

NSAUA 2024 Annual Meeting Abstracts – Infertility, Impotence, General Urology

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Abstract 11 – WITHDRAWN

Abstract 12

Urodynamics voiding position and seating characteristics: Potential for misdiagnosis of atonic bladder

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Introduction: We investigated whether absence of detrusor contraction in a urodynamic chair was observed when patients assumed a more normal voiding position and surface. We hypothesized that patients without demonstrable bladder contractions during urodynamics (UDS) or on UDS chair after permission to void may be able to mount a bladder contraction after changing to a more normal voiding position.

Methods: We conducted a retrospective cohort study analyzing UDS over two years. UDS reads were screened for positional changes from UDS chair to either commode or standing when patients were unable to void. Studies with positional changes after permission to void were re-analyzed by two masked neurourologists. Data collected included: time spent attempting to void in UDS chair, whether bladder contraction was present, pdet/Qmax, Qmax when voiding occurred, time spent attempting to void after moving, presence of bladder contraction in new position, and new pdet/Qmax and Qmax.

Results: Ninety-four of 503 patients were identified to have moved to the commode or a standing position due to unsatisfactory or absent void on the UDS chair. Of these, 81/94 (86.2%) studies were interpretable. Average time spent attempting to void on the UDS chair was 8.41 minutes +/-4.1. In the new position, the patients averaged 2.29 +/-1.9 minutes to void. Of the 81 patients identified with unsatisfactory or absent void on the UDS chair; 69 (85.2%) demonstrated bladder contraction in the new position. Agreement between providers on presence of bladder contraction in the UDS chair showed that 91.4% were congruent ($k=0.78$). For presence of bladder contraction on the commode/standing, 88.9% were congruent ($k=0.42$). Of those that were congruent ($N=44/55$), 80% of the patients unable to demonstrate a bladder contraction on the UDS chair were then able to demonstrate bladder contraction in the new position. If contraction was present, we compared the pdet/Qmax and Qmax on the UDS chair to the pdet/Qmax and Qmax in the new position. The average pdet/Qmax on the UDS chair was 6.86 +/-1.8 cm H₂O vs. the average pdet/Qmax in the new position, which was 25.9 +/-17.9 cm H₂O ($p<0.001$). The mean Bladder Outlet Obstruction Index (BOOI) on the chair was 13.3 +/-14.4. The mean BOOI on the commode/standing was 38.3 +/-28.6. The mean Bladder Cancer Index (BCI) on the chair was 13.6 +/-15.1, and 61.7 +/-31.6 on the commode/standing ($p<0.001$).

Conclusions: Atonic bladder/hypotonic bladder can be misdiagnosed based on measuring voiding only in a UDS chair. Moving to a more natural seating such as a commode or standing can improve measurement of detrusor function.

Funding: N/A

Abstract 13

Does a negative preoperative MRI predict a reduced rate of incidental clinically significant prostate cancer in benign prostate surgery?

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Introduction: Multiparametric magnetic resonance imaging (mpMRI) has facilitated an increase in the early detection of clinically significant prostate cancer (csPCa), which is defined as grade group ≥ 2 . Although preoperative MRI is not routinely used in the evaluation of benign prostatic hypertrophy (BPH), it has a role in guiding BPH intervention. Recent studies report incidental prostate cancer rates of 2–10%. However, with the increasing use of MRI, there is limited data on its ability to decrease incidental prostate cancer diagnoses, particularly incidental csPCa. This study aims to evaluate the utility of a negative preoperative MRI in the detection of csPCa in patients undergoing BPH surgery.

Methods: A retrospective review was performed on all patients undergoing resective BPH surgery from 2021 to 2023 at a single tertiary institution. The procedures included transurethral resection of the prostate (TURP), holmium laser enucleation of prostate (HoLEP), and robotic simple prostatectomy (RASP), which were performed by 25 surgeons. Patients underwent a standard workup for prostate cancer with PSA, imaging, and biopsy if indicated. Those with a prior diagnosis of prostate cancer or without surgical pathology (e.g., button TURP) were excluded ($n=101$). Univariate analyses were performed (chi-square test, student's T-test) with a p-value <0.05 considered significant.

Results: A total of 1293 cases were identified and are summarized in Table 1. The median age was 71 years (range 45–94) with a median preoperative PSA of 2.99. The median preoperative PSA was significantly higher in patients with a negative MRI than those without an MRI (6.4 vs. 2.3, $p<0.01$). Overall, the rate of csPCa was low (4%). Preoperative MRI was obtained in 22.3% of patients. The number of patients with Prostate Imaging and Data Reporting System (PIRADS) 3, 4, and 5 lesions was 50, 12, and 13 respectively. The rate of incidental csPCa was not significantly different between those with a negative MRI compared to those without an MRI (3.3% vs. 4.3%, $p=0.498$).

Abstract 13. Table 1. Clinically significant prostate cancer (csPCa) in benign prostatic hypertrophy (BPH) surgery based on preoperative MRI

Preoperative MRI				
No MRI	1004	115 (11.4%)	889	43 (4.3%)
Positive	75	7 (9.3%)	68	2 (2.6%)
Negative	214	19 (8.8%)	195	7 (3.3%)
Total	1293	141 (10.9%)	1152	52 (4.0%)

MRI: magnetic resonance imaging.

Conclusions: The rate of incidental csPCa following BPH surgery remains low at 4%. However, a negative preoperative MRI does not carry a significantly decreased rate of incidental csPCa if an appropriate preoperative workup is completed while undergoing BPH surgery evaluation.

Funding: N/A

Abstract 14
Is hemoglobin A1c level a significant predictor of penile prosthesis implantation infections?

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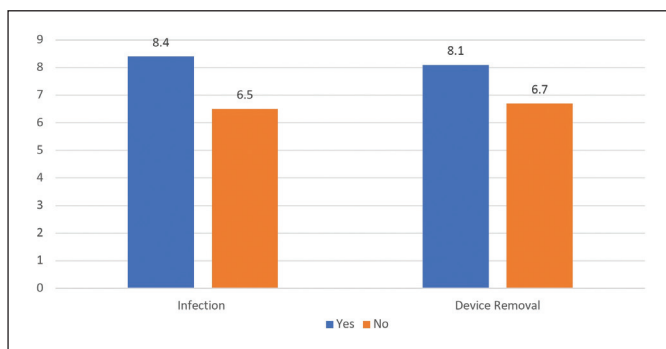
Introduction: Diabetes mellitus (DM) is a major risk factor for erectile dysfunction (ED). Penile prosthesis implantation is a definitive treatment with good outcomes. However, postoperative infection remains a significant complication. This study investigates the association between glycated hemoglobin (HbA1c) levels and penile prosthesis infection rates.

Methods: This study is a multicenter retrospective study including all patients undergoing penile prosthesis implantation between 2015 and 2023. All procedures were performed by the same specialized surgeon. Preoperative, perioperative, and postoperative care and prophylaxis were standardized for all patients.

Results: We retrieved and reviewed the records of 62 patients via patient electronic records. Mean age was 54.7±12.4 and mean HbA1c was 6.8±1.5. Thirty-nine patients (62.9%) were diabetic. Fifty-six (90.3%) implants were malleable, and six (9.6%) were inflatable devices. Eleven patients (17.7%) developed penile prosthesis infection, with only four (6.4%) treated conservatively, whereas seven patients (11.3%) required device removal. Patients who developed implant infection had significantly higher mean HbA1c levels (8.4±1.9 vs. 6.5±1.1, P=0.002). Although mean HbA1c level was higher among patients who underwent device removal, it was not statistically significant (8.1±2.2 vs. 6.7±1.3, P=0.093). Moreover, prosthesis infection patients were younger compared to those without prosthesis infection (45.9±13.3 vs. 56.7±11.5 years, P=0.0113). DM, Peyronie's disease, prosthesis type, operative time, and smoking were not significantly associated with infection rate. On multivariate analysis, both higher HbA1c levels and young age were statistically significant predictors for post penile prosthesis infection.

Conclusions: High HbA1c level is associated with increased risk of infection after penile prosthesis implantation.

Funding: N/A



Abstract 14. Figure 1. Mean HbA1c.

Abstract 14. Table 1. Postoperative infection vs. no infection

	Infected	Not infected	p
Age			
Age (mean ±SD)	45.9±13.2	56.6±11.4	0.011
Operative time			
Minutes (mean ± SD)	95.8±58	85.4±32.4	0.8107
Smoking			
Yes (%)	3 (12.5%)	21 (87.5%)	0.505
No (%)	8 (21%)	30 (79%)	
DM			
Yes (%)	9 (23%)	30 (76.9%)	0.187
No (%)	2 (8.7%)	21 (91.3%)	
Device type			
Malleable	9 (81%)	47 (92.1%)	0.287
Inflatable	2 (18.1%)	4 (7.8%)	
HbA1c			
HbA1c (mean ± SD)	8.4±1.9	6.5±1.1	0.002
Peyronie's disease			
Yes (%)	0	4 (100%)	1.000
No (%)	11 (19%)	47 (81%)	

DM: diabetes mellitus; HbA1c: hemoglobin A1c; SD: standard deviation.

Abstract 15
Men's sexual health and social media: A systematic review

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Introduction: Over the last several years, the influence of social media (SoMe) on people's healthcare decisions has been made abundantly clear; however, recommendations for how urologists and other healthcare providers can effectively engage patients varies per platform and condition. In this review, we aim to both synthesize recent literature on the role, reach, and reliability of men's sexual health information on SoMe platforms, as well as recommend evidence-based strategies for more fruitful patient interactions.

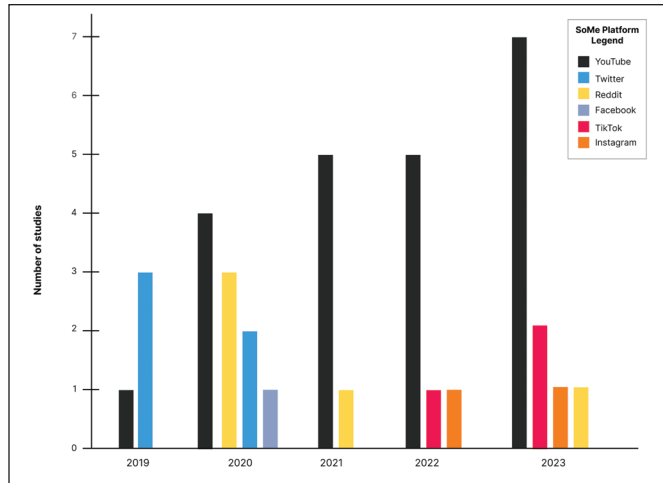
Methods: A systematic review following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines was performed for peer-reviewed English literature from 2019 to February 2024 on the usage of SoMe for men's sexual health issues. Specific SoMe platforms of interest were Twitter, YouTube, TikTok, Reddit, Facebook, and Instagram. Andrology topics of interest included erectile dysfunction (ED), premature ejaculation (PE), hypogonadism, male infertility, vasectomy, and Peyronie's disease.

Results: Of 489 relevant records retrieved, 35 were included in this analysis. The most popular topic was ED (n=14, 40%), followed by male infertility (n=8, 23%). Sixty-three per cent of studies analyzed the content of YouTube videos. Across video platforms YouTube and TikTok, most content was categorized using validated instruments (i.e., DISCERN, PEMAT-A/V) as poor quality or unreliable. Unreliable content received the most user views and highest engagement compared to high-quality, physician-created content. Reddit, an anonymous social media forum, was commonly used by patients to seek advice instead of or even recently after a physician visit.

Conclusions: The spread of unreliable information on men's sexual health on new social media platforms has increased, with unreliable content reaching more

patients than the existing high-quality content created by healthcare providers. To better engage with and deliver reliable information on men's sexual health to patients, physicians and healthcare systems should consider implementing platform-specific social media content strategies.

Funding: N/A



Abstract 15. Figure 1. Platforms studied per year (2019–2023). SoMe: social media.

Abstract 16

Perceptions and perspectives: Exploring opinions on novel male contraceptives among adult males

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Introduction: Currently, only two forms of male contraception are available: condoms and vasectomies. Condoms have a 13% failure rate, while vasectomies are invasive and largely irreversible. Difficulty developing reliable and reversible male contraceptives stems from a combination of medical challenges along with assumptions on men's willingness to participate in contraception. Many international studies highlight changing attitudes and widespread interest in this topic among both men and women. The purpose of this study is to obtain a deeper understanding of males' preferences and concerns regarding male contraception.

Methods: A survey for males over the age of 18 along with a consent form was created via REDCap. It was distributed online via social media and in flyers with a QR code. Flyers were placed at the office of Western New York Urology Associates and the University at Buffalo campus. The short two-minute survey included questions on willingness to try a novel contraceptive, preferred contraceptive form, important features, side effects respondents are concerned about, and demographic information. The data was consolidated and analyzed in Excel via Mann-Whitney and Kruskal-Wallis tests.

Results: A total of 94 males over the age of 18 completed the survey. As each question was optional, some questions did not have data from all 94 participants. Condoms were the most used form of contraception (36.2%) followed by female contraceptives (34.0%), and 14.9% reported using no form of contraception. A majority of participants would be willing to use a reversible male contraceptive (71.0%) with daily oral pills being the most desired form (51.7%), followed by a monthly injection (18.0%) and an arm implant (15.7%). The factors that would most deter participants from using male contraceptives are adverse side effects (55.3%), lack of research (17.0%), and not knowing enough about them (11.7%). The side effects participants were most concerned about included risk of future infertility (32.6%), cancer (18.5%), and blood clots (13.0%). Features that were most important to participants included a good safety profile (33.3%), no interference with future fertility (25.8%), and efficacy (16.1%). Analyses are being conducted to determine whether age, race/ethnicity, relationship status, and level of education have an impact on these results.

Conclusions: Most males over the age of 18 would be willing to use novel male contraceptives, with oral pills being the preferred form, given that they have minimal side effects and reliable, timely reversibility.

Funding: N/A

Abstract 17

Discrepancies in corporal blood flow in Peyronie's disease with erectile dysfunction measured using dynamic penile Doppler ultrasonography

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Introduction: Penile Doppler ultrasonography (PDU) distinguishes between vascular and non-vascular causes of erectile dysfunction (ED) and assesses concurrent vascular abnormalities in Peyronie's disease (PD). We compared dynamic changes in corporal blood flow parameters among PD patients with and without ED.

Methods: We conducted a retrospective review of 192 male PD patients from January 2010 to April 2023. Inclusion criteria required a diagnosis of PD and PDU performed exclusively by a senior staff member. We excluded patients with incomplete medical records and individuals who did not receive PDU; we also excluded patients with a history of pelvic surgery or fractures. We divided our cohort into two PD groups: one with ED and one without. Patients were assigned to the ED group if they had a Sexual Health Inventory for Men (SHIM) score of 21 or lower, a peak systolic velocity (PSV) of 25 cm/s or less, or an end-diastolic velocity (EDV) of 5 cm/s or higher.

Results: In our study cohort of 192 patients diagnosed with PD, 107 individuals (55.7%) presented with ED and 85 (44.3%) did not (Table 1). We noted significant differences in PSV and resistive index (RI) between the two groups; lower values were recorded in the ED group. However, no statistically significant differences were detected in either left or right corporal EDV between the two groups. Furthermore, non-statistically significant differences in corporal hemodynamics were observed between the left and right corpora of PD patients without ED.

Conclusions: Patients suffering from ED with PD exhibited a discrepancy in corporal hemodynamics. This discrepancy is linked to arterial insufficiency associated with ED rather than venous leak. However, patients with PD only had statistically insignificant discrepancies in both corpora parameters.

Funding: N/A

Abstract 17. Table 1. Patient characteristics

Parameter	Patients with ED (N=107)	Patients without ED (N=85)	p
Median age (IQR) (years)	57 (53, 65)	55 (33, 60)	0.01
Median BMI (IQR) (kg/m ²)	29.0 (26.9, 31.8)	35.8 (32.9, 38.7)	0.27
DM (%)	33 (30.9%)	7 (8.2%)	0.01
Median duration of DM (IQR) (years)	18 (14, 18)	6 (3, 8)	0.01
Smoker (%)	32 (30.6%)	14 (17.4%)	0.01
Median stable penile curvature (IQR) (degrees)	60 (45, 90)	65 (45, 80)	0.9
Median total testosterone (IQR) (nmol/L)	13.70 (13.00, 15.80)	19.00 (15.00, 19.00)	0.55

BMI: body mass index; DM: diabetes mellitus; ED: erectile dysfunction; IQR: inter-quartile range.

Abstract 18

Prostate cancer survivorship: Cross-sectional analysis of patient-reported experience following diagnosis or treatment of prostate cancer

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Introduction: Prostate cancer impacts patients' lives beyond oncological concerns alone. This impact includes mental, physical, sexual, emotional, and financial effects that continue throughout life. We aim to determine survivor experiences from both an oncologic and functional perspective throughout survivorship.

Methods: This is a cross-sectional survey of survivors. Our survey was circulated to all members of the Manitoba Prostate Cancer Support Group. Topics included erectile dysfunction (ED), penile shortening, urinary incontinence, and patient understanding throughout their care. Survey items included binary and Likert scale questions regarding patient understanding and treatment impact, as well as an open-ended question asking how survivorship care could be improved.

Results: A total of 514 patients received our survey and 122 responded, for a response rate of 23.7%. The average ages of diagnosis and treatment were 65.2 and 65.9 respectively. The most common treatments included radical prostatectomy (63.9%), radiotherapy (54.1%), and androgen deprivation therapy (36.1%). Most respondents (71.9%) said they considered sexual health to be very or somewhat important. However, describing their experiences prior to treatment, 27.9% reported no discussion of potential ED; 14.9% said they lacked understanding of treatment impact on erections; 76.9% reported no counselling on penile shortening; 95% reported no counselling on climacturia; 27.3% reported no discussion of urinary incontinence; and 11.5% reported a lack of understanding of treatment impact on urination. Describing their experiences post-treatment, 54.1% reported receiving physician-led counselling for sexual dysfunction, while 23.5% of patients reported treatment decision regret. Common responses to the open-ended question included desire for more information regarding support groups, treatment side effects, and management of such.

Conclusions: Counselling patients about treatment options must include discussion of treatment side effects, as well as treatment for such. Many patients expressed poor understanding of treatment impact on urination and sexual function. Patients were motivated to learn about their condition, requesting more information on treatments, side effects, and local support groups.

Funding: N/A

Abstract 19

Prevalence of multidisciplinary pelvic symptoms at intake of patients with chronic pelvic pain to a single academic institution

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Introduction: Chronic pelvic pain (CPP) is a complex condition of heterogeneous etiology. We hypothesize, in our single-center retrospective cohort of comprehensive electronic patient intake forms, that patients with pelvic pain will show a strong prevalence of sexual, urinary, gastrointestinal, psychological, and neurological symptomatology.

Methods: A total of 259 patients completed the electronic intake for our subspecialized adult Urogynecology and Reconstructive Pelvic Surgery (URPS) clinic. Of the 259 patients, 114 reported "yes" to pelvic pain, 138 reported "no", and the remaining seven patients did not answer the survey. Thirty-eight (14.7%) were male, 215 (83%) female, and six (2.3%) identified as transgender. Statistical analysis included unpaired t-tests. Validated measures were: POPDI-6, autonomic symptom score, PHQ4 (anxiety and depression), UDI-6 (urinary symptoms), neurourological symptoms, PISQIR (sexual health and function), CRAD-8 (lower urinary tract symptoms), GUPI pain sub-scales/total and quality of life scores (genitourinary pain), AUASS (urinary symptoms), and Sexual Health Inventory for Men (SHIM).

Results: The results are summarized in Table 1. Patients with pelvic pain reported significantly higher POPDI-6 scores ($p < 0.001$), autonomic symptoms ($p < 0.001$), PHQ-4 scores ($p < 0.001$), CRAD-8 scores ($p = 0.03$, $t\text{-value} = -2.2$), and GUPI pain sub-scale scores ($p < 0.001$, $t\text{-value} = -24.5$) compared to those without pelvic pain. These patients also reported higher urinary UDI-6 scores ($p = 0.009$, $t\text{-value} = -2.7$), PISQR scores ($p = 0.03$, $t\text{-value} = -2.3$), GUPI quality of life scores ($p < 0.001$, $t\text{-value} = -16.3$), and GUPI total scores ($p < 0.001$, $t\text{-value} = -3.9$); as well as significantly more neurourological symptoms ($p < 0.001$, $t\text{-value} = -6.1$). Pelvic pain was not associated with AUASS and SHIM (Table 1).

Conclusions: Our findings suggest a significant association between pelvic pain and sexual, urinary, bowel, pelvic, psychological, neurological, and autonomic symptoms. A multidisciplinary approach is recommended when managing CPP in order to achieve optimal quality of life.

Funding: N/A

Abstract 19. Table 1. Pelvic pain was associated with POPDI-6, autonomic symptom score, PHQ4, UDI-6, neuro-urological symptoms, PISQIR, CRAD-8, and GUPI pain sub-scales/total and quality of life scores, but not AUASS and SHIM

Symptom score	Pelvic pain (Y) (mean ± SD)	Pelvic pain (N) (mean ± SD)	T-value	p
POPDI-6	39.4±21.5	23.1±18.3	-5.3	<0.001
Autonomic ROS	6.7±6.2	3.4±3.5	-4.1	<0.001
PHQ-4	3.5±3.3	1.8 ± 2.8	-4.4	<0.001
UDI-6	50.4±24.9	40.1±23.4	-2.7	0.009
Neurological ROS	3.5±2.7	1.6±2.2	-6.1	<0.001
PISQR	3.2±0.7	3.6±0.6	2.3	0.03
CRAD-8	27.4±20.7	21.0±20.0	-2.2	0.03
GUPI pain sub-scales	12.8±4.9	0.8±1.1	-24.5	<0.001
GUPI quality of life impact	8.9±2.9	3.9±1.7	-16.3	<0.001
GUPI question 9	4.7±1.3	4.0±1.6	-3.9	<0.001

SD: standard deviation.

Abstract 20

Unexpected discoveries: Comparing incidental prostate cancer findings among benign prostatic hyperplasia surgical modalities

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Introduction: Benign prostatic hyperplasia (BPH) is caused by non-malignant growth of the prostate leading to lower urinary tract symptoms. Surgical treatment options for BPH include transurethral resection of the prostate (TURP), holmium laser enucleation of the prostate (HoLEP), and robotic-assisted simple prostatectomy (RASP). The purpose of this study is to compare the rates of incidental clinically significant prostate cancer (csPCa) among BPH procedures.

Methods: Adult patients (≥ 18 years old) who underwent BPH surgery at a tertiary institution from January 2021 to December 2023 were retrospectively reviewed. Patients with a prior diagnosis of prostate cancer (PCa) or without surgical pathology specimen were excluded. Baseline patient characteristics such as age, preoperative prostate-specific antigen (PSA), family history of PCa, and history of smoking were collected. Patients underwent appropriate work-up including PSA, magnetic resonance imaging (MRI), or transrectal ultrasound (TRUS) biopsy if indicated. The rate of incidental csPCa (defined as Gleason score ≥ 7) across different BPH procedures were compared. Chi-square statistics were performed with a p-value < 0.05 considered significant.

Results: A total of 1293 patients were included. A total of 773 were treated with TURP, 379 with HoLEP, and 141 with RASP (Table 1). There were no differences in the baseline patient characteristics of age, family history of PCa, or history of smoking. The mean preoperative PSA was 3.38 for TURP, 5.85 for HoLEP, and 7.53 for RASP patients ($p < 0.001$). Incidental csPCa was discovered in 52 patients: 23 from TURP (2.9%), 20 from HoLEP (5.3%), and nine from RASP (6.4%). Thus, RASP patients had a significantly higher rate of incidental csPCa than those who underwent TURP (6.383% vs. 2.978%, $p = 0.0429$). There were no differences in incidental csPCa between HoLEP patients and TURP patients ($p = 0.053$) or between HoLEP patients and RASP patients ($p = 0.625$).

Conclusions: Despite appropriate preoperative workup for PCa, patients who underwent RASP had a significantly higher rate of incidental csPCa than patients who underwent TURP. There was no significant difference in the rate of incidental csPCa in HoLEP patients. Patients should be counselled appropriately on the rates of incidental csPCa to make the best, most well-informed decision.

Funding: N/A

Abstract 20. Table 1. Patients treated with TURP, HoLEP, and RASP

Procedure	Total	Positive pathology	Negative pathology	csPCa	Mean age	Mean preoperative PSA	Family history of PCa	Smoking history
TURP	773	76 (9.8%)	697	23 (2.9%)	71.4	3.38	86 (11.1%)	431 (55.8%)
HoLEP	379	49 (12.9%)	330	20 (5.3%)	71.0	5.85	51 (13.5%)	172 (45.4%)
RASP	141	16 (10.5%)	125	9 (6.4%)	70.6	7.53	11 (7.8%)	65 (46.1%)

csPCa: clinically significant prostate cancer; HoLEP: holmium laser enucleation of the prostate; PCa: prostate cancer; PSA: prostate-specific antigen; RASP: robotic-assisted simple prostatectomy; TURP: transurethral resection of the prostate.

Abstract 21

Endoscopic buccal mucosal graft urethroplasty: A single-arm prospective study

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Introduction: Endoscopic treatment of urethral stricture disease with direct vision internal urethrotomy (DVIU), while minimally invasive, is associated with high failure rates. Conversely, open urethroplasty, though more invasive, offers greater long-term success. In a rabbit model, we previously showed the efficacy of liquid buccal mucosa graft (LBMG)-augmented DVIU. In this study, we aim to report our experience on human LBMG-augmented DVIU.

Methods: A single-institution, single-surgeon prospective study was conducted, enrolling males aged 18 and older with a history of prior dilation, DVIU, or both. Those with prior urethroplasty were excluded. DVIU was performed in standard fashion, followed by the placement of a 16 Fr catheter. BMG was harvested, defatted, sharply minced, and resubstituted to 4 cc, which was then injected over the DVIU defect via an angiocath in a peri-catheter fashion. The penis was maintained in a stretched position for 10 minutes to facilitate graft attachment. The primary endpoint was success, defined as absence of any need for additional procedures. Secondary endpoints included safety, voiding, and sexual outcomes as well as patient satisfaction.

Results: Nine patients with a median age of 29 were included. In terms of prior procedures, six patients had prior DVIU, one patient had urethral dilation, one patient had urethral dilation followed by DVIU, and one patient had two DVIUs followed by dilation. All strictures were in the bulbar urethra with average length of 1.72 cm. No intraoperative or postoperative complications were noted. The mean surgical duration was 54 minutes, and all patients were discharged on the same day. The mean followup period was 17.7 months. Patients experienced significant improvements, including increased maximal urinary flow (7.2 cc/s to 20.2 cc/s, $p=0.00044$), reduced post-void residual volume (212 cc to 85 cc, $p=0.014$), and improved International Prostate Symptom Score (IPSS) from 20 to 6 ($p=0.000035$). There were no observed differences in sexual function post-surgery, and all patients reported an enhanced quality of life on the quality of life (QOL) questionnaire ($p=0.00011$). The success rate was 66.67%, with three patients experiencing recurrence at a mean of 11 months, subsequently treated with urethroplasty.

Conclusions: This novel prospective human study demonstrates the feasibility, safety, and success of LBMG-augmented DVIU. Further studies are needed to validate these findings.

Funding: N/A

Abstract 22

Optimal frequency used in transcutaneous electrical nerve stimulation (TENS) for treating pelvic pain in adults

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Introduction: Pelvic pain can be a debilitating and often frustrating condition as its origin is not always known. However, new emerging targeted therapies such as transcutaneous electrical nerve stimulation (TENS) have been utilized with success. This study aims to determine what frequency provides optimal pain relief for this patient population as this has not been previously elucidated.

Abstract 21. Table 1. Patient characteristics, intraoperative measures, and outcomes

Patient characteristics			
Number of patients		9	
Median age		29	
Mean BMI		30.16	
Stricture location		Bulbar	
Mean stricture length (cm)		1.72	
Intraoperative measures			
Mean surgical time (mins)		54	
Length of stay (day)		0	
Intraoperative complications		0	
Postoperative complications		0	
Primary outcome			
Success rate		6/9 (66.67%)	
Time to recurrence (mo)		11	
Secondary outcomes		Preoperative	Postoperative
Maximal flow rate (cc/s)	7.2	20.2	0.00044
PVR (cc)	212	58	0.014
IPSS	20	6	0.000035
SHIM	22	24	0.15
QOL	4.44	1	0.00011
GRA	n/a	2.75	n/a

BMI: body mass index; GRA: Global Response Assessment; IPSS: International Prostate Symptom Score; PVR: post-void residual; QOL: quality of life; SHIM: Sexual Health Inventory for Men Questionnaire.

Methods: Twenty-two adults aged 18–90 years old were stratified by gender and randomized into one of three frequency groups (20 Hz, 50 Hz, or 100 Hz). Inclusion criteria were pelvic pain for three months and failure of first-line therapy. Exclusions were new treatment within the last 30 days, contraindications to use, or low initial screening pain score. The participants filled out a visual analog scale (VAS), genitourinary pain index (GUPI), and quality of life (QOL) scale at the time of the first visit and after one week without treatment as baseline scores.

TENS units were used on the posterior tibial nerve for 30 minutes each day for 14 days. At the end of the first and second treatment weeks, participants filled out the same VAS, GUPI, and QOL measures. T-tests were utilized to determine differences in score averages and ANOVA was used for differences in the frequency of score changes.

Results: Analyzing all 22 patients as a group, average pain over the last seven days was significantly reduced across all frequencies (-0.64, 95% CI -1.09 to -0.19, $P=0.008$). The 20 Hz frequency resulted in a significant decrease in pain in the last seven days (-1.10 95% CI -2.06 to -0.14), whereas 50 Hz and 100 Hz did not (-0.50, CI -1.22 to 0.22; and -0.50, CI -1.26 to 0.26, respectively). The reduction in pain at 20 Hz was not different from the decrease seen in the 50 Hz or 100 Hz groups (ANOVA; $P=0.53$). There were no significant differences for worst pain or least pain over the last seven days, pain now, or QOL change. At the second week of treatment, 5/22 (22.7%) of patients had a reduction of greater than or equal to three points on VAS (20 Hz, 20 Hz, 50 Hz, 50 Hz, 100 Hz).

Conclusions: Overall, it appears that TENS may serve as an alternative therapy for those who have failed first-line therapy for their chronic pelvic pain. Additionally, the 20 Hz frequency may provide additional benefit. The sample size of this study limits interpretation and recruitment is ongoing. However, a small percentage of patients (22.7%) experienced a higher level of pain reduction.

Funding: N/A

Abstract 23

Shattering the US urology residency glass ceiling may foster more equitable healthcare for women

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Introduction: Urology, a surgical subspecialty focusing on the diseases of the genitourinary tract, has historically been a male-dominated field. Despite women comprising 53.6% of all US medical students in 2020, their presence in surgical subspecialties like urology continues to lag in gender parity. Furthermore, in 2019, only six out of 133 accredited US urology training programs were led by female division chiefs. In this analysis, we explore the trends of gender distribution amongst US urology residents from 2012–2022.

Methods: This is a quantitative analysis of the Accreditation Council for Graduate Medical Education (ACGME) Resource Book across the years 2012–2022. Demographic data, including race/ethnicity and gender, for US urology residents and urology subspecialty fellowships, was extracted, retrospectively analyzed, and compared to US Census Data using R software V 4.2.1. IRB approval was not required because this was deidentified data from publicly available data.

Results: On average, from 2012–2022, Urology residents were 25.3% female and 75.0% male, disproportionate to the gender breakdown in the US (50.1% vs. 49.9%). This trend, however, has started shifting in the 10 years towards more female representation, with a steady increase of approximately 1% per year, from 23.0% (2012) to 30.4% (2022). Furthermore, female pelvic medicine and reconstructive surgery (FPMRS), a subspecialty within urology that is often underrepresented relative to other urologic subspecialties, experienced a significant rise in female representation, from 75% in 2012 to 86.8% in 2022. Conversely, male representation declined from 25% to 13.2% during the same time frame.

Conclusions: Urology has made strides in gender diversity amongst trainees, but more female representation is crucial. The 11.8% rise in female representation in urological subspecialties like FPMRS underscores this shift towards gender equality in the field. However, a recent study showed 30% of urology residency programs lack FPMRS; this massive deficiency raises concerns about insufficient exposure to FPMRS cases and mentors. Increasing the proportion of female urologists will help create more equitable urologic care for women by increasing participation in FPMRS programs and awareness about this subspecialty. Having more female urologists will also increase gender concordant care, which has been shown to foster better communication, satisfaction, and adherence. Furthermore, with the current generation of urologists being predominantly male, integration of females into leadership roles provides an avenue for mentorship, sponsorship, and mitigation of bias for future trainees.

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Abstract 24

Testosterone-to-estrogen ratios in the general male population

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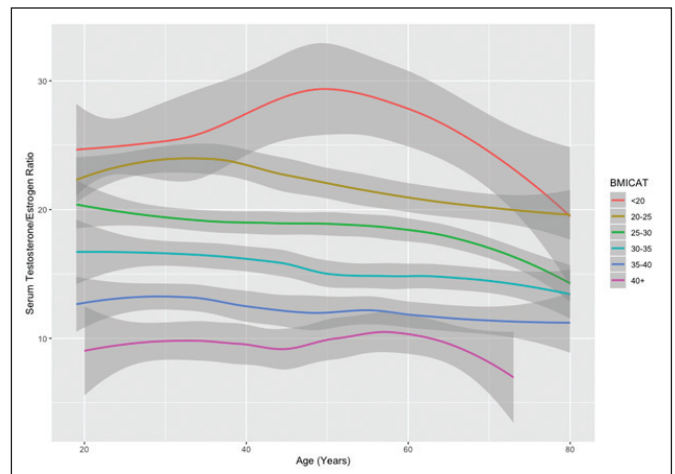
Introduction: Low serum testosterone-to-estrogen (T:E) ratios have been associated with infertility and sexual dysfunction in men. While a 10:1 ratio has traditionally been used to define normal in subgroups of these men, how this correlates to the general male population remains unclear. We, therefore, sought to define the distribution of T:E ratios of adult men in the United States based on cross-sectional data from the National Health and Nutrition Examination Survey (NHANES).

Methods: All programming was done using R Studio. Age, body mass index (BMI), and serum testosterone and estradiol levels were extracted from the NHANES 2015–2016 for all adult males. Multiple regression was used to evaluate the effects of BMI and age. Men were then categorized by BMI (i.e., <20, 20–25, 25–30, 35–40, 40+ kg/m²). T:E ratio was age-adjusted by adding the individual residuals to the median T:E ratio for the entire group. Bootstrapping with 1000 random samplings of 100 values was used to calculate 95% confidence intervals.

Results: The analysis included 2406 adult men. Median (IQR) age and BMI were 49 (33–63) and 27.9 (24.6–32.0), respectively. The median (IQR) T:E ratio was 16.7 (12.4–22.2) for the population as a whole; however, both age and BMI were found to significantly affect the ratio (Figure 1). After adjustment for age, median (IQR) by BMI category was 19.6 (15.2–25.1), 16.2 (12.7–21.0), 13.2 (10.3–17.0), 10.0 (8.0–14.1), and 7.36 (4.9–10.2) for the <20, 20–25, 25–30, 35–40 and 40+ kg/m² BMI groups, respectively. While the 95% confidence interval for the unadjusted T:E ratio was 6.1–35.5 for the group, it was 10.2–38.3 in younger men with lower BMI (i.e., <40 years and <30 kg/m², respectively).

Conclusions: T:E ratio is significantly influenced by both BMI and age. While the traditional threshold of 10:1 is within the 95% confidence interval of the population median as a whole, it is significantly below the median for younger men with lower BMI (i.e., <40 years and <30 kg/m², respectively). Thus, both age and BMI should be considered when interpreting T:E ratios, as a threshold of 10:1 may be inappropriately low for some men.

Funding: N/A



Abstract 24. Figure 1. Serum testosterone-to-estrogen ratio. BMICAT: body mass index category.