

CUA 2023 Annual Meeting Abstracts – Poster Session 10: Sexual Health, Pediatrics

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MP 10.1

Correlation of metabolic derangement with serum total testosterone and PSA levels: A cross-sectional study

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Introduction: Lower urinary tract symptoms (LUTS), erectile dysfunction (ED), and hypogonadism are frequently encountered in aging males. Our objective was to determine if the presence of metabolic risk factors can be associated with LUTS or total testosterone (TT) levels.

Methods: A total of 1087 adult males (≥ 45 years) who participated in an annual public event (2007–2018) were recruited. Participants completed the IPSS, IIEF-5, ADAM, and OAB questionnaires. Systolic/diastolic blood pressure (sBP/dBP), neck/waist circumference, hip length, weight, and height were taken. Total cholesterol, triglycerides (TG), high-density lipoprotein (HDL), low-density lipoprotein (LDL), PSA, and TT were collected. Participants were categorized as per TT (low < 230 ng/dL, intermediate 230–346 ng/dL, and normal ≥ 346 ng/dL) and IPSS (mild [0–7], moderate [8–19], and severe [20–35]). A metabolic risk score was created: 1 point for each criterion (BMI ≥ 30 , TG > 1.7 mmol/L, sBP ≥ 130 , dBP ≥ 85 , HDL < 1.03 mmol/L). ANOVA regressions were performed for the metabolic score assessment (Prism 9).

Results: Median age was 59 years old. TT was ≥ 346 ng/dL in 36%, 39%, and 39% in patients with mild, moderate, and severe LUTS, respectively. A total of 31% of participants had BMI ≥ 30 , 42% had high TG, 23% had low HDL levels, 76% had high sBP, and 45% had elevated dBP. There was no association between metabolic risk score and IPSS ($p=0.3995$) or IIEF-5 scores ($p=0.7367$). TT category and metabolic score were associated (ANOVA, $p=0.0001$). A metabolic score of $\geq 2/5$ was associated with TT < 230 ng/dL. A score of $\geq 3/5$ was associated with PSA of ≥ 2 ng/mL, while a score of $\leq 2/5$ was associated with PSA < 1 ng/mL.

Conclusions: This cross-sectional analysis indicated an association of various metabolic derangements (BMI ≥ 30 , TG > 1.7 mmol/L, sBP ≥ 130 , dBP ≥ 85 , HDL < 1.03 mmol/L) with serum TT and PSA levels, but not with LUTS. Further investigations are required to evaluate the potential health risks of hypogonadism in these individuals and if early diagnosis and interventions on the hypogonadal state can benefit them.

Acknowledgements: The presented work is an update of our previous work presented at the CUA 2022 annual meeting.

MP 10.2

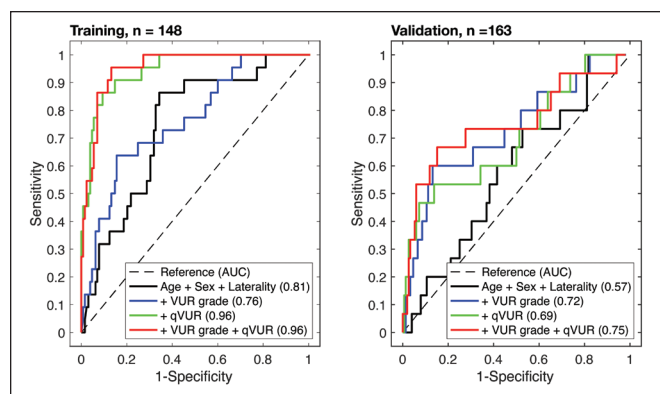
Machine learning approach for prediction of breakthrough urinary tract infection in vesicoureteral reflux: Does grade matter?

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Introduction: We recently developed qVUR, a machine learning tool that uses quantitative measures to predict vesicoureteral reflux (VUR) grade from voiding cystourethrograms (VCUG) using ureteral tortuosity and widths, which was validated across multiple pediatric centers. Given the weak association between VUR grade and clinical outcomes, we aimed to validate qVUR measures to predict breakthrough UTI (bUTI) in VUR.

Methods: We retrospectively reviewed the VUR database at two large pediatric centers. Patient features, VCUGs, and UTI history were abstracted. Patients were



MP 10.2. Figure 1. ROC curves.

included if they received antibiotic prophylaxis after diagnosis of VUR. The primary outcome was bUTI within one year of VCUG. We compared the inclusion of qVUR and VUR grade to baseline risk (age, sex, VUR side), within each model. A Prior-Data Fitted Network (TabPFN) was trained on one center and validated on the other. Performance was assessed by area under the curve (AUC).

Results: A total of 311 patients from two centers were included. The median age at VCUG was 1.4 years, with 39% females. The radiologist-reported VUR grade distribution was II-29%, III-35%, IV-20%, and V-16%; 37 patients (12%) developed a bUTI. Those who developed bUTI had significantly higher VUR grades than those who did not ($p<0.01$). On VCUG, those who developed UTI had significantly increased ureteral widths at proximal, distal, and maximum points ($p=0.01$). In all cases, the addition of VUR severity, measured by either qVUR or grade, increased prediction of bUTI compared to baseline risk (Figure 1). Over training, qVUR significantly improved model performance compared to VUR grade; however, on external validation, there was no significant difference in model performance with qVUR than VUR grade.

Conclusions: VUR severity is associated with increased risk of bUTI. Our model, qVUR, offers improved prediction of these patients; however, further work is needed to optimize the model and elucidate sources of heterogeneity.

MP 10.3

Retrospective evaluation of post-surgical orchalgia in men undergoing no-scalpel vasectomy

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Introduction: Vasectomy is the most effective form of permanent contraception in men. Specifically, the no-scalpel method provides a promising safety profile and a low risk of adverse events. While complications are relatively uncommon, patients can experience chronic orchalgia post-surgically. Current literature quotes a large range in the incidence of chronic orchalgia following no-scalpel vasectomy from 0.6–26%. A more accurate understanding of the incidence of post-vasectomy chronic orchalgia is important for preoperative counselling, patient decision-making, and future research.

Methods: A retrospective review of electronic medical records was performed on all men undergoing no-scalpel vasectomy at Men's Health Clinic Manitoba between April and October 2022. Information regarding preoperative demographics, previ-

ous scrotal surgery, history of orchalgia, and number of children were gathered for all patients. The presence of pain and other complications was collected via patient description at the three-month followup appointment. The incidence of chronic orchalgia among this patient population was then characterized.

Results: A total of 77 men underwent elective no-scalpel vasectomy during this period, with a median age of 36. The majority of patients had no previous history of orchalgia (96%) or history of previous scrotal surgery (91%). At three months post-vasectomy, 10/77 (13%) of patients had ongoing orchalgia to some degree, while 87% did not report postoperative issues or pain. Semen analysis (SA) was only completed by 43/77 (56%) of patients, with 93% of those patients demonstrating azoospermia.

Conclusions: The calculated incidence of chronic orchalgia post no-scalpel vasectomy among our study population provides further evidence to this growing body of literature. A prospective evaluation is currently in preliminary analysis, with evaluation of post-vasectomy pain at three, six, and 12 months. Univariate and multivariate analyses will be conducted to explore associated independent risk factors.

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MP 10.4

Telehealth consultation prior to vasectomy does not impact the likelihood of patients undergoing vasectomy

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Introduction: In-office vasectomy is one of the commonest procedures performed by urologists. Standard practice has historically been to perform an in-office physical exam to ensure the vas deferens were palpable. With the advent of telemedicine, consultation with video and/or audio is offered with subsequent in-office vasectomy. The most critical element of a vasectomy consultation is appropriate counselling, including surgical risks and post-procedural instructions, along with a physical exam. We sought to evaluate if telehealth consultations would impact the likelihood of patients following through with vasectomies. We hypothesized that telehealth consultation would not impact the likelihood of a subsequent vasectomy.

Methods: We used electronic medical records to retrospectively evaluate the number of male patients undergoing a sterilization consult at our center in the past five years. Telehealth consultations have been offered since March 2020 due to the COVID-19 pandemic, and we wanted to capture sufficient data prior to this date. Patients were stratified by whether an in-office consultation or telehealth consultation was performed. We then used billing codes to determine if patients underwent vasectomy. Patients were excluded if their vasectomy was booked but not yet performed. Percentages of patients who subsequently underwent vasectomy were compared using Chi-squared analysis to determine statistical significance. Logistic regression was then performed to identify factors associated with completing vasectomy.

Results: There were a total of 369 patients who underwent a telehealth male sterilization consultation and 1664 patients who were seen in-office. We found that 66.9% of patients who were seen via telehealth consultation ultimately underwent a vasectomy (n=247). There were 64.3% of patients who were seen via in-office assessment who ultimately underwent vasectomy (n=1070). On Chi-squared analysis, there was no difference in the likelihood of undergoing vasectomy between patients who received their sterilization consult via telehealth or in-office assessment ($\chi^2=0.646$, $p=0.724$). Younger age was the only variable on univariate logistic regression that was associated with completing vasectomy ($p=0.002$) via either an in-person or televisit, while BMI, race, and ethnicity did not demonstrate a statistically significant association.

Conclusions: Only 2/3 of the men who see a urologist for a vasectomy consult follow through with a subsequent vasectomy. Younger men are more likely to

proceed with a vasectomy after initial consultation at our center. This is, to our knowledge, the first study to report on the likelihood of following through with a surgical procedure comparing in-office vs. telehealth assessment in male sexual and reproductive medicine. Telehealth consultation prior to vasectomy appears to be an acceptable approach, with comparable rates of undergoing subsequent vasectomy when compared with the traditional in-office pre-vasectomy consultation.

MP 10.5

Testosterone deficiency in developing Peyronie's disease in transgender women: A retrospective study

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Introduction: Peyronie's disease (PD) is a common urological condition that presents as penile deformity associated with fibrosis and penile plaques. Widely accepted theories postulate that PD develops through penile microtrauma during sexual activity that causes penile scars in the tunica albuginea. There has been speculation that the development of PD may be related to decreases in circulating testosterone levels. Gender-affirming hormone therapy (GAHT), as well as orchiectomy, a common gender-affirming surgery, cause a significant reduction in circulating testosterone levels. To date, there have been no published reports exploring the development of PD in transgender and gender-diverse (TGD) patients on GAHT. Herein, we provide the first report of PD in TGD patients who have started GAHT or undergone bilateral orchiectomy.

Methods: A retrospective medical record review was performed on a database of patients who underwent evaluation specifically for PD at a single academic institution specializing in andrology between 2016 and 2022. Six patients who identified as transgender or gender-diverse were found. Patients were included if they had been on testosterone-suppressing medications or had undergone bilateral orchiectomy at least six months prior to their referral date. Cisgendered patients, patients with incomplete medical records, and patients that had been on hormone therapy for less than six months prior to presentation were excluded.

Results: Six patients that presented to clinic with PD and identified as transgender or gender-diverse were included in this pilot study. The mean age of patients was 26.5 years (range 22–34). No patients had a history of penile trauma, penile fracture, or previous penile surgery. There was no history of diabetes, hypertension, or vascular disease. Patients were diagnosed with PD based on history and subjective description of their penile deformity (n=5) or based on photos that were brought to clinic (n=1). All six patients denied erectile dysfunction. No patients elected to proceed with intraliesional injection therapy, surgical therapy, or traction devices.

Conclusions: This is the first study demonstrating the presence of PD in transgender women on anti-androgen medications or post-orchiectomy. This supports the theory PD may be mediated by circulating levels of testosterone. In addition, the data support the concept that low levels of total testosterone and free testosterone are associated with the pathogenesis of PD. Further studies are needed to completely understand the relationship between TD and PD. When initiating GAHT, transgender women should be made aware of PD as a possible consequence of treatment.

MP 10.6 – Prize Essay

A quantitative analysis of voiding cystourethrogram features confirms the association between high-grade vesicoureteral reflux with male sex, younger age, and hydronephrosis: A secondary analysis of the qVUR model

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Introduction: Vesicoureteral reflux (VUR) is commonly diagnosed in the workup of urinary tract infections or hydronephrosis in children. Traditionally, VUR severity is graded subjectively based on voiding cystourethrogram (VCUG) imaging. Here, we characterized the association between age, sex, and indication for VCUG, by employing standardized quantitative features.

Methods: We included renal units with a high certainty in VUR grade (>80% consensus) from the qVUR model validation study at our institution between 2013 and 2019. We abstracted the following variables: age, sex, laterality, indication for VCUG, and qVUR parameters (tortuosity, ureter widths on VCUG). High-grade VUR was defined as grade IV or V. The association between each variable and VUR grade was assessed.

Results: A total of 443 patients (523 renal units) were included, consisting of a 48:52 male/female ratio. The median age at VCUG was 13 months. Younger age at VCUG (<6 months) was associated with greater odds of severe VUR (OR 2.0), and there was a weak correlation between age and VUR grade ($\rho = -0.17$). Male sex was associated with increased odds of high-grade VUR (OR 2.7). VCUGs indicated for hydronephrosis were associated with high-grade VUR (OR 4.1) compared to those indicated for UTI-only. Ureter tortuosity and width were significantly associated with each clinical variable and VUR severity.

Conclusions: Male sex, younger age (<6 months), and history of hydronephrosis are associated with both high-grade VUR and standardized quantitative measures, including greater ureter tortuosity and increased ureteral width. This further supports the role for quantitative assessment to improve reliability in VUR grading.

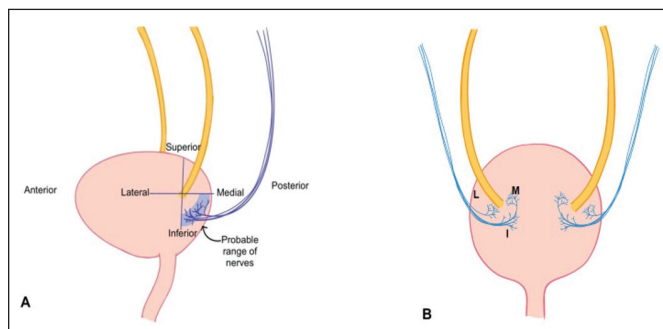
MP 10.7

Vesical branches of pelvic splanchnic nerves entrance to urinary bladder in relation to ureterovesical junction; Informing nerve-sparing ureteric reimplantation surgery

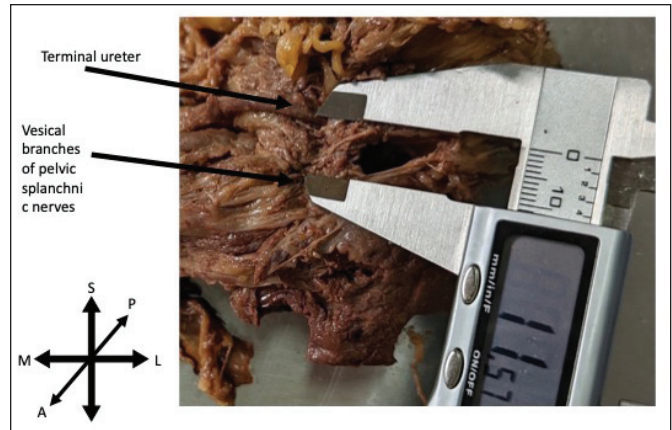
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Introduction: Ureteral reimplantation surgery is the gold standard treatment for children with high-grade vesicoureteral reflux, with a greater than 95% suc-



MP 10.7. Figure 1. Schematic representations of the 2 types of nerve entrance: (A) postlateral view of the bladder showing inferomedial entrance, which was seen in 73.5% of the cadavers; and (B) posterior view of the bladder showing the second pattern of nerve entrance, the nerves entering medial (M), lateral (L), and inferior (I) to the UVJ, which was seen in 26.5%.



MP 10.7. Figure 2. A representative photo showing the inferomedial entrance of nerves (which was seen in 26 of 35 sides).

MP 10.7. Table 1. The distance between UVJ and the entrance of vesical branches of pelvic splanchnic nerves in specimens where the nerves enter inferomedial, which was seen in 25 sides

Cadaver number	Sex	Distance between the entrance of nerves and UVJ	
		Right side (mm)	Left side (mm)
1 (2223)	Female	7.2	7.9
2 (2237)	Female	8.1	8.0
3 (2251)	Male	13.5	13.5
4 (2236)	Male	16.4	16.4
5 (2249)	Male	3.1	3.1
6 (2231)	Female	8.6	8.3
7 (2218)	Male	*	7.8
8 (2226)	Male	7.1	7.1
9 (2244)	Male	8.1	8.1
10 (2229)	Male	9.2	9.2
11 (2214)	Female	9.1	9.1
12 (2215)	Male	9.0	9.0
13 (2212)	Female	7.5	7.5

Only one specimen has a different pattern of entrance between right and left sides. (Measurements are rounded to the nearest one decimal place.) *The nerves entered medial, lateral, and inferior to UVJ.

cess rate; however, epostoperative urine retention is widely recognized due to iatrogenic damage to the vesical branches of the inferior hypogastric plexus. Thus, this study aimed to identify the topography of the entrance of vesical branches of pelvic splanchnic nerves to the urinary bladder in relation to the ureterovesical junction.

Methods: The entrance of vesical branches of pelvic splanchnic nerves into the urinary bladder was investigated in 17 hard-fixed human cadavers (nine males and eight females). Pelvic splanchnic nerves were dissected starting from their origin, and the vesical branches were followed until they entered the urinary bladder. The pattern of entrance was documented, and the distance between

nerves and the ureterovesical junction was measured. The nerves were further confirmed with standard hematoxylin and eosin staining and standard immunohistochemical analysis.

Results: The 34 sides dissected showed that the entrance of pelvic splanchnic nerves into the urinary bladder has two main patterns: inferomedial to the ureterovesical junction and partially surrounding the ureterovesical junction. In 25 of 34 (73.5%), the nerves entered inferomedial to the UVJ (Figures 1 and 2); however, on the remaining nine sides (26.5%), the nerves entered medial, lateral, and inferior to the ureterovesical junction (Figure 1). In cadavers where the nerves entered inferomedially, the distance between the nerves and the ureterovesical junction ranged from 7–16 mm, with a mean distance of 8.9 ± 3.2 mm (Table 1). There was no statistically significant difference between the right and left sides and between males and females in the distance between the entrance of the nerves and the ureterovesical junction. The results from the hematoxylin and eosin staining and immunohistochemistry staining supported the findings of the dissection.

Conclusions: This study has provided the topography of vesical branches of pelvic splanchnic nerves (parasympathetic nerves) entrance into the urinary bladder in relation to the ureterovesical junction. These topographical findings are clinically significant for paediatric urologists and surgeons. Based on our findings, the safe area for ureteral reimplantation is superior to the ureterovesical junction. We did not witness any branches of the pelvic splanchnic nerves entering superior to the ureterovesical junction.

Acknowledgements: The authors would like to thank Priya Modi for her help in creating the schematic representations.

MP 10.8

Voiding efficiency is significantly impaired by the presence of a urethral catheter in children in pressure flow studies (PFS)

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Introduction: Little is known about the effect of catheterization during pressure flow studies (PFS) on voiding efficiency in children. Our objective was to determine the effect of urethral catheterization on Qmax and flow index (FI) during PFS compared to the free flow of uroflowmetry (UF).

Methods: We retrospectively reviewed 63 consecutive children who underwent UF and PFS at our center on the same day (2019–2022). Patients first underwent a UF with a full bladder, then PFS after urethral catheter insertion. Patients with urethral pathologies (n=6), on clean intermittent catheterization (CIC) (n=2), and with major comorbidities (n=2) were excluded. Indications for UF/PFS were LUTS, recurrent UTIs, incontinence, or neurosurgical preoperative evaluation. Data was collected from the UF and the PFS and compared using paired t-test. The idealized Qmax and FI were calculated for UF and PFS using the formulas described by Franco et al: $\text{maleQmax} = 11.26 + 0.0701(\text{TBC} [\text{total bladder capacity}]) - 0.0000513(\text{TBC})$; $\text{femaleQmax} = 10.723 + 0.073(\text{TBC}) - 0.0000423(\text{TBC})$, $\text{FI} = \text{actualQmax} / \text{expectedQmax}$.¹⁻³

Results: The median age was seven years. Twenty-one (39.6%) patients were male and 32 (60.4%) patients were female. QmaxPFS was 5 mL/s less than QmaxUF, representing a decrease of 29% (12.3 vs. 17.3 mL/s, $p < 0.0001$). PVR when comparing PFS (done by CIC) to UF (done by ultrasound) were similar (30 vs. 25 mL, $p = 0.5774$). The mean FIPFS was 50%, representing a 24% reduction from the 74% FIUF ($p < 0.00001$). The impact of urethral catheter during PFS was more significant in males vs. females (Qmax decreased by 7.7 vs. 3.3 mL/s, or 45 vs. 19%; FI decreased by 31% vs. 19%, respectively).

Conclusions: This is the first study on the impact of urethral catheterization in children. Qmax decreased by 29% and voiding efficiency as measured by the flow index decreased by 24% during PFS compared to UF. Males, with an anatomically longer urethra, were particularly affected. We suggest that low flow parameters on PFS be interpreted with caution.

Acknowledgements: A draft of this work was presented at the SPU 2022 in Las Vegas. Authors thank Dr. Israel Franco for the feedback then received regarding voiding efficiency analysis in children, which allowed us to update our work and data analysis.

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MP 10.9

Using routine sonographic findings to determine obstruction in children with hydronephrosis

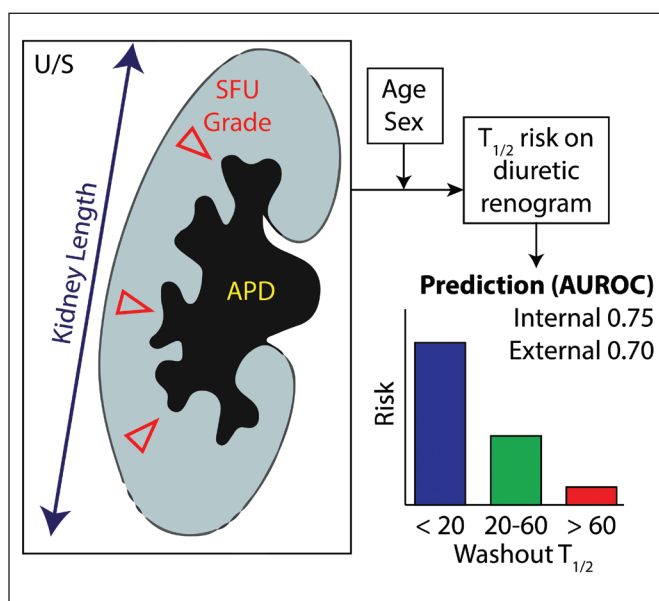
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Introduction: For children with hydronephrosis (HN), the diuretic renogram (DR) is the gold standard in evaluating patients with suspected obstruction. Here, we aimed to use routinely reported ultrasound findings, along with machine learning approaches, to predict obstruction on DR.

Methods: We included patients less than 24 months of age at baseline with a DR within three months of ultrasound at two separate institutions. Age, sex, and routinely reported ultrasound findings (laterality, kidney length, anteroposterior diameter [APD], SFU grade) were abstracted. T_{1/2} washout periods were collected from renography and stratified as low (<20 minutes), intermediate (20–60 minutes), and high (>60 minutes) risk of obstruction. A random forest model was trained to classify risk, referred to as AI Evaluation of Renogram Obstruction (AERO). Model performance was determined by measuring area under the receiver-operator-characteristic curve (AUROC) and decision curve analysis.

Results: A total of 304 patients met the inclusion criteria, with a median age of DR at four months. Of all patients, 48 (16%) were low-risk, 102 (33%) were intermediate-risk, and 156 (51%) were high-risk of obstruction based on DR. AERO achieved a multiclass AUROC of 0.75 on internal training, and an AUROC



MP 10.9. Figure 1. AI evaluation of renograph obstruction.

0.70 on external validation (n=64), and was superior to logistic regression in all cases (Figure 1). The most important features for prediction included age, APD, and SFU grade. At a threshold cutoff of 30%, AERO would allow 137 more patients per 1000 to safely avoid a renogram without missing significant obstruction compared to previous guidelines, which indicates DR for SFU \geq 3 HN. We deployed our model in an easy-to-use web application (<https://sick-kidsurology.shinyapps.io/AERO/>).

Conclusions: Routine ultrasound findings can provide some benefit in determining cases where DR can be safely deferred in children with isolated HN, thus offering the potential to minimize invasiveness of monitoring.

MP 10.10

Prevalence of psychiatric symptom groupings in pediatric patients with bladder and bowel dysfunction

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Introduction: The incidence of concomitant neuropsychiatric disorders in conjunction with bladder and bowel dysfunction (BBD) is thought to be higher than the general population. The diagnosis of these disorders with validated tools and their management may improve urological outcomes. The objective of this study was to determine the prevalence of neuropsychiatric symptom groupings in patients presenting with BBD.

Methods: Consecutive patients 6–18 years old with a clinical diagnosis of BBD (score \geq 11 on the Vancouver Symptom Score [VSS]) and no prior psychiatric diagnosis were recruited. Two validated questionnaires (Child Behavior Checklist for ages 6–18 [CBCL] and Autism Spectrum Quotient 10-items [AQ-10]) were used to screen for neuropsychiatric comorbidities. Descriptive statistics for demographic variables were presented. Distribution of VSS for normal and abnormal categories (borderline/clinical) of CBCL scores were compared by Mann-Whitney U test. Spearman correlation coefficient was used to examine the relationship between VSS domain scores and CBCL.

Results: From September 2017 to May 2022, 50 of 110 eligible patients completed the study. Median VSS was 18 (11–33). In 36 patients (72%), at least one of the CBCL subscales scored as borderline/clinical (Table 1). Thirty-two patients (64%) scored abnormally for internalizing symptoms, 21 (42%) for externalizing symptoms, and 31 (62%) for total problem scores. Four of 38 (11%) scored >6 on the AQ-10, making autism likely. The only significant correlation found between CBCL and VSS was with the bowel habit domain of VSS and internalizing CBCL T-scores (p=0.02).

Conclusions: This study shows a high prevalence of psychiatric symptom groupings in patients presenting with BBD, with a higher prevalence of internalizing and externalizing symptoms and autism than reported in the general population.

MP 10.10. Table 1. Proportion of participants with scores in the abnormal range for CBCL/6-18 subscales (N=50)

Subscale	Borderline/clinical range, n (%)
At least one of the below:	36 (72)
Anxious-depressed problems (internalizing)	20 (40)
Withdrawn-depressed problems (internalizing)	15 (30)
Somatic problems (internalizing)	26 (52)
Social problems	11 (22)
Thought problems	19 (38)
Attention problems	14 (28)
Rule-breaking behavior (externalizing)	9 (18)
Aggressive behavior (externalizing)	11 (22)

These findings should encourage urologists to use validated tools to screen for these comorbidities, prevent unnecessary testing, save valuable health resources, and potentially improve treatment outcomes of BBD in this population.

Acknowledgements: This abstract was submitted for presentation at the 2023 AUA annual meeting.

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MP 10.11

Early outcomes and risk factors for complications following pediatric neurogenic bladder reconstruction: A secondary analysis of the Pediatric NSQIP database (2015–2020)

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Introduction: Surgical management of the neurogenic bladder (NB) includes augmentation cystoplasty (AC), bladder neck reconstruction (BNR), Mitrofanoff procedure (MP), and cecostomy (MACE). Often, patients undergo combinations of these procedures. The objective of this study was to determine the 30-day outcomes of pediatric NB surgery and to identify independent risk factors for an early adverse outcome.

Methods: This was a secondary analysis of prospectively collected data from the National Surgical Quality Improvement Program (NSQIP) Pediatric database from 2015–2020. Patients <18 years of age with a diagnosis of NB and procedures defining NB reconstruction were included. Patient demographics, perioperative variables, operative timing, 30-day readmission/reoperation data, and surgical complications were analyzed. Patients were grouped into four surgical categories: AC \pm MP; BNR; AC+BNR+MP \pm MACE; MP only. A multivariate analysis was conducted to identify risk factors for 30-day readmission and reoperation.

Results: A total of 700 patients underwent at least one of the surgeries of interest. The median age at surgery was 10.3 years (IQR 6.6–13.6), 58.3% were female, and the median BMI was 19.4 (IQR 16.2–23.4). The rate of readmission within 30 days was not significantly different by type of procedures; however, the need for reoperation within 30 days was significantly different between the surgical groups (p=0.019) (Table 1). Logistic regression analyses indicated that sex, age, BMI, and operative time did not predict 30-day readmission and reoperation.

Conclusions: Our study suggests that increasing the number of surgical interventions is associated with higher rates of reoperation. Increasing age and BMI,

MP 10.11. Table 1. Readmission and reoperation rates for pediatric patients undergoing neurogenic bladder surgery from the NSQIP-Pediatric database from 2015–2020

	Overall (N=700)	Bladder neck reconstruction (n=88)	Bladder augmentation ± Mitrofanoff (n=298)	All surgeries (n=81)	Mitrofanoff only (n=233)	p
% (n)						
Readmission						0.062
Yes	15.1 (106)	11.4 (10)	17.1 (51)	22.2 (18)	11.6 (27)	
No	84.9 (594)	88.6 (78)	82.9 (247)	77.8 (63)	88.4 (206)	
Reoperation						0.019
Yes	8.0 (56)	4.6 (4)	10.1 (30)	13.6 (11)	4.7 (11)	
No	92.0 (644)	95.5 (84)	89.9 (268)	86.4 (70)	95.3 (222)	

did not predict readmission or reoperation. These findings may help physicians prognosticate patient outcomes and support counselling of patients and families prior to these major surgical interventions.

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MP 10.12 Sexual health implications associated with psychotropic medication usage in adolescents during the COVID-19 pandemic: Analysis of a federated research network

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Introduction: Psychotropic medications have a significant impact on sexual health. Long-term usage is strongly associated with dyspareunia, decreased libido, hypogonadism, and erectile dysfunction. We hypothesized that the prescription rates for psychotropic medications increased in adolescent patients during the COVID-19 pandemic because of the unprecedented stress levels on youth in isolation. Therefore, we evaluated the prescription rates of psychotropic medications, as well as concurrent use of PDE5i, in adolescent patients during the COVID-19 pandemic compared to the pre-pandemic era.

Methods: We used data generated from TriNetX Research Network to conduct a retrospective, matched-cohort study. Adolescent patients aged 10–19 presenting for outpatient evaluation were placed into two cohorts: 1) outpatient evaluation before and 2) during the COVID-19 pandemic. Patients with prior psychiatric diagnoses and those with prior use of psychotropic medications were excluded. The outcomes of interest were new prescriptions within 90 days of outpatient evaluation. Propensity score matching was performed using logistic regression to build cohorts of equal size.

Results: A total of 1 612 283 adolescents pre-COVID-19 and 1 008 161 adolescents presenting during the COVID-19 pandemic for outpatient evaluations were identified. After propensity matching, a total of 1 005 408 adolescents were included in each cohort, each with an average age of 14.7±2.84 years; 52% were female and 48% were male. Prescribing of antipsychotics and benzodiazepines was more frequent during the pandemic for adolescents (risk ratio [RR] 1.58, 95% CI 1.01–2.2); however, they were less likely to receive antidepressants (RR 0.6, 95% CI 0.57–0.63), anxiolytics (RR 0.78, 95% CI 0.75–0.81), and stimulants (RR 0.26, 95% CI 0.25–0.27), as well as mood stabilizers (RR 0.44, 95% CI 0.39–0.49). Erectile dysfunction requiring oral PDE5i in this cohort was more frequent during the pandemic for adolescents (RR 1.53, 95% CI 1.05–2.01).

Conclusions: The rates of antipsychotic and benzodiazepine prescriptions increased during the COVID-19 global pandemic compared to preceding years. This coincided with a statistically significant increase in the prescription of PDE5i for erectile dysfunction. Clinicians must be cognizant of the fact that adolescents may face an increased risk of medication-related sexual dysfunction.

UP 10.1

Are primary and re-do testicular sperm aspiration equally effective in men with severe oligoasthenoteratozoospermia, cryptozoospermia, and obstructive azoospermia?

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Introduction: Testicular sperm aspiration (TESA) is a minimally invasive testicular sperm retrieval technique that has been used in the treatment of male factor infertility. We sought to evaluate sperm retrieval rates (SRR) in men undergoing primary and re-do TESA.

Methods: We conducted a retrospective study of 414 TESAs (primary and re-do) in men with severe oligoasthenoteratozoospermia (OAT, n=133), cryptozoospermia (n=14), and obstructive azoospermia (OA, n=267). TESA was deemed successful when at least five spermatozoa were rapidly identified after examination of two separate microscopic fields or after identification of ≥5 spermatozoa following multiple TESA attempts.

Results: In men with severe OAT, cryptozoospermia, and in those with OA, SRR requirement for bilateral aspirates and proportion of cases with motile sperm in testicular aspirates at re-do TESA was not significantly different from primary TESA; however, in men with severe OAT and in those with OA, the total number of aspirates was significantly greater at re-do compared to primary TESA (1.9±1.9 vs. 1.4±0.1 and 1.5±0.5 vs. 1.2±0.2, respectively, p<0.05) (Tables 1–3).

Conclusions: Our findings suggest that TESA for severe OAT, cryptozoospermia, and OA is an effective method of testicular sperm retrieval, whether

UP 10.1. Table 1. Primary and re-do TESA outcomes in men with severe OAT

	Primary TESA	Re-do TESA	p
Numbers	119	14	
Age (years)	38.4±7.6	41.4±14.9	NS ^a
Sperm retrieval rate (SRR) %	95%	93%	NS ^b
Aspirates with motile sperm %	83%	79%	NS ^b
Mean number of aspirates (±SD)	1.4±0.1	1.9±1.9	0.03 ^a
Cases requiring bilateral aspirates %	2%	7%	NS ^b

^aMann Whitney rank sum test. ^bFisher's exact test.

UP 10.1. Table 2. Primary and re-do TESA outcomes in men with cryptozoospermia

	Primary TESA	Redo TESA	p
Numbers	9	5	
Age (years)	34.3±5.0	38±5.4	NS ^a
Sperm retrieval rate (SRR) %	44%	80%	NS ^b
Aspirates with motile sperm %	11%	60%	NS ^b
Mean number of aspirates (±SD)	1.9±0.4	2.2±1.1	NS ^a
Cases requiring bilateral aspirates %	22%	20%	NS ^b

^aMann Whitney rank sum test. ^bFisher's exact test.

UP 10.1. Table 3. Primary and re-do TESA outcomes in men with obstructive azoospermia

	Primary TESA	Redo TESA	p
Numbers	219	48	
Age (years)	43.5±7.8	47.7±8.8	0.003 ^a
Sperm retrieval rate (SRR) %	99%	98%	NS ^b
Aspirates with motile sperm %	95%	96%	NS ^b
Mean number of aspirates (±SD)	1.2±0.2	1.5±0.5	0.01 ^a
Cases requiring bilateral aspirates %	3%	2%	NS ^b

^aMann Whitney rank sum test. ^bFisher's exact test.

performed as a first or as a re-do procedure. Nonetheless, the data suggest that re-do TESA for OAT and OA requires a greater number of aspirates than a primary TESA, which may or may not be due to alterations in spermatogenesis because of the initial TESA or aging.

UP 10.2

Microsurgical operating times using a standard operating microscope compared with the ORBEYE 4K 3D exoscope

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Introduction: Microsurgery for male infertility is one of the most technically demanding procedures urologists perform. The Olympus® ORBEYE 4K 3D exoscope has become increasingly popular in academic male infertility centers. There are few studies that have evaluated the microsurgical operative times associated with the use of this novel technology, therefore, we sought to evaluate our initial experience using the ORBEYE. We hypothesized that surgical times would be decreased with the use of the ORBEYE compared to the standard operating microscope during vasectomy reversal and microsurgical varicocelectomy.

Methods: We used electronic medical records to retrospectively evaluate surgical times in patients undergoing either vasectomy reversal or microsurgical varicocelectomy. Patients were excluded if they underwent other procedures concurrently. The type of operating microscope used was recorded. Mean and median operative times were calculated for vasectomy reversals and varicocelectomy, respectively. The Shapiro-Wilk test was then used to determine normalcy of distribution.

Results: A total of 712 patients were identified, with 698 patients being included after exclusion criteria were applied. Surgical times were decreased in vasectomy reversal (16.5 minutes, IQR 202.5–242.5), unilateral varicocelectomy (3.1 minutes, SD 24.5), and bilateral varicocelectomy (2 minutes, SD 23.3). An independent samples T-test was performed, demonstrating no statistically significant difference in operative times between the standard operating microscope and the ORBEYE ($p=0.147$, 95% CI -4.357, 27.313). The independent samples Mann-Whitney U test demonstrated no statistically significant differences between operative times during unilateral or bilateral varicocelectomy.

Conclusions: Microsurgery for male infertility is a technically demanding procedure requiring the use of a high-quality operating microscope for optimal surgical outcomes. The use of the ORBEYE 4K 3D operating microscope resulted in decreased operative times in both vasectomy reversals and microsurgical varicocelectomy performed at our center. While not achieving statistical significance, there was a trend towards decreased operative times regardless of the procedure. At a minimum, the use of the ORBEYE 4K 3D microscope was not associated with increased surgical times. Evaluating the surgical outcomes associated with the ORBEYE is an important area of future research.

UP 10.3

Role of preoperative pelvic floor muscle training in postoperative erectile dysfunction in prostate surgery: Systematic review

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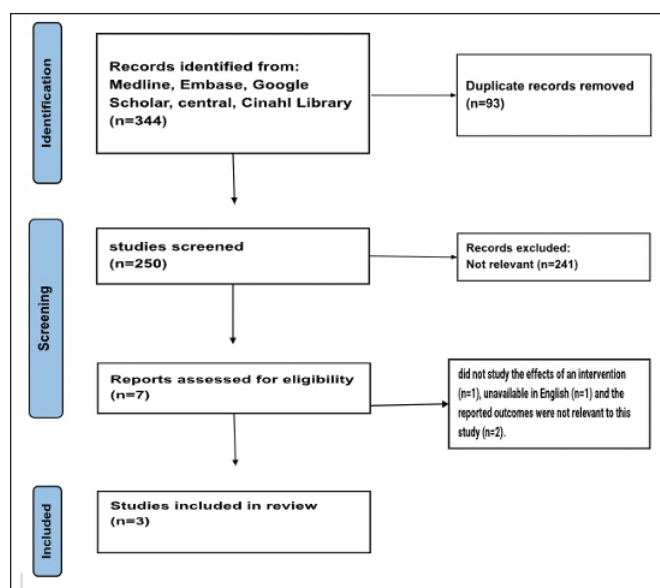
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Introduction: The societal effects of prostate cancer are profound, affecting one in six men across their lifetime. Radical prostatectomy remains one of the main treatment modalities in the care of prostate cancer; however, one of the challenges associated with this procedure is postoperative erectile dysfunction (ED), which can have a negative impact on a person's quality of life. The role of postoperative pelvic floor muscle training in improving postoperative ED has been shown; however, there is no inclusive evidence of preoperative pelvic floor muscle training (PPFMT). Therefore, this systematic review aimed to assess the impact that PPFMT has on postoperative erectile function.

Methods: A search was conducted on Medline, Embase, Cinahl, and Google Scholar with the assistance of a subject expert librarian. A total of 342 articles were located and after removing duplicates, 250 articles remained. Following abstract and title screening, seven articles met the inclusion criteria, and the full text of these articles was sought and reviewed. After a full-text review, three studies were ultimately included in the systematic review, and data was extracted from these studies (Figure 1).

Results: Two randomized control trials (RCT) and one experimental trial were included in the systematic review. The case groups, in one RCT, received 120 contractions per day for five weeks prior to surgery, and in the other one, two preoperative PPFMT sessions including exercises and electromyographic biofeedback; however, the experimental study showed a significant difference in improvement in postoperative ED in the case group that received 10 physiotherapy sessions with a biofeedback device and found improvement in erectile function. Moreover, the ED rate was 5% for the experimental group, while it was 48.6% for the control group.

Conclusions: Based on this systematic review of three articles, it appears that PPFMT can be effective in improving postoperative erectile function; however, the number of sessions (the increased number) and the services provided (i.e., biofeedback) play a role in the effectiveness of PPFMT in reducing postoperative ED. Of note that the data is still limited and future research in this area is warranted.



UP 10.3. Figure 1. PRISMA flowchart for the systematic review.