

# NSAUA 2024 Annual Meeting Abstracts – Female Urology, Incontinence

Cite as: *Can Urol Assoc J* 2024;18(9Suppl3):S156-60. <http://dx.doi.org/10.5489/cuaj.8971>

## Abstract 1

### Pilot single-masked, randomized, 3-arm parallel study assessing the tolerability, safety, and efficacy of intraurethral/intravaginal 2940nm Er:YAG laser treatment for stress urinary incontinence

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**Introduction:** Stress urinary incontinence (SUI) includes loss of urethral support and intrinsic sphincter deficiency (ISD). We aimed to enhance SUI by integrating intraurethral (IU) with intravaginal (IV) non-ablative Er:YAG laser therapy. The primary objective was to evaluate the safety of IU+IV laser therapy for SUI with ISD components and compare it to IV only and sham through six- and 12-month followups. The secondary objective was to assess the efficacy of the IU+IV and IV-only treatments compared to sham.

**Methods:** Women with proven SUI with a degree of ISD were randomized into IU+IV laser treatment (n=20), IV laser treatment (n=20), and sham control (n=15). The sham subjects were offered the active treatment after a six-month followup. Subjects in both active groups were followed out to 12 months post-treatment. Tolerability and safety were assessed by VAS pain scale, recording of adverse events (AE), and measuring uroflow and post-void residual (PVR). Secondary effectiveness endpoints were assessed by 24-hour pad test, three-day voiding diary, and ICIQ-UI SF and PGH questionnaires.

**Results:** We randomized 55 patients into three groups, and 53 patients completed the trial. Thirty-nine adverse events (AEs) were recorded in 23 patients. Seventeen of the 39 recorded AEs were probably related or related to the procedure. Mean (SD) duration of the AEs was 2.93 (3.2) days. The PVR results revealed no clinically meaningful differences between groups (p=0.49), the same as for voiding symptoms at six (p=0.19) or 12 months (p=0.76). At six-month and 12-month followup, >50% reduction of 24-hour pad weight was observed in 64.7% (55.6%) of patients in the IU+IV group, 36.8% (58.8%) in the IV group, and 33.3% in the sham group. The odds of observing a >50% reduction of 24-hour pad weight at six months increased by 246% in the IV+IU arm compared to IV (OR=3.46 [0.89–14.9]; p=0.08).

**Conclusions:** The addition of the intraurethral treatment did not result in a higher incidence of AEs. In patients with a degree of ISD, combining intraurethral and intravaginal treatments may improve the efficacy of the laser procedure. Clinical studies with a higher number of patients should be performed to confirm the results.

**Funding:** This trial was sponsored by Fotona d.o.o., manufacturer of the laser device used in the trial.

## Abstract 2

### Ensuring safety and feasibility: Same-day urological prosthetic surgeries for the treatment of incontinence and erectile dysfunction

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**Introduction:** The shift from inpatient to ambulatory urological surgical care has been significant, with increasing demands on the healthcare system. Many surgeries including the insertion of urologic prostheses such as artificial urinary sphincters (AUS), penile prostheses (PP), and urethral slings (US) previously involved inpatient management. However, the COVID-19 pandemic limited access to inpatient urologic prosthesis surgeries, necessitating an outpatient/same-day surgery (DS) approach. Research on the safety and feasibility of outpatient urologic prosthesis surgeries is limited. We aimed to assess the complication rates associated with urologic prosthesis DS to establish their safety and feasibility.

**Methods:** A database of urinary sphincters (US), AUS, and PP insertions between January 2019 and June 2023 included patient baseline demographics, comorbidities, surgery indication and type, and 30-day postoperative complications classified by Clavien-Dindo. We compared complication rates of DS and inpatient surgeries.

**Results:** Out of 110 surgeries (36 inpatients, 74 DS), post-surgical complication rates occurred in 11 inpatients and 10 DS (Tables 1 and 2). US insertion as DS led to significantly fewer overall complications compared to inpatient procedures (11.1% vs. 50%, p=0.006). Grade I complication rate was greater in the inpatient group than in the DS group (35.7% vs. 7.4%, p=0.02). Post-US insertion, Grade II complication rates between DS and inpatient cohorts were not significantly

**Abstract 1. Table 1. Characteristics of all three study groups at baseline**

	Group 1 [n=19]	Group 2 [n=19]	Group 3 [n=15]
<b>Demographic characteristics</b>			
Age (mean [range])	52.2 [32–74]	52.3 [39–70]	53.4 [39–77]
BMI (mean [range])	24.9 [20–27]	26.4 [18–31]	24.6 [19–34]
<b>Childbearing ability</b>			
No	63.2% (n=12)	73.7% (n=14)	60% (n=9)
Yes	36.8% (n=7)	26.3% (n=5)	40% (n=6)
No. of pregnancies (mean [range])	2.26 [0–7]	2.32 [1–4]	2.20 [0–4]
No. of vaginal deliveries (mean [range])	2.00 [0–7]	2.00 [0–4]	2.13 [0–4]
<b>Hysterectomy</b>			
No	78.9% (n=15)	73.7% (n=14)	86.7% (n=13)
Yes	21.1% (n=4)	26.3% (n=5)	13.3% (n=2)
<b>Smoking</b>			
No	57.9% (n=11)	57.9% (n=11)	73.3% (n=11)
Yes	10.5% (n=2)	10.5% (n=2)	0% (n=0)
Quit	31.6% (n=6)	31.6% (n=6)	26.7% (n=4)
<b>Baseline values of outcome measures</b>			
Pad weight in grams (median [IQR])	30 [17.5–78]	26 [16–71]	21 [14.5–40]
Incontinence episodes per day (median [IQR])	3.3 [2.5–5.0]	4.3 [2.0–5.3]	3 [2.1–4.0]
ICIQ-UI SF (mean [range])	16.4 [13–19]	17.5 [12–20]	16.6 [11–21]

\*None of the patients in any of the three study groups had diabetes. BMI: body mass index; ICIQ-UI SF: International Consultation on Incontinence Questionnaire – Urinary Incontinence Short Form; IQR: interquartile range.

**Abstract 2. Table 1. Number and type of same-day and inpatient urological surgeries**

Surgery	AUS	US	PP	Total
<b>Same-day</b>	31	27	16	74
<b>Inpatient</b>	19	14	3	36

AUS: artificial urinary sphincter; PP: penile prosthesis; US: urethral sling.

**Abstract 2. Table 2. Number (N) and rate (%) of postoperative complications in each cohort based on type of surgery**

	Same-day surgery						Inpatient surgery					
	AUS		US		PP		AUS		US		PP	
Clavien-Dindo Classification	N	%	N	%	N	%	N	%	N	%	N	%
Nil	25	80.6	24	88.9	15	93.8	15	78.9	7	50	3	100
Grade I	1	3.2	2	7.4			1	5.3	5	35.7		
Grade II	4	12.9	1	3.7			2	10.5	2	14.3		
Grade IIIa	1	3.2										
Grade IIIb					1	6.3	1	5.3				
Overall complications	6	19.3	3	11.1	1	6.2	4	21.1	7	50.0	0	0.0

P values are reported in the Results section. AUS: artificial urinary sphincter; PP: penile prosthesis; US: urethral sling.

different (3.7% vs. 14.3%,  $p=0.2$ ). Overall complication rates post-AUS were similar between the DS and inpatient groups (19.3% vs. 21.1%,  $p=0.8$ ). Grade I and II AUS complication rates did not differ significantly between the groups. Overall complication rates post-PP between DS and inpatient cohorts were not significantly different (6.2% vs. 0.0%,  $p=0.66$ ). Notably, none of the 74 planned DS required unanticipated admissions immediately after surgery.

**Conclusions:** Our study demonstrates that the complication rates in the DS cohort are similar to or significantly lower than those in the inpatient cohort. This strongly suggests that outpatient implantation of AUS, US, and PP can be safe and feasible. Given the novelty and relatively limited scale of this study, further research involving larger scale and extended duration trials is needed to assess the long-term complication rates of DS, its impact on patient satisfaction, and cost-effectiveness.

**Funding:** N/A

### Abstract 3

#### Incidence and predictors of failure in patients with sacral neuromodulation

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**Introduction:** Sacral neuromodulation (SNM) is a treatment for various lower urinary tract and bowel dysfunctions, such as overactive bladder, urinary retention, fecal incontinence, and constipation. Although SNM can be effective for many patients, some may experience failure or suboptimal outcomes. Understanding the factors contributing to SNM failure can help tailor treatment plans and manage expectations. In this study, we examined the factors associated with SNM failure.

**Methods:** This retrospective cohort study involves patients who underwent SNM insertion or revision between 2020 and 2024 at a single, high-volume tertiary hospital in Toronto, Canada. The medical records of included patients were reviewed for demographic data, diagnosis, complications, management of complications, additional therapy rate, and outcomes with a followup duration of up to 28 years. We excluded patients with less than six months of followups, patients who lost their followup appointments, and those who had failed Stage I SNM.

**Results:** Of 289 patients who underwent insertion or revision of SNM, 257 were included in our study. The majority were female (201; 78%) with an average age of  $61 \pm 13.6$  years. Forty-two per cent of our patients were obese (110; 42%, BMI > 30) with an average BMI of  $29.6 \pm 6.6$ ; 51.4% of the patients suffered from overactive bladder (OAB); 18.7% from chronic urinary retention; and 12.5% from interstitial cystitis/painful bladder syndrome. The failure rate of SNM in our patients was 22.6%. We found that the average age was higher in the SNM failure group ( $65.9 \pm 12.0$ ;  $p=0.006$ ). Conversely, the average BMI is almost the same in patients with successful and failed SNM treatment ( $29.7 \pm 7.3$ ;  $p=0.80$ ). Patients

with failed SNM experienced more voltage usage with an average of  $2.1 \pm 1.13$ . However, that was not statistically significant ( $p=0.095$ ). The failure rate was higher in patients with frequent reprogramming by 71.4%;  $p<0.001$ . Experiencing infection or pain at implantable pulse generator (IPG) during the SNM treatment has been correlated with a higher failure rate ( $p<0.001$ ).

**Conclusions:** Pain at the site of IPG, infection, elderly status, and frequent reprogramming were found to be common in patients with failed SNM treatment. It is important to note that while these factors do not necessarily indicate that SNM will be ineffective for all patients, they may increase the risk of treatment failure. Therefore, they should be thoroughly considered when assessing patients with SNM.

**Funding:** N/A

### Abstract 4

#### Prevalence of multidisciplinary symptomatology in patients with pelvic floor disorders

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**Introduction:** Patients presenting with pelvic floor disorders (PFD) have a high prevalence of overlapping symptoms which have not been fully characterized. Those presenting with chronic pelvic pain have co-existing bowel, urinary, sexual, and neuro-urological symptomatology necessitating a multidisciplinary approach.

**Method:** A total of 259 patients completed the electronic intake for our Urogynecology and Reconstructive Pelvic Surgery clinic. Thirty-eight (14.7%) were male, 215 (83%) female, and six (2.3%) identified as transgender. Of the 259 patients, 114 reported "yes" to pelvic pain and 138 reported "no". The following validated scoring systems were used: PHQ4 (anxiety and depression), AUASS (urinary symptoms), CRAD-8 (lower urinary tract symptoms), POPDI-6 (pelvic organ distress inventory), GUPI (genitourinary pain), PISQIR (sexual health and function), UDI-6 (urinary symptoms), and SHIM (sexual health inventory). Cut-off values for dysfunction were defined as: UDI-6 score greater or equal to 25 (1), AUA symptoms score greater than 8 (2), bowel dysfunction as CRAD-8 greater than 25 (3), PISQIR score of less than 2.68 for sexual dysfunction (4), IIEF sexual function score of less than 5 (5), POPD-6 score greater than 25 (6), and autonomic symptom tally score greater than 5.

**Results:** The mean number of symptoms per patient was  $2.55 \pm 1.55$ ,  $n=150$ . Fifty-six patients (51%) with pelvic pain reported bowel symptoms (Chi-square = 19.5;  $p<0.001$ ), 84 (82%) reported urinary symptoms (Chi-square = 33.1;  $p<0.001$ ). Sixty-nine (73%) reported prolapse symptoms (Chi-square = 41.3;  $p<0.001$ ), 40 (54%) reported autonomic symptoms (Chi-square = 8.0,  $p=0.005$ ). Seventy-three patients (50%) with urinary symptoms reported bowel symptoms (Chi-square = 27.9;  $p<0.001$ ) and 52 (48%) reported autonomic symptoms

(Chi-square=7.8;  $p=0.005$ ). Eighty-eight (67%) reported prolapse symptoms (Chi-square=55.2;  $p<0.001$ ). Sixty-seven patients (84%) with bowel symptoms reported prolapse symptoms (Chi-square=67.7;  $p<0.001$ ). The odds of pelvic pain significantly increased with urinary symptoms [odds 5.6 (CI 3.0–10.3)], bowel symptoms [odds 3.3 (CI 1.9–5.7)], prolapse symptoms [odds 6.7 (CI 3.6–12.2)], and autonomic symptoms [odds 2.42 (CI 1.3–4.4)] present. The odds of urinary symptoms significantly increased with bowel symptoms [odds 5.3 (CI 2.7–10.3)], prolapse symptoms [odds 12.4 (CI 5.9–25.9)], and autonomic symptoms [odds 2.6 (CI 1.3–5.0)] present.

**Conclusions:** Our findings demonstrate overlap among pelvic symptoms. A multidisciplinary intake is recommended to screen for comorbid pelvic symptomatology when treating patients with PFD.

**Funding:** Grants: Underactive Bladder (NIDDK) Clinical; research: PI, Ironwood Pharmaceuticals; consultant: Flume Catheters, Luca Biologics, Infinite MD/Consumer Medical/Alight Online; 2<sup>nd</sup> Opinion advisory board: Ironwood Pharmaceuticals, Glycologix; other: National Institute of Diabetes and Digestive and Kidney Diseases, PsyD ClinicalTrials.gov ID: NCT05127616; Protocol Number: EPPIC22001; version 1.0; date of charter: July 13, 2022 – Chair, DSMB\*

## Abstract 5

### Autonomic symptoms in association with pelvic pain warrant work-up

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**Introduction:** Small fiber neuropathy is present in two-thirds of patients with complex pelvic pain.<sup>1</sup> We present insurance data inclusive of all diagnoses and charges for one year, including pharmacy, behavioral health, and emergency visits, and demonstrate that treating pelvic pain comes with a high financial cost which increases with each additional autonomic symptom.

**Methods:** Deidentified 2022–2023 data from a Northeastern private insurer or teachers and municipal workers were queried for pelvic pain (R10.2) as well as 14 diagnoses associated with autonomic symptoms: arrhythmia (I49.9), bowel (K58.9, K59.00, K59.02), fibromyalgia (M79.7), GERD (K21.9), migraine (G43.x), palpitations (R00.2), pelvic pain (N30), pelvic pain (R10.2), postural tachycardia syndrome (G90), ringing in the ears (H93.19), syncope and collapse (R55), temporomandibular joint pain (M26.609), and urinary hesitancy (39.11). The average cost was calculated per patient with pelvic pain compared to those with small fiber neuropathy (SFN) and those without a diagnosis of SFN but with three or more autonomic symptoms.

**Results:** The database included 4306 members with an average cost per member of \$9280. The average age was 35.5 years old, and 53% were female. Of the 4306 members, 200 (4.6%) had pelvic pain. Twenty-eight (0.65%) had pelvic pain in association with three or more autonomic symptoms. The average cost for this population was \$117,598 per member per year, totaling \$3,292,748. Of note, only one of these individuals had been diagnosed with SFN (annual expense \$375,105). Those with SFN without pelvic pain (N=15) had annual expenditures of \$47,594, and all comers with SFN (N=22) had annual expenditures of \$63,929.

**Conclusions:** Small fiber neuropathy is associated with multiple somatic and autonomic symptoms. Patients, clinicians, and payors should understand the importance of these symptom arrays to help patients arrive at the appropriate diagnosis early in the course. Not only will patients access the help they need, but costs are likely to decrease with more directed management.

#### Reference:

- Chen A, De E, Argoff C. Small fiber polyneuropathy is prevalent in patients experiencing complex chronic pelvic pain. *Pain Med* 2019;20(3):521-7. <https://doi.org/10.1093/pm/pny001>

**Funding:** Grants: Underactive Bladder (NIDDK); clinical research: PI, Ironwood Pharmaceuticals; consultant: Flume Catheters, Luca Biologics, Infinite MD/Consumer Medical/Alight Online; 2<sup>nd</sup> opinion, advisory board: Ironwood Pharmaceuticals, Glycologix; research grant: Lundbeck, Lilly; consultant: Vertex, X Gene Pharma, Collegium, Nevro; speaker: Abbvie, Lundbeck

## Abstract 6

### Prevalence of multidisciplinary pelvic symptoms in patients with small fiber neuropathy

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**Introduction:** Small fiber neuropathy (SFN) is a debilitating condition impacting small, myelinated A-Delta and unmyelinated C fibers. Patients with SFN present with multifactorial symptoms, including impaired bladder function. In our single-center retrospective cohort, we hypothesize that patients with SFN will have a high prevalence of sexual, urinary, bowel, pelvic, psychological, neurological, and autonomic dysfunction.

**Methods:** A total of 259 patients completed the electronic intake for our adult Urogynecology and Reconstructive Pelvic Surgery clinic. Thirty-eight (14.7%) were male, 215 (83%) female, and six (2.3%) identified as transgender. Of these patients, 17 females, one male, and one transgender person had SFN. Statistical analysis included unpaired t-tests. Validated measures were: POPDI-6, autonomic symptom score, PHQ4 (anxiety and depression), UDI-6 (urinary symptoms), neuro-urological symptoms, PISQIR (sexual health and function), CRAD-8 (lower urinary tract symptoms), GUPI pain subscales/total and quality of life scores (genitourinary pain), IPSS QOL (urinary symptoms), and SHIM (sexual health inventory).

**Results:** Female patients with SFN had significantly more urinary (UDI-6 mean 61.2±20.0 vs. 43.3±25.3, respectively;  $p=0.007$ , T value=-3.09); pelvic organ prolapse (POPDI-6 mean 40.9±23.4 vs. 30±21.3, respectively;  $p=0.036$ , T value=-2.27), anxiety and depression (PHQ-4 mean 5.0±3.14 vs. 2.27±3.65, respectively;  $p=0.006$ , T value=-3.07), neurological (mean 5.63±2.97 vs. 1.97±2.34, respectively;  $p<0.001$ , T value=-5.23), and autonomic symptoms (mean 12.36±5.77 vs. 4.04±4.32,  $p<0.001$ , T value=-5.26) compared to those without SFN. They also experienced less intense orgasm (mean 2.0±0.996 vs. 2.728±0.775,  $p=0.013$ , T value=2.85), more pain with intercourse (mean 3.44±0.88 vs. 2.6±1.19,  $p=0.024$ , T value=-2.262), increased urinary, bowel, or sexual symptoms ( $p=0.016$ , chi-square=5.097), and significantly more pelvic pain (chi-square=14.064,  $p<0.001$ ).

**Conclusions:** SFN is strongly associated with urinary, bowel, pelvic, sexual, psychological, neurological, and autonomic symptoms. Clinicians should be alert for SFN in patients presenting with multisystem genitourinary dysfunction and engage in a multidisciplinary approach to diagnosis and management of this condition.

**Funding:** Elise De discloses grants: Underactive Bladder (NIDDK); clinical research: PI, Ironwood Pharmaceuticals; consultant: Flume Catheters, Luca Biologics, Infinite MD/Consumer Medical/Alight Online; 2<sup>nd</sup> opinion, advisory board: Ironwood Pharmaceuticals, Glycologix. Charles Argoff discloses research grants: Lundbeck, Lilly; consultant: Vertex, X Gene Pharma, Collegium, Nevro; speaker: Abbvie, Lundbeck

## Abstract 7

### Urodynamic evaluation of the type I diabetic bladder

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**Introduction:** While bladder function has been carefully studied in type I diabetic mouse models, there are no studies investigating the impact of type I diabetes (DM1) on adult patient bladder function. Our objective was to characterize and analyze urodynamic studies for DM1 patients across two different institutions.

**Methods:** We retrospectively reviewed the urodynamic databases from two tertiary-care institutions (2014–2023) to identify all patients with DM1. Demographic data, hemoglobin A1c (HbA1c) levels, and diabetic-related end-organ damage were captured. The presenting reasons for urodynamic testing and urodynamics diagnoses were collected. All urodynamic studies were performed according to ICS standards. Descriptive statistics were performed.

**Results:** There was a total of nine (seven female, two male) type I diabetic patients across both institutions. The median age was 47 years (IQR: 13) with a median body mass index (BMI) of 26 (IQR: 3). The median HbA1c within three months of the urodynamic study was 6.90% (IQR: 2.40). Additionally, 78% of participants presented with diabetes-related end-organ damage, such as neuropathy (67%), retinopathy (22%), gastroparesis (33%), or end-stage renal disease (11%). Notable indications for urodynamics included urinary retention or difficulty emptying (78%)

and urinary straining (44%). The urodynamic summary is displayed in Table 1. There was a high post-void residual, delayed first sensation, and low Qmax seen in type 1 diabetic patients. Only one patient demonstrated detrusor overactivity and three demonstrated valsalva voiding.

**Conclusions:** This is the first study to summarize urodynamic parameters in type 1 diabetic patients. Overall, there was a large bladder capacity, low Qmax, and high post-void residual consistent with incomplete bladder emptying. Interestingly, these findings are typical of classic “diabetic cystopathy”. Future studies involving more patients across more institutions should be performed for a more robust analysis.

**Funding:** N/A

**Abstract 7. Table 1.**

Characteristic	N=9 <sup>1</sup>	Female, N=7 <sup>1</sup>	Male, N=2 <sup>1</sup>
First sensation	63 (187)		
First urge	148 (183)		
Capacity	503 (123)		
Qmax	7.0 (7.8)	8.8 (10.2)	4.8 (1.3)
Pdet at Qmax	42 (32)	28 (29)	54 (3)
Max Pdet	58 (26)	57 (34)	59 (0)
PVR final	280 (317)	280 (258)	198 (198)
Detrusor overactivity	1/9 (11%)	1/7 (14%)	0/2 (0%)
Valsalva voiding	3/9 (33%)	3/7 (43%)	0/2 (0%)

<sup>1</sup>Median (IQR); n/N (%).

**Abstract 8**  
**Uterine fibroids and urinary retention: A case series and literature review**

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**Introduction:** Uterine fibroids are benign smooth muscle tumors common in women of reproductive age. While rare, fibroids are a recognized cause of acute urinary retention (AUR). The objective of this project is to contribute to the growing body of literature about this rare condition and to establish key fibroid factors involved in the pathogenesis of fibroid-induced AUR.

**Methods:** A chart review was conducted of three patients who presented to our clinic with symptoms of AUR and who were found to have large uterine fibroids. Radiographic data was gathered from these charts including dominant fibroid size, uterus size, uterine angle in relation to vaginal canal, and ratio of the uterus to anteroposterior diameter of the pelvic inlet. A literature review was performed to assess fibroid characteristics as well as definitive treatment of other documented cases of AUR in the context of uterine fibroids.

**Results:** Our case series revealed an average fibroid diameter of 11.13 cm. Uterine angle ranged from 59.2° to 160°. Average uterus size to anteroposterior diameter ratio was 0.659. All patients were treated with hysterectomy and had complete relief of symptoms. Literature review revealed 50 other cases of fibroid-induced urinary retention over 10 different studies. It showed that fibroids between 5.3 cm and 14 cm in diameter with posterior or fundal positioning are associated with AUR. Uterine angle and uterus size to anteroposterior diameter ratio were not reported in any study. Hysterectomy was performed in 66% of patients, 14% were treated with myomectomy, 6% with uterine artery embolization, 8% with lifestyle modifications, and 6% with medications (ulipristal acetate, aromatase inhibitors, and GnRH inhibitors). All had complete symptom relief post treatment.

**Conclusions:** This study suggests several key factors in fibroid-induced AUR

pathogenesis: diameter over 5.3 cm, uterus to anteroposterior diameter ratio over 0.5, and a posterior or fundal location. Uterine angle does not appear to affect retention. By establishing fibroid factors associated with retention, we open the possibility of modifying them to treat and even prevent AUR. It is well known that there are medications shown to reduce fibroid size; three patients in our review had resolution of symptoms with these treatments. The proposed critical fibroid factors could serve as the basis for additional research on the medical treatment of fibroids. While surgical techniques have been shown to be successful, medications could also treat and prevent AUR in patients with desire for uterine preservation.

**Funding:** N/A

**Abstract 9**  
**Efficacy of a 10-injection site template for administration of intradetrusor onabotulinumtoxin A**

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**Introduction:** Overactive bladder (OAB) is defined as urinary urgency, with or without urge urinary incontinence (UUI), in the absence of urinary tract infection or underlying pathology. In patients with OAB refractory to behavioral modifications and medical therapy, intradetrusor onabotulinumtoxin A (Botox®) injections may be used. Current practice is to use a starting dose of 100 U in patients with OAB and the manufacturer's instructions recommend using 20 injection sites. Many urologists have adopted a 5–10 injection site technique for patient comfort and procedural efficiency. In our institution, urologists use a template of 10 sites for administration. This study is a retrospective review evaluating the efficacy of intravesical Botox® administration with ten injection sites for the management of OAB.

**Methods:** OAB patients who underwent intravesical Botox® injections at our institution from 2016 to 2022 were reviewed. Patients were excluded if they had received a dose other than 100 U, if 10-injection sites were not used, or if no followup was documented. If a patient had undergone multiple rounds of Botox® injections, each procedure was recorded as its own session. Based on clinic notes, symptoms following treatment were characterized as very improved, somewhat improved, no improvement, somewhat worse, or much worse. Similarly, pad use was characterized as decreased, increased, or the same. Chi-squared analysis was used to evaluate the significance of our observed results.

**Results:** In total, there were 300 Botox® sessions, 295 of which had followup. In 76% of the sessions, symptoms were reported as “very improved” following treatment and a total of 90% of sessions resulted in “very improved” or “somewhat improved” symptoms, which was statistically significant (p<0.01). Of the 177 sessions where pad use was reported, 67% resulted in decreased pad use and 31% resulted in unchanged pad use.

**Conclusions:** Use of a 10-injection site template was found to be efficacious in controlling OAB symptoms, which is similar to published results with 20 site injections. Randomized trials may determine if there is a difference in control of symptoms between a 10-injection site template compared to the standard 20-site template.

**Funding:** N/A

**Abstract 10**  
**Differences in pelvic distress and psychological wellbeing between new patients with and without endometriosis presenting to a urology clinic based on validated questionnaires**

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**Introduction:** Endometriosis is an underdiagnosed condition which can complicate the presentation of patients seeking urologic care. Using validated questionnaires on clinic intake may facilitate differentiation of patients whose underlying diagnosis is endometriosis and direction towards appropriate providers for specialized care.

**Methods:** A prospective database of 262 new patients to a Female Pelvic Medicine and Reconstructive Surgery (FPMRS) subspecialty clinic was queried for patients with diagnosed endometriosis. Male and transgender female patients were excluded from analysis. The PHQ 4 (anxiety and depression screening tool for patients with serious illnesses), PFDI 20 (Pelvic Floor Disability Index

- composed of UDI 6 [Urinary Distress Inventory], CRAD 8 [Colorectal Anal Distress Inventory], POPDI 6 [Pelvic Organ Prolapse Distress Inventory]) were used. Validated questionnaire responses were analyzed between those with and without endometriosis using unpaired t-tests.

**Results:** A total of 177 patients without and 44 with endometriosis were included. Of the endometriosis patients, 52% had a score >25 on the CRAD subsection, 77% on the UDI subsection, and 45% on the POPDI subsection. Of participants without endometriosis, those numbers were 25%, 55%, and 44%, respectively. On unpaired t-tests, there were no significant differences between scores on the PHQ 4 ( $p=0.485$ ), UDI 6 ( $p=0.375$ ), or POPDI 6 ( $p=0.531$ ) questionnaires. There was a significant difference between CRAD 8 scores ( $p=0.025$ ). The odds of endometriosis were 2.8 (95% CI 1.4–5.6) in the presence of pelvic pain (compared to the absence of pelvic pain), 3.7 (95% CI 1.6–8.9) in the presence of urinary symptoms

(compared to the absence of urinary symptoms), 2.5 (95% CI 1.3–4.9) in the presence of bowel symptoms (compared to the absence of bowel symptoms), 0.85 (95% CI 0.4–1.8) in the presence of sexual dysfunction (compared to the absence of sexual dysfunction), 2.8 (95% CI 1.4–5.8) in the presence of prolapse symptoms (compared to absence of prolapse symptoms), and 3.9 (95% CI 1.6–9.2) in the presence of autonomic symptoms (compared to the absence of autonomic symptoms).

**Conclusions:** Within this subspecialty population with high urinary and pain symptomatology, only bowel symptoms distinguished those with and without endometriosis. However, in this dataset, we showed significant odds for pelvic pain, urinary, bowel, prolapse, and autonomic nervous symptoms comparing each magnitude with other pelvic symptoms.

**Funding:** N/A