in transvaginal surgery, a result of the concern regarding their complications and subsequent litigation. The pertinent role the IFU plays in mesh related litigation belies our finding that many surgeons who utilize these kits rarely read them. It may be beneficial for the operating surgeon to read the IFU to have access to all pertinent information and protect against claims of negligence.
ROLE OF CONCURRENT VAGINAL HYSTERECTOMY ON OUTCOMES OF MESH-BASED PELVIC ORGAN PROLAPSE SURGERY

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Presented By: Ramy S. Goueli

Introduction: Hysterectomy is often performed at the time of pelvic organ prolapse (POP) surgery, yet there is insufficient evidence regarding the specific effect of hysterectomy on outcomes. We sought to determine the outcomes and associated short-term complications of mesh based POP surgery with and without concurrent hysterectomy.

Methods: We utilized the New York Statewide Planning and Research Cooperation System (SPARCS) database to identify patients under 55 years undergoing surgeries for POP with mesh between 2009 and 2014. Patient who had a hysterectomy at the time of mesh based POP surgery were compared to those who underwent mesh based POP surgery without hysterectomy. Outcome measures between patient groups before and after propensity score matching were compared. We assessed the difference using ordinary relative risk and χ² tests in the entire cohort and Mantel-Haenszel relative risk and stratified χ² test in the matched cohort.

Results: There were 1,601 women who underwent mesh based POP surgery. There were 921 patients who underwent concurrent hysterectomy, while 690 had mesh based uterine preserving POP surgery. We observed an increase in rates of concurrent hysterectomy (P<0.001). After propensity score matching, concurrent hysterectomy with mesh based POP repair was consistently associated with longer hospitalization (20.0% vs 12.8% stayed longer than two days) and higher charges (median charges were $22,689 vs $19,273).

Conclusion: Concurrent hysterectomy during mesh based POP surgery led to more expensive charges and longer length of stay compared to uterine preserving mesh surgery. There was no difference in re-intervention rates between groups.
Poster #NM104
DETRUSOR UNDERACTIVITY MAY PRESENT A RISK FACTOR TO PELVIC ORGAN PROLAPSE

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Presented By: Wesly Bass

Introduction: Pelvic Organ Prolapse (POP) is not an uncommon problem. It is estimated that there is an 11% life time risk of undergoing POP reconstruction. Risk factors for POP are identified to include pregnancy, vaginal child birth, menopause, chronic increased intraabdominal pressure and pelvic muscle weakness. Herein we are presenting underactive bladder as a possible risk factors associated with POP and potential cause of recurrent POP after correction.

Methods: A retrospective chart review was conducted on patients who present with POP stage 3 or more, as well as patients who came with recurrence of prolapse after previous correction surgery in the period of last 12 months. Charts were reviewed for clinical data, cystoscopy when indicated and urodynamics evaluation. Surgical correction included vaginal reconstruction and colpocleisis.

Results: Twenty one patients were identified with mean age 67 years old (range 49 to 90 years old). Twenty Patients were white and one was Hispanic. All patients present with symptoms classic to POP including vaginal bulge, difficulty voiding and had to splint vagina to void. Six patients had failed previous surgical reconstruction. All patients had problems associated with constipation. Cystoscopy showed no evidence of bladder abnormalities. Urodynamics tests showed underactive bladder with no detrusor pressure in 18 patients (85%). Three patients were able to void with low detrusor pressure. 83% of the patients (15 of 18) voided mainly with Valsalva. All six patients who had recurrent POP were Valsalva voiders. Nineteen patients underwent transvaginal reconstruction and two patients underwent colpocleisis. One patient had recurrent POP in six months and another patient had pelvic abscess that was drained.

Conclusion: Detrusor underactivity should be considered as a cause of chronic pelvic pain conditions. This could be secondary to chronic increased intraabdominal pressure associated with continuous straining to void. Urodynamics evaluation may be necessary to identify this risk factor to assist with providing proper counselling to the patients.
COMPARISON OF PATIENT CHARACTERISTICS WITH SHORT VERSUS LONG LENGTH OF STAY AFTER MINIMALLY INVASIVE SACROCOLPOPEXY

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Presented By: Zaid Chaudhry

Introduction: While same day discharge after minimally invasive sacrocolpopexy (MISC) is possible, no studies have assessed parameters that may affect timing of discharge after this operation. The purpose of this study is to compare perioperative characteristics of patients who underwent a same–day discharge after MISC and of those who had a longer length of stay.

Methods: Current procedural terminology code 57425 was used to identify 935 MISC cases performed between 2012 and 2014 as recorded in the National Surgical Quality Improvement Program (NSQIP) database. Perioperative parameters included patient age, body mass index (BMI), American Society of Anesthesiologists (ASA) class, presence of hypertension, presence of diabetes, and operative time. Association between these parameters and same–day discharge was examined using nominal logistic regression modeling after controlling for the year of the operation.

Results: Patients who underwent MISC had a mean age of 63 years, mean BMI of 27.1, and median ASA class of II. Diabetes was present in 7.8% of participants, and hypertension in 43.6% of participants. The prevalence of other comorbidities was negligible. Mean operative time was 201 minutes, and mean hospital stay was 1.7 days. Younger patients (p = 0.025), patients with a lower BMI (p = 0.033) and shorter operative time (p = 0.001) were more likely to be discharged on the day of the operation on both univariate and multivariate analysis. No statistically significant association was noted for the remaining parameters.

Conclusion: Patients who underwent same–day discharge after MISC tended to be younger, have a lower BMI, and shorter operative time than patients who did not. While this study is retrospective, the results can be used to help surgeons triage appropriate patients for same day discharge. Prospective studies to identify patient parameters permitting safe same day discharge after MISC are warranted and can lead to significant reduction in healthcare costs.
SACROSPINOUS LIGAMENT FIXATION USING TISSUE ANCHORING SYSTEMS MAY REDUCE THE PROCEDURE LENGTH WITH SIMILAR OUTCOMES COMPARE WITH CLASSICAL TECHNIQUES

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Presented By: Javier Pizarro-Berdichevsky

Introduction: Sacrospinous ligament fixation (SSLF) is an excellent vaginal approach to apical pelvic organ prolapse repair. However, the classic technique using deschamps suture passer may be challenging. For this reason different devices were developed in facilitate the technique. Among them our section used two different Tissue Anchoring Systems (TAS) made out of Polyetheretherketone (Anchorsure) or prolene (Splentis). The aim of this study is to report the results and effectiveness in the medium term of this technique.

Methods: A retrospective review of all SSLF procedures in the urogynecology section at a tertiary care center from 2013-2016 was performed. Demographics, surgical and follow up variables were analyzed. Primary composite failure outcome was defined as POP beyond the hymen or bulge symptoms or retreatment during follow up. Results are presented as mean±standard deviation or number (percentage).

Results: Twenty-nine patients were included in the study. Six (21%) underwent a SSLF with Deschamps or needle carrier and 23 (79%) with TAS (13 anchorsure, ten splentis). The age was 66 ±9 years, parity 3.2±1.4, 24% had forceps deliveries, 89% had POPQ stage III/IV. 55% had a concomitant vaginal hysterectomy and 51% a concomitant midurethral sling, all patient received and anterior or posterior colporrhaphy. The procedure length was 94±30 min (TAS was significantly shorter than classic technique, 86 vs 120 min). Follow-up was 4.8 Months. Four patients complained of transient gluteal pain (two in anchorsure, one deschamps, one splentis). No other severe outcomes were reported. Three patients (10%) met the primary outcome for failure, one in each technique. The overall POPQ measurements had statistical significant improvement at follow up with no change in the vaginal length.

Conclusion: SSLF seems to be a safe and efficient technique. TAS may achieve similar clinical outcomes than the classical technique while shortening the procedural time.
MULTI-INSTITUTIONAL OUTCOMES FOR URINARY DIVERSION PERFORMED SIMULTANEOUSLY OR AFTER COLOSTOMY: DOES TIMING AFFECT POST-OPERATIVE RECOVERY?

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Presented By: Paholo G. Barboglio Romo

Introduction: We investigated whether performing urinary diversion after or simultaneous with colostomy affected recovery or odds of developing post-operative high grade (HG) complications.

Methods: A multi-institutional retrospective review was performed for patients (pts) treated with urinary diversion after (AC) or simultaneous (SC) with colostomy between 2007-2014 for a non-cancer diagnosis. Complications were classified using Clavien Dindo system and HG was defined as any Grade 3 or higher adverse event (HG AE) occurring within 90 days after surgery.

Results: There were 46 patients (mean age 57 years) who were identified from three institutions, of which 19 and 27 had prior and simultaneous colostomy. Half of the pts were women. The most common indications for urinary diversion were neurogenic bladder (54%) and urinary fistula (44%). Pts with prior and simultaneous colostomy procedures had similar demographics. Mean operative time was 7.5 hours (6.6 AC and 8.1 SC colostomy; p=0.09). Large bowel was used for the urinary diversion in 27/46 (59%). Hospital mean length of stay (LoS) was 13 days (13.5 AC, 12.8 SC; p=0.79). The mean return of bowel function was 6.7 days after surgery (n=35 pts), with no significant difference observed between AC and SC groups (7.5 AC, 6.6 SC; p=0.49). There were 22/46 (48%) pts with HG AE and there was no difference between the AC and SC colostomy groups (8/19 AC, 13/27 SC; p=0.69) despite a higher incidence of ileum anastomosis in the AC group. Most common HG AE was wound infection (27%). Mean follow up was 17.6 months (range 3-113). Univariate analysis comparing HG AE versus non HG AE, showed that pts experiencing HG AE were more likely to have had bacteremia/pyelonephritis within 12 months prior to surgery (10/14, 11/32; p=0.02), a longer operative time (529, 380min; p=0.003), greater estimated blood loss (447, 267 ml; p=0.02) and longer LOS (17, 10 days; p=0.010). Diagnosis of MS was protective against HG AE (p=0.008). Logistic regression showed that for every 15 minute increase over 7.5 hours mean in operating time, the odds of having a post-operative HG AE increased by 5% (CI [1.04 – 1.1]; p=0.03). Simultaneous colostomy was not independently associated with increased risk of developing HG AE.

Conclusion: Urinary diversion performed after or simultaneous with colostomy has a similar post-operative recover regarding return of bowel function, length of stay, and risk of post-operative complications in this cohort.
Poster #NM108
EFFECTS OF VENOUS THROMBOEMBOLISM PROPHYLAXIS FOR OBESE PATIENTS IN URETHRAL RECONSTRUCTION

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Presented By: Rachael D. Sussman

Introduction: Venous thromboembolism (VTE) is a significant cause of morbidity and mortality with obese patients being at least twice as likely to develop VTE compared to non-obese patients (1). Recent VTE prevention guidelines (2) provide recommendations for transurethral and major open urologic surgery, but fail to address patients undergoing urethroplasty. Despite recently established AUA guidelines on the management of male urethral stricture disease there is no standard recommendation for the use of VTE prophylaxis (VTEP). We recently amended our perioperative protocol for urethroplasty to include the administration of heparin VTEP. We sought to evaluate whether VTEP was associated with adverse surgical outcomes in obese and non-obese patients undergoing urethroplasty.

Methods: Patients undergoing urethroplasty at a single institution were retrospectively evaluated and stratified by body mass index (BMI). Operative time, estimated blood loss (EBL), stricture length, and complications were compared between patients with and without perioperative heparin VTEP administration. The risk of developing a significant complication requiring intervention (Clavien-Dindo Grade ≥ 2) was evaluated.

Results: From 2012 to 2016, 128 patients underwent urethroplasty: 44 were obese (BMI ≥30), 84 were not (BMI < 30). Obese patients receiving VTEP had a higher mean EBL but no increased risk of significant complications. Non-obese patients receiving VTEP had a longer mean stricture length, longer operative time, increased EBL, and increased complication profile. One non-obese patient developed a VTE despite receiving prophylaxis. On multivariate analysis, only longer operative time correlated with the development of a significant complication (see Table).

Conclusion: VTE prophylaxis is safe in obese patients undergoing urethral reconstruction. In light of the proven benefits of VTEP in other surgical fields, we recommend considering VTEP implementation in obese patients undergoing urethroplasty. Further study is needed to provide VTEP recommendations for urethral reconstruction in the non-obese population.

2. Geerts WH et al. CHEST Guidelines 2008
Poster #NM109

FEMALE URETHRAL DISTRACTION INJURIES: A SYSTEMATIC REVIEW OF THE LITERATURE

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Presented By: Devin Patel

Introduction: Female urethral distraction injuries are rare and most commonly associated with pelvic fracture. We sought to systematically review the literature to determine the optimal management of this rare injury.

Methods: Using Meta-analysis Of Observational Studies in Epidemiology (M.O.O.S.E) criteria, we searched Cochrane, Pubmed and OVID databases for all articles available before June 30, 2016 using the terms “female pelvic fracture urethroplasty,” “female urethral distraction,” “female pelvic fracture urethral injury,” “female pelvic fracture urethra girls.” Three reviewers (CF, JA, DP) independently reviewed the titles, abstracts, and articles. We excluded articles based on animal models, transgender surgery, obstetric trauma, cancer or if they did not pertain to the treatment of female urethral injuries.

Results: We identified 162 individual articles from the databases. 51 articles met our criteria for full review. There were 158 female patients with urethral trauma, with almost twice as many children (≤ 18 years) as compared to adults (>18years), 99 vs 59. Of these injuries, 83 were managed with immediate repair via primary alignment (17) or anastomotic repair (66) and 75 were managed with delayed repair. Rates of urethral stenosis and fistula were highest after primary alignment. Urethral integrity appears to be similar following both primary anastomosis and delayed repair; however, patients experienced significantly more incontinence and vaginal stenosis following delayed repair. Those patients who underwent delayed urethral repair were more likely to undergo more extensive reconstructive surgery, including urinary diversion, than those who underwent primary repair.

Conclusion: There is a paucity of data in the literature on the optimal management of female urethral distraction defects. Based on our review of the available literature, primary anastomotic repair of a female urethral distraction defect via a vaginal approach appears optimal. Delaying repair in women may, in fact, render an anastomotic repair impossible. This contrasts with the management of male pelvic fracture-related urethral distraction defects, in which immediate anastomotic repair is considered injurious.
Poster #NM110
SURGICAL MANAGEMENT AND OUTCOMES OF ADULT BURIED PENIS: AN INSTITUTIONAL SERIES

Melanie A. Adamsky, MD¹; Andrew Cohen, MD²; J. Riley McGinnis, BA³; Joseph Rodriguez, MD²; William Boysen, MD²; Sarah Faris, MD²; Gregory T. Bales, MD²
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Presented By: Melanie A. Adamsky

Introduction: There is a lack of evidence in the urology literature regarding contemporary surgical management of adult buried penis. We aimed to review our institutional series of buried penis repairs and the array of reconstructive approaches employed.

Methods: We performed a retrospective review of all buried penis repairs performed at our institution between 2006 and 2016. We included all etiologies of buried penis and degrees of severity. We report patient characteristics, intraoperative details, reconstructive techniques used, and complications. We performed logistic regression to determine factors associated with a need for panniculectomy, liposuction, flap, and skin grafting.

Results: We identified 15 patients presenting for buried penis repair. Mean age was 49.7 years (±16.9) and mean BMI was 43.4 kg/m² (±3.9). One patient had undergone prior buried penis repair. Etiology of buried penis was penopubic fat pad/obesity in 67% (10), lymphedema in 13% (2), scar/fibrosis in 13% (2), and Paget's disease of the scrotum in 7% (1). Plastic surgery was involved intraoperatively in all but two cases (87%). Reconstruction required skin graft in 47% (7), panniculectomy/liposuction in 33% (5), liposuction in 20% (3), and flap in 33% (5) of patients. Mean operative time was 249.1 minutes (±30), estimated blood loss was 176.3 mL (±42.1), and length of stay was 4.2 days (±0.7). 30-day complications occurred in three patients, two of which were Clavien Grade I (wound dehiscence and self-limited arm numbness) and a third was Clavien Grade IIIb, requiring reoperation for debridement of necrotic scrotal skin. Cosmetic outcome was adequate in all patients, except one who developed wound breakdown and poor cosmesis. On logistic regression, there were no covariates that independently predicted the need for panniculectomy, liposuction, flap, or skin grafting.

Conclusion: Penile unburying is an effective approach for the patient with adult buried penis, and it is associated with a low rate of serious complications. Surgical approach requires a variety of reconstructive techniques, which the surgeon or multidisciplinary surgical team should be prepared to perform.
Introduction: Pubic osteomyelitis (PO) is an uncommon but challenging complication of pelvic radiation for urologic and gynecologic malignancies. Some cases of PO result from urethral strictures requiring endoscopic management. Others occur spontaneously. We describe here our experience with urinary fistula complicated by PO.

Methods: We retrospectively reviewed patients with fistula and PO who underwent pubic debridement and simple cystectomy with urinary diversion from 2014-2016. PO was diagnosed by history, physical exam, C-reactive protein (CRP) and imaging (CT or MRI). We analyzed patient demographics, treatment history, management, and outcomes.

Results: Eight patients met study criteria (seven males, one female). All had a history of radiation for pelvic malignancy (seven prostate cancer, one cervical cancer). The median time between radiation and PO diagnosis was 9.5 years (range 1-15 years). Six had undergone interventions for urethral stricture disease, ranging between one to three procedures. All had a history of pelvic pain, urinary tract infection, and elevated CRP prior to the diagnosis of PO. Most underwent MRI for diagnosis of PO (five MRI, three CT). Average CRP was 14.1 (range 4-24). All had pubic symphysis resection and bone cultures obtained during surgery. The most common organism was Staphylococcus aureus. Seven patients underwent ileal conduit urinary diversion and one patient had a transverse colon conduit. The average length of stay was 11.5 days. Two patients were admitted within 30 days of discharge. Complications consisted of one post-operative death due to pulmonary embolism, and two patients required drain placement for pelvic abscesses. No patient had recurrent PO. Average follow-up was eight months (range 3-21 months).

Conclusion: Patients with fistula and PO can be definitively managed by combined pubic debridement, simple cystectomy and urinary diversion.

Funding Source: None
THE ROAD TO RECOVERY AFTER TRANSVAGINAL SURGERY FOR SLING EROSION: AN EVALUATION OF PERIOPERATIVE OUTCOMES AND SUBSEQUENT PROCEDURES

Casey Kowalik, MD¹; Patrick Lang, MD²; Andrea Kakos, MD³; Joshua A. Cohn, MD⁴; W. Stuart Reynolds, MD, MPH⁴; Melissa R. Kaufman, MD, PhD¹; Mickey M. Karram, MD²; Roger R. Dmochowski, MD, MMHC, FACS¹
¹Vanderbilt University Medical Center, Nashville, TN; ²The Christ Hospital, Cincinnati, OH
Presented By: Casey Kowalik

Introduction: Urethral erosion of transvaginal mesh slings is a rare complication with an estimated incidence of <1%. Our objective was to review surgical management and outcomes of women with urethral mesh erosion following transvaginal sling placement.

Methods: We retrospectively reviewed the charts of women from January 2011 to March 2016 undergoing mesh sling excision at two institutions with Female Pelvic Medicine & Reconstructive Surgery fellowship trained surgeons. Women with urethral mesh erosion at the time of sling excision were included. Data including pre-operative symptoms, operative details, and post-operative outcomes were collected by phone call or based on their last follow-up appointment.

Results: Nineteen women underwent 20 procedures for sling excision for urethral mesh erosion. Four (21%) patients had undergone previous sling revision surgery at an outside institution. One patient underwent endoscopic laser of urethral mesh and subsequent transvaginal mesh excision with urethral reconstruction. All patients underwent multi-layer closure of urethral mucosa and peri-urethral tissue. Concomitant procedures included rectus fascial sling (n=7), Martius flap (n=2), and vaginal epithelial flap (n=1). There were no intra-operative complications. When discharged home with a foley (n=18), median duration of foley catheter was 15 days. At last follow up, this cohort underwent four additional procedures for: vaginal mesh exposure (n=1), management of incontinence (botoxulinum toxin infection n=1, rectus fascia autologous sling n=1), and prolapse (colpopexy n=1). Patient global impression of improvement data was available for 13 patients of which seven (53.8%) rated their post-operative condition as "very much better" or "much better."

Conclusion: The management of mesh erosion into the urethra is complex and may require more than one surgery for excision and urethral repair. The decision for concomitant surgery at the time of urethral reconstruction was based on operative findings and surgeon preference. The majority of these patients report a high rate of satisfaction with their post-operative condition.

Funding Source: None
Poster #NM113

URINARY-CUTANEOUS FISTULAE FOLLOWING CONSERVATIVE MANAGEMENT OF EXTRAPERITONEAL BLADDER RUPTURES

Niels V. Johnsen, MD; Rachel Sosland, MD; Jason Young, MD; Joshua A. Cohn, MD; W. Stuart Reynolds, MD, MPH; Melissa R. Kaufman, MD, PhD; Douglas F. Milam, MD; Oscar Guillamondegui, MD; Roger R. Dmochowski MD, MMHC, FACS

Vanderbilt University, Nashville, TN

Presented By: Rachel Sosland

Introduction: Conservative management with primary catheter drainage has become the standard of care for patients with uncomplicated traumatic extraperitoneal bladder ruptures (EBR). However, a number of patients may develop significant complications. We sought to evaluate our experience with urinary-cutaneous fistulae (UCF) in conservatively managed EBR patients.

Methods: Review of our institutional trauma registry identified all patients admitted with blunt-trauma EBR from 2000 to 2014. Patients with concomitant urethral, bladder neck, or ureteral injuries were excluded. All patients who underwent primary management with catheter drainage alone were included in the analysis. Patient characteristics, urologic complications (specifically UCF), and management strategies were evaluated.

Results: 162 traumatic bladder injuries were identified during the study period. 56/96 (58%) EBR were managed conservatively with catheter drainage. Ten of these patients (18%) developed major urologic complications (Clavien-Dindo Grade ≥ III), with 6/10 (60%) developing UCF (6/56 [11%]). Of the patients with UCF, mean age was 47.9 years with 50% of patients female. All patients had injuries as a result of motor vehicle accidents, with a mean injury severity score at presentation of 43.7. Four patients (66.7%) underwent non-urologic operations without cystorrhaphy at presentation, while one was brought to the OR for cystoscopy and catheter placement. Mean time to diagnosis of EBR was three days, while mean time to diagnosis of UCF was 13.5 days from presentation. Two patients developed UCF to the perineum, while four were to the medial thigh. One patient died without resolution of her fistula. Of the five patients that remained, all five subsequently required operative repair for fistula resolution, with none healing spontaneously with catheter drainage alone. Mean time to repair from diagnosis was 30 days (range 2 to 106). One patient required a second operation after fistula recurrence and appropriately healed afterwards. Mean time to resolution from initial diagnosis for all patients was 90 days.

Conclusion: UCF are an underreported but significantly morbid complication of non-operative management of EBR. Though our numbers preclude the ability to analyze specific predictors of UCF, the occurrence of UCF following non-operative management of EBR should prompt surgical intervention given the potential for prolonged convalescence and low-likelihood of spontaneous resolution.

Funding Source: None
Poster #NM114
SHOULD WE TREAT ONE PAD INCONTINENCE?

Miriam Greenstein, MD¹; Neil H. Grafstein, MD²
¹New York; ²Icahn School of Medicine at Mount Sinai, New York, NY
Presented By: Miriam Greenstein

Introduction: Stress urinary incontinence is a common issue for post-prostatectomy patients with an incidence ranging from 4-31% for robotic prostatectomy and 7-40% for open prostatectomy. Historically patients have been stratified by severity based on the number of pads used to per day where 1-2 pads per day (PPD) was mild incontinence, 3-4 ppd is moderate incontinence and >5 ppd is severe incontinence and their treatment options have been tailored based on this and other factors. It has been felt that patients with mild incontinence are difficult to treat, as they still tend to have significant bother from mild symptoms. Historically the gold standard for management of post-prostatectomy incontinence (PPI) has been the Artificial Urinary Sphincter; however, over the past decade there has been a shift towards an increased usage of male urethral slings for the treatment of PPI. There is little data regarding the long-term efficacy of the sling for patients with incontinence requiring only 1 ppd.

Methods: Sixty-four patients with underwent AdVance sling insertion from 12/2007 to 11/2013 were reviewed and deemed “success” at their post-operative visit. Patients were contacted to evaluate daily pad usage and impression of improvement using the Patient Global Impression of Improvement Scale. The patients with a history of 1ppd were then independently evaluated for efficacy of sling post-operatively (n=16). Details such as radiation exposure and use of anti-cholinergics were included in this retrospective evaluation.

Results: Follow-up data was available for 12 patients. Success rate was 83.3%. There were two failures in the group, one of which had a history of prior radiation.

Conclusion: Long-term results show that the AdVance sling is efficacious, durable, and sustains optimal patient perception of their urinary symptoms. Based on our study patients with 1ppd incontinence sans a history of radiation should be encouraged to seek treatment.
Poster #NM115
LONG TERM RESULT OF TRANSURETHRAL ENDOSCOPIC HOLMIUM (TEH) LASER FOR URETHRAL EROSION OF SYNTHETIC SLINGS

Connie N. Wang; Gary E. Lemack, MD; Philippe E. Zimmern, MD, FACS, FPRMS
UT Southwestern Medical Center, Dallas, TX
Presented By: Connie N. Wang

Introduction: To report on the long term result of Holmium laser (TEH) for large urethral erosion (UE) from synthetic slings.

Methods: Following IRB approval, charts of women treated for UE using TEH were reviewed. Large UE was defined as involving over a quarter of the urethral circumference. TEH was done with a 365 micron fiber passed inside an open ended ureteral catheter positioned in a HOLEP sheath to stabilize the laser fiber. The type of sling, number of TEEH treatments until complete removal of eroded sling as confirmed on follow-up office cystoscopy, complications including stricture or fistula, functional outcomes and transvaginal surgical repair for removal of residual synthetic sling were recorded.

Results: From 2011 to 2016, 15 women were treated with TEH. Mean age was 52.9, mean BMI was 27, mean parity was 2.3, and cohort was mostly Caucasian. Mean time between sling placement and first TEEH treatment was 30 months (0.5-72). Mean follow-up time after TEEH was 28 months (5- 58). Synthetic slings were TVT (3), TOT (3), Miniarc (4), Monarc (1), Solyx (2) and not specified in operative note (2). Mean number of TEH procedures was 2 (range 1-6). One woman with late post-TEH stricture required a one-time urethral dilation under anesthesia. Two distal urethro-vaginal fistulas required delayed repair with removal of residual mesh and fascial patch. A segment of exposed sling was removed at the same time of TEH treatment in one patient. Post-TEH transvaginal surgery for synthetic sling removal was needed for dyspareunia (2), residual mesh-associated stone (1), persistent symptomatic UE (1), recurrent UTI (1), or persistent incontinence (2).

Conclusion: TEH is a minimally-invasive procedure that can be used as a “debulking” approach in cases of large UE that preserves urethral integrity and avoids a more complex initial reconstruction. Secondary repairs may still be necessary in nearly half of these women.
TEMPORAL TRENDS IN THE INCIDENCE OF PELVIC FRACTURE-ASSOCIATED URETHRAL DISTRACTION DEFECTS IN THE UNITED STATES

Dennis J. Thum, MD¹; Catherine Bresee, PhD²; Colby P. Souders, MD²; Alex Hannemann, BS²; Jennifer T. Anger, MD, MPH, FPMRS²; George D. Webster, MD³
¹Cedars Sinai Medical Center, Los Angeles, CA; ²Cedars Sinai Medical Center, Los Angeles, CA; ³Duke University, Durham, NC
Presented By: Dennis J. Thum

Introduction: Pelvic fractures with associated urethral distraction defects (PFUDDs) are highly morbid, and the posterior urethroplasty to repair this defect is among the most complex surgeries in the field of urology. In developing nations with relatively poor traffic infrastructures, series have reported significant higher PFUDD rates from automobile accidents than in the US. In fact, the number of cases seen at many US institutions seems to be decreasing. We hypothesized that the incidence of PFUDD injuries has decreased over the last several years in the United States. To test our hypothesis we used the Nationwide Inpatient Sample (NIS) to assess the incidence over time.

Methods: The NIS is a weighted sample of inpatient hospital discharge data with ICD-9 procedure and diagnosis codes. Pelvic fractures were identified by any of the 808.xx ICD-9 diagnosis codes. A PFUDD was then identified by the combination of an 808.xx diagnosis code with an ICD-9 procedure code for suprapubic tube placement (either code 57.17 or 57.18). A fraction of PFUDD defects would knowingly be missed with these methods, since many PFUDDs can be bridged with a urethral catheter. However, such cases are not reliably identified by claims data. SAS v9.2 software was used to analyze frequencies using the PROC SURVEYFREQ and PROC SURVEYLOGISTIC. All data was analyzed with trend weights provided by the NIS to account for changes in the study design over time using years 1998-2011.

Results: From the years 1998 to 2011, a statistically significant downward trend in PFUDD incidence was noted (p<0.0001 for change over time; Figure 1). In 1998, the estimated incidence rate of PFUDD was 1.7+/-.2 cases per 100,000 hospital discharges, while in 2011 that rate dropped to 0.7+/-0.1 per 100,000 hospital discharges (p<0.0001).

Conclusion: Although we underestimated the rate of PFUDDs in the US, we nonetheless observed a decrease in incidence over time. This is likely due to tighter traffic laws and improved engineering. This decrease does result in fewer cases for surgeons and their trainees. As these injuries continue to decrease, there will be fewer opportunities to train urologists in this complex operation.
Poster #NM117
VESICOVAGINAL FISTULA IS RARELY ASSOCIATED WITH URETERIC INJURY.

Anthony Kiosoglous, MBBS; Hazel Ecclestone, MD, FRCS; Bashir Mukhtar, MB BS; Alice Beardmore-Gray, MB ChB; Mahreen Pakzad, MD, FRCS, MB ChB; Rizwan Hamid, MSc, FRCS (Urol), MB ChB; Jeremy Ockrim, MD, FRCS, MB ChB; Tamsin J. Greenwell, MD, FRCS, MB ChB

_UCLH Urology, UCLH, London, UK_
Presented By: Hazel Ecclestone

**Introduction:** Ureteric obstruction has been reported in 25% of patients with post-surgery vesicovaginal fistula (VVF) and ureteric fistula in 10%. We have reviewed a two surgeon series of VVF managed at a tertiary referral centre between 2004 and 2013 for the true incidence of ureteric injury in association with VVF.

**Methods:** Review of a prospective database for all patients with VVF for details of all patients with VVF from 2004. Data on patient demographics, fistula aetiology, mode of repair and any associated ureteric injury and its treatment was noted.

**Results:** Eighty-six patients of median age 52 years (range 27 - 88) were referred with VVF during this period. Five were secondary to radiotherapy and 79 were post-surgery. (Note: One foreign body, one unknown aetiology). The details of post-surgical VVF patients are listed in Table1.

**Conclusion:** Ureteric injury occurs in 4.7% (4/86) of VVF – ureteric obstruction in 1.1% (1/86) and ureteric fistula in 3.5% (3/86). It is successfully managed in all with ureteric reimplantation at time of VVF repair by abdominal route and is an absolute indication for abdominal repair of VVF.
Poster #NM118
PROTECTIVE EFFECT OF PLATELET-RICH PLASMA ON URETHRAL STRICTURE MODEL OF MALE RATS

Hasan H. Tavukcu, MD¹; Aytac O.¹; Fatih Atug, MD¹; Alev B.²; Cevik Ö³; Yarat A.⁴; Cetinel S.⁵; Sener G.²; Haluk Kulaksizoglu, MD¹
¹Department of Urology, School of Medicine, Istanbul Bilim University, Istanbul, Turkey; ²Department of Pharmacology, School of Pharmacy, Marmara University, Istanbul, Turkey; ³Department of Biochemistry, School of Pharmacy, Cumhuriyet University, Sivas, Turkey; ⁴Department of Biochemistry, Faculty of Dentistry, Marmara University, Istanbul, Turkey; ⁵Department of Histology & Embryology, School of Medicine, Marmara University, Istanbul, Turkey
Presented By: Haluk Kulaksizoglu

Introduction: Urethral stricture formation is caused by fibrosis after excessive collagen formation to the any injury or trauma to the urethra. We evaluated the effects of platelet-rich plasma (PRP) on urethral stricture model of male rats.

Methods: Urethral stricture model was performed by coagulation current to the male urethra. There were four groups of six rats in each one: control(C), C+PRP applied, urethral stricture (US), US+PRP applied. PRP was applied to the urethra after coagulation current induced injury as soon as possible. On 14th day all rats were sacrificed and urethral tissues investigated for collagen type I, collagen type III, PDGF-A, PDGF-B and TGF-B with quantative RT-PCR and Western-Blot analysis. The effect of urethral damage and healing was investigated for collagen type I/collagen type III ratio.

Results: Collagen type I increase in fibrosis process in US is well defined. Collagen type I/collagen type III ratio was significantly high in US group (*, p=0,000) than others while US+PRP group had comparable results with the control group (p=0,999). (Graphic 1)

Conclusion: Our results show that PRP has a preventive effect on stricture formation in US rat model shown by its effect on collagen synthesis, especially in recurrent cases. Further studies that eventually show the effects of PRP on human tissues is necessary and promising.

Graphic 1: Col I/Col III type ratio of each group
Poster #NM119

YV-PLASTY FOR REFRACTORY BLADDER NECK CONTRACTURE

Adiel E. Mamut, MD, FRCSC; Kevin V. Carlson, MD, FRCSC; Richard Baverstock, BSc, MD, FRCSC

Vesia [Alberta Bladder Centre] University of Calgary, Calgary AB

Presented By: Adiel E. Mamut

Introduction: Bladder Neck Contracture (BNC) is a potential complication following transurethral resection of the prostate (TURP) and Greenlight laser photovaporization (GLL). Initial management options include endoscopic techniques such as cystoscopy and dilation, transurethral resection of the bladder neck (TURBN) and self-dilation programs. Management of refractory BNC can be difficult and frustrating with high subsequent recurrence rates. We present our experience with use of open YV-plasty repair of the bladder neck for refractory BNC following TURP and GLL as well as a review of the current literature on this technique.

Methods: Between May 2013 and Jan 2015, three male patients underwent YV-plasty of the bladder neck at our center for management of refractory BNC. Two cases occurred following monopolar TURP and one following GLL. Median age at surgery was 49 years. Two patients had two previous failed TURB and one patient had one TURB followed by attempt at TURB which could not be completed due to severity of scarring and required a supra pubic (SP) catheter insertion. A systematic review of the literature was carried out to identify publications on the use of YV-plasty or other tissue interposition for repair of bladder neck contractures following endoscopic prostatic procedures.

Results: Mean patient age at time of YV plasty was 49 years (49-50). All patients underwent YV-plasty through an infraumbilical midline incision with surgical dissection similar to initial exposure of a Walsh-Lepor radical retropubic prostatectomy. The site of bladder neck contracture was incised through the anterior aspect of the prostate and a healthy flap of detrusor was advanced into the prostatic incision. Hospital stay for all patients was three days and all were discharged with an indwelling catheter for three weeks. One patient had a post-operative urinary tract infection requiring oral antibiotics. At a median follow-up of one year (4 – 36 months) all patients were free of recurrent bladder neck contracture on cystoscopy and voiding without the need for further procedures or instrumentation. Mean IIEF score was 23/25 (22-24), mean IPSS was 8/35 (7-10).

Conclusion: In our experience, YV-plasty bladder neck reconstruction has been effective and well tolerated in patients with refractory BNC. This historical surgical procedure maintains its value and serves as a good reconstructive option for refractory BNC.
Poster #NM120
RISK OF NEEDING SURGERY FOR VAGINAL MESH EROSION IN PATIENTS WITH A DIAGNOSIS OF BREAST CANCER: A RETROSPECTIVE CASE SERIES

Margaret R. Hines, MD¹; Melissa L. Dawson, DO, MPH²; Howard Goldstein, DO, MPH³
¹Christiana Care Healthy System, Newark, DE; ²Drexel University College of Medicine, Philadelphia, PA; ³Christiana Care Health System, Newark, DE
Presented By: Margaret R. Hines

Introduction: A common complication from surgery involving mesh for pelvic organ prolapse (POP) or stress urinary incontinence (SUI) is vaginal mesh erosion. Over 50% of vaginal mesh erosions will require excision in the operating room (OR). The risk of mesh erosion is estimated at 0-15%. Identifying risk factors for mesh erosion can help decrease the rate of complications. Many known risk factors affect the vaginal epithelium. Medications used for treatment of breast cancer (e.g. aromatase inhibitors and selective estrogen receptor modulators) have effects on the vaginal epithelium. There is no literature discussing if there is a relationship between breast cancer treatment and vaginal mesh erosion. The objective of this study was to determine the incidence of mesh erosion requiring surgical revision in a group of women with a breast cancer diagnosis, and compare this to reported rates of mesh erosion in the general population.

Methods: A database of women who had surgery with the urogynecology department at our institution over two years was used to identify a subset of women who had breast cancer. A retrospective chart review was performed to determine if mesh was placed at each patient’s initial surgery, and if there was a mesh erosion that required surgical revision.

Results: Twenty-three women with breast cancer were identified who had mesh placed for SUI or POP. Two had erosions that required operative revision, giving an incidence of 8.7%. Both of these women had mesh placed vaginally for repair of POP. If suburethral sling (SUS) cases were removed from the analysis, a total of 13 women would be included who had mesh placed for POP repair; for these women, the risk of mesh erosion was 15.3%.

Conclusion: After placement of mesh for SUI or POP, the risk of any mesh erosion requiring excision in the OR in a woman with breast cancer diagnosis was 8.7%; with SUS cases excluded, the risk of vaginal mesh erosion requiring excision in the OR was 15.3%. Literature review shows rates of mesh erosion at 0-15%, though many of these will not require surgical revision. More research needs to be done to determine if treatment of breast cancer is a risk factor for mesh erosion.
### Alphabetical Index of Presenters

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