Poster Session 3: Education, Laparoscopy, Robotics, and Surgical Innovation
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Abstract #31

Redefining urology residency applicant preferences in the new era of the match

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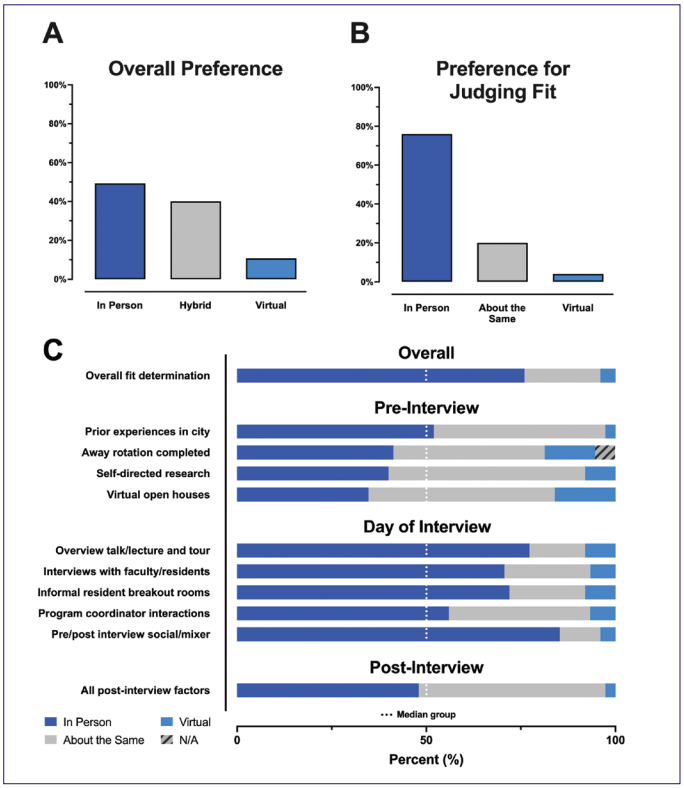
Introduction: The 2024–25 AUA match cycle was the first since pre-COVID times to allow the return of in-person interviews. In prior years, applicants have progressively grown to favor virtual interviews over returning to an in-person format; however, a surprising lack of consensus still exists among applicants and program directors regarding the best and most equitable choice for interview formats going forward. Our aim was to assess urology residency applicants' preferences and perspectives regarding key issues in the urology match in this new era of mixed-format interviews.

Methods: We surveyed applicants to our urology residency program from the 2024–2025 AUA match cycle. The primary aim was to assess applicant preferences and experiences by interview format: virtual vs. in-person. The secondary aim was to assess applicants' confidence in judging their "fit" with potential residency programs by interview format and based on various factors throughout the application cycle, grouped as pre-interview, day of interview, and post-interview. Additional secondary aims included investigating applicant costs/expenses, decision-making processes, factors most important for judging fit, and the role of hybrid interview formats.

Results: Response rate was 45% (75/166). Applicants attended 13 interviews on average, seven in person and six virtual. Only 10% of invitations included a hybrid option, and just 9% offered any financial aid. Applicants strongly preferred in-person interviews (49.3%) or hybrid formats (40.0%) compared to virtual (10.7%). For judging fit, an even larger majority preferred in-person (76.0%) over virtual (4.0%), especially on the interview day itself. Applicants spent $4994 total (applications: $1913, interviews: $3081), averaging $410 per in-person interview. Nearly all applicants felt the costs and travel time of in-person interviewing were worth it (91% and 95%, respectively); however, 19% of applicants had to decline one or more in-person interviews due to costs (Figure 1).

Conclusions: Urology applicants now largely favor in-person interviews over virtual, especially when judging "fit", and believe they are worth the increased costs and logistical challenges; however, financial constraints limited the access to interview opportunities for a substantial cohort. Future innovations in the urology match may explore broader implementation of hybrid interview formats as issues of applicant preferences and equity are balanced.



Abstract #31. Figure 1. Applicant preferences and "fit" judgment.

Abstract #32

Intermediate outcome of Optilume in vesicourethral anastomotic stenosis

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Introduction: The off-label use of Optilume for vesicourethral anastomotic stenosis (VUAS) has been rarely studied. This study sought to evaluate the intermediate-term outcomes of Optilume in patients who were diagnosed with VUAS.

Methods: We conducted a retrospective chart review on patients who were diagnosed with VUAS and were treated with Optilume by a single surgeon from April 2023 to the present (still ongoing). We descriptively presented the basic characteristics, frequency of previous treatments (dilations and/or VUAS incision and their respective recurrence intervals), and Optilume recurrence-free (defined as successful cystoscopy) and recurrence interval.

Results: Among seven males averaging 72.9 years treated for VUAS, comorbidities included diabetes (28.5%), hypertension (85.7%), and coronary artery disease (57.1%). Historically, these patients had a mean of three prior urethral dilations and one VUAS incision, with recurrences noted at 22.3 and 55 days, on average, respectively (Table 1). Post-Optilume intervention, an extended average recurrence-free interval of 549 days was achieved in four patients (57.1%), a notable increase compared to previous therapies. Three recurrences at 38, 51, and 40, days were observed; the earlier one was attributed to device-related technical issues. This preliminary data reflects a substantial improvement in managing VUAS with Optilume, suggesting its effectiveness in prolonging the duration between interventions.

Conclusions: Optilume shows promise as an effective intermediate-duration treatment for VUAS, offering longer recurrence-free periods than conventional methods. While initial results support its role as a transitional therapy before urethroplasty, further research with more participants and longer followup is needed to confirm these findings.

Abstract #34

Robotic ureteroplasty with buccal mucosa graft: A single-institution experience

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Introduction: Augmented ureteroplasty with buccal mucosal graft for ureteral strictures has become an increasingly common reconstructive approach. This study describes our outcomes at a single institution of using a non-transecting buccal mucosa graft ureteroplasty for the management of both primary and recurrent ureteral strictures causing obstruction.

Methods: We performed a retrospective review of a single institution in patients who underwent buccal mucosa graft ureteroplasty between January 2020 and June 2024 for management of ureteral strictures. The primary outcome was need for reintervention for recurrent obstruction.

Secondary data included time to re-intervention, presence of hydronephrosis on postoperative imaging, complications, and pre- and postoperative creatinine.

Results: Overall, nine patients were included in our analysis; 33% of patients had a previous reconstruction. The location of the strictures varied, with 44% involving UPJ, 33% proximal ureter, and 11% mid-ureter. None of the patients had a stent at the time of surgery; 22% had a nephrostomy tube present. The median stricture length was 1.8 (interquartile range [IQR] 1.3–3.4] cm. At a median followup of two years (IQR 0.3–2.6), 89% of patients did not require any re-intervention for obstruction. The median time to re-intervention was 16 months. Patients who had prior ureteroplasty had a median followup of 3.6 years and none required re-intervention for obstruction; 33% of patients had some degree of hydro on followup imaging. There was no significant difference in pre- vs postoperative creatine. There were two complications managed with antibiotics and prolonged indwelling stent postoperatively.

Conclusions: Buccal mucosa graft ureteroplasty is a valuable non-transecting surgical option for patients with both primary and recurrent ureteral obstructions. We describe comparable outcomes to the literature regarding standard transecting techniques.

Abstract #35

Enhancing vasectomy training with a hydrogel simulation model: Resident perceptions of realism and surgical steps

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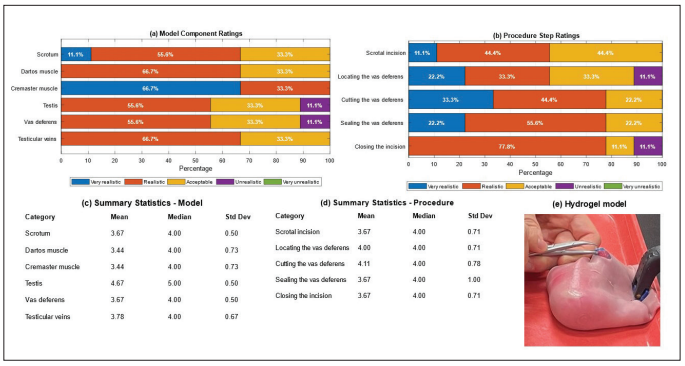
Introduction: Vasectomy is a common outpatient procedure, yet few simulation models exist for training. We developed a hydrogel-based vasectomy simulation model and evaluated the model's realism and educational effectiveness with urology residents' feedback.

Methods: The hydrogel model consists of a scrotum, dartos muscle, cremaster muscles, testes, vas deferens, and the pampiniform plexus, created using injection molding of polyvinyl alcohol (PVA) hydrogel into plastic 3D-printed molds. Nine residents (five junior, four senior) performed a simulated vasectomy on a single vas deferens during a workshop at the University of Rochester. After using the model, participants completed a survey that included five-point Likert scales to measure the realism of the simulated vasectomy. Participants also provided feedback on the effectiveness of the model as a teaching tool.

Results: The average number of vasectomies completed by the residents prior to the simulation was six, with an average of one being completed entirely by the resident. Figures 1A and B show the resident ratings of model components and procedure step realism. Most of the components were deemed acceptable or higher in terms of their realism. As indicated in Figures 1C and D, the testis was the most realistic model component of the model (mean=4.67), and cutting the vas deferens was the most realistic procedural component (mean=4.11). The dartos and cremaster muscles received the lowest ratings (mean=3.44).

Conclusions: Nine urology residents rated the hydrogel-based vasectomy simulation model as overall realistic and acceptable. The high ratings for the testis and vas deferens cutting step suggest strong anatomical and procedural fidelity. Although the dartos and cremaster muscles received lower scores, feedback supports the model's potential as an effective training tool. Future refinements can further enhance realism, improving its utility in vasectomy training.



Abstract #35. Figure 1. Stacked bar charts summarizing composite and model component ratings (A) with summary statistics (C) and procedure step ratings (B) with summary statistics (D). Hydrogel vasectomy model in use depicting vas deferens isolation and skeletonization (E).

Abstract #36

Urology applicant perspectives on interview format and social media: A qualitative study

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Introduction: The 2024–25 AUA match cycle marked a return to in-person interviews after several years of virtual formats. Currently, no clear consensus exists on which interview format offers the best and most equitable experience for applicants. Additionally, while social media became a crutch when in-person activities ceased, it is unclear if this importance persists. Given the uncertainty surrounding these decisions going forward, qualitative data summarizing applicant preferences and perspectives may be particularly valuable as programs decide the future direction of the AUA match.

Methods: We screened and surveyed applicants to our residency program from the 2024–2025 AUA match cycle using multiple-choice and free-text responses. The primary aim was to assess applicant perspectives regarding residency interview format and how this affected their assessment of "fit" with programs. Secondary aims included collecting suggestions for future changes and improvements to the match, as well as assessing program social media presence and how this impacted applicant "fit" determinations. Quantitative data were summarized, and qualitative data were analyzed with grounded theory to identify emergent themes.

Results: Overall survey response rate was 45% (75/166). Emergent themes revealed that applicants preferred in-person interviews based on a superior ability to assess program culture and build connections with residents and faculty. Despite this, costs remained a major barrier. Suggested improvements included coordinating in-person events by region to reduce travel, standardizing interview formats across programs, and minimizing the financial burden. Applicants also emphasized the need for accurate and transparent websites, active social media presences, and informal video content to highlight program culture. Applicants preferred to gather information about residencies via program websites (52%) or word of mouth (35%), and 52% found websites to often be helpful in assessing "fit." Instagram was the most preferred social media platform for determining "fit" (41%), followed by Twitter/X (37%) (Table 1).

Conclusions: Urology residency applicants strongly prefer in-person interviews for assessing program culture and determining "fit," even as financial considerations remain a significant barrier. Applicants also emphasized the importance of accurate and transparent online content. These qualitative results may be uniquely useful to program directors in shaping future match innovations, such as regionally coordinated interview events and strategies to reduce financial burdens and improve equity.

Abstract #36. Table 1

Themes and Representative Quotes [a]	Summary Comments
Judging "Fit" by Interview Format	
Strengths of in-person interviews *"It was easier to connect with and interact with residents in person, rather than virtually"* *"Preference often went to in-person formats compared to virtual because I felt more confident in my ability to judge the personnel at the program"*	• In-person interactions were seen as a major advantage compared to those in virtual formats • In-person formats allowed applicants to be more confident in their observations
Challenges of the virtual setting *"In person I was able to more easily rule a program in or out while virtual I had more difficulty judging the program"* *"I felt more skeptical about my impressions of programs where I had a virtual interview"*	• Applicants expressed frustration with being unable to judge "fit" in a virtual format, often due to less confidence in their observations
Overall Preferences for Interview Format	
Preferring in-person format despite costs *"In-person allows for a much better feel for the program, which is... worth the increased cost"* *"In person is the best option because it truly allows you to understand if you can see yourself at that program. While it is costly, it is worth it"*	• The majority of applicants preferred in-person formats and viewed the associated costs as a worthwhile investment into their future
Preferring virtual interviews due to costs *"I still prefer virtual because the cost is not worth it"* *"In-person interviews were valuable to see interactions between residents as well as with attendings and the collegiality, but I don't think the financial burden justified this"*	• Some applicants expressed frustration with the costs required by in-person formats, causing them to prefer virtual alternatives
Suggested Changes to Application and Interview Cycle	
Scheduling and coordination improvements *"More coordination among programs for interview dates [would be helpful]"* *"More collaboration between programs in similar geographic locations for interview dates"*	• Applicants desired coordination of in-person interview dates across programs, especially those in similar geographic regions
Interview format standardization *"Programs [should] offer the same interview format... scheduling [was] a lot more difficult"*	• Several applicants wanted programs to offer only virtual or in-person interviews, not both
Financial assistance from programs *"Programs should bear more of the cost of applications and travel expenses. Students do not have an income, and the costs simply put us more into debt"*	• Applicants believed programs should provide financial aid to support in-person interviewing
Exceptions for applicants completing away rotations *"It would be easier for applicants to interview in person while on an away rotation"* *"Students who have done an away rotation... should [only] be asked to come back virtually"*	• Numerous suggestions focused on ways to streamline interviewing for those who had already completed away rotations
Social Media and Judging "Fit"	
Residency program website accuracy *"Most of the program websites that I looked at either had no information about the actual structure of the program or were years out of date and no longer accurate"*	• Residency program websites were valued, but notably lacking in comprehensive, accurate, and/or updated information
Social media posting activity *"Places that posted regularly, and it seemed less curated, were places where I was able to judge if I would fit within the program better"*	• Applicants preferred consistent and genuine activity on social media platforms with posts extending beyond just the interview season
Resident-driven and informal content *"Making social media informal helps determine fit... it is really nice when programs show their 'true colors'"*	• Informal social media content allowed applicants to better assess program culture
Increased use of videos *"Programs could do a better job of utilizing YouTube. Videos could include going over the program curriculum, day in the life of each resident year, and the facilities"*	• Applicants especially value video social media content when evaluating residency programs

[a] Minor edits were made to grammar and punctuation to enhance quote readability. Words added for clarification are shown in [brackets] and words omitted for brevity are indicated with an ellipse (...). No edits were made if there was a risk of altering or shifting the quote's intended message.

Abstract #37

Utilizing hands-on workshops to promote interest in urology and robotic surgery among first-year medical students

Alyssa Konopaski[1], *Murali Kovvuri*[1], *Samuel Ding*[1], *Christopher Shannon*[1], *Nahom Zewde*[1], *Tatum Tarin*[1,2]

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Introduction: The field of urology has experienced significant advancements with the integration of robotic-assisted surgery, offering improved precision, reduced recovery times, and enhanced surgical outcomes. Despite these innovations, medical student interest in urology remains limited, often due to misconceptions about the field and a lack of early exposure. This survey study explores how incorporating robotic surgical technology into medical education can enhance engagement, provide hands-on learning opportunities, and ultimately increase student interest in pursuing urology as a career.

Methods: The University of Pittsburgh School of Medicine Urology Interest Group hosted two robotic surgery workshops for preclinical students to promote familiarity with the da Vinci® console through games and simulations. Attendance was open to all first-year students, with sessions offered in October 2024 and January 2025, the latter of which incorporated using the da Vinci® in an operating room. All attendees completed at least one simulation with guidance from a urologic oncologist. After obtaining IRB approval, a voluntary survey using Likert scale and open-ended questions was administered via email in March 2025. Responses were analyzed by descriptive statistics performed on R version 4.4.0 and thematic analysis.

Results: Survey completion rate was 92% (n=13). Responses to Likert-style questions were attributed to a five-point scale, where 1 was strongly disagree and 5 was strongly agree; 69% of the students reported an increased interest in urology, while 92% reported an increased interest in robotic surgery. Increased interest in urology was similar between those who participated in one (median 4; IQR 1, n=3) or both (nedian 5; IQR 1, n=10) sessions despite variability in offered experiences. Overall, participants agreed that the experience improved their skills in manipulating the robot (median 5; IQR 1) and that they would benefit from robotic surgery education in their preclinical years (median 5; IQR 1). The following themes emerged from open-ended responses: the novelty of robotic surgery to students, the usefulness of workshops in refining specialty interest, and the desire for further exposure.

Conclusions: Hands-on robotic workshops are highly desirable and beneficial to first-year medical students. For many, these novel interactions with urology and robotic surgery can effectively foster interest in these fields. By providing early exposure to robotic surgery and urology, we can inspire students to seek shadowing opportunities, mentors, research projects, and eventually clinical electives or acting internships. Therefore, hands-on workshops can improve the quality and diversity of future applicants to urology and other surgical subspecialties.

Abstract #38

The dark side of perfectionism and the benefits of grit in urology

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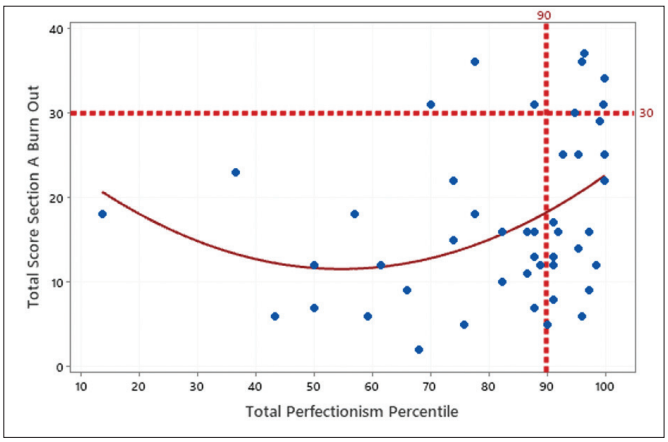
Introduction: Burnout is a major issue in medicine, and urologists experience some of the highest rates. Two personality traits that characterize most urologists are perfectionism and grit. While the association of burnout and these personality traits have been analyzed in other specialties, no studies have looked at the relationship between perfectionism, grit, and burnout in urologists.

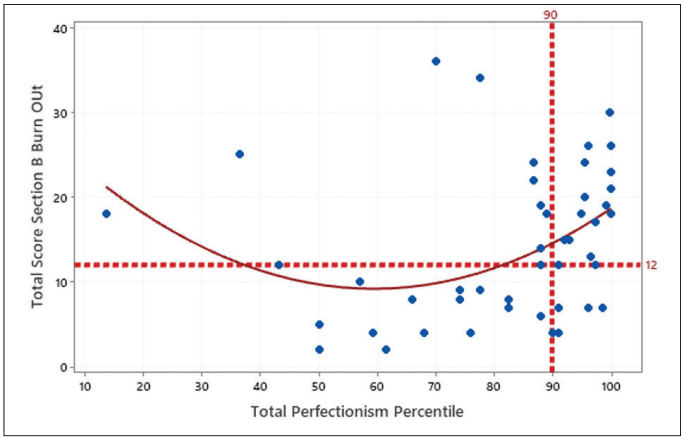
Methods: We prospectively surveyed urology attendings and residents at three academic institutions. We assessed perfectionism, grit, and burnout levels with the Frost Multidimensional Perfectionism Scale, Grit Scale (5 having most grit), and Maslach Burnout Inventory, respectively. Maladaptive perfectionism was defined as a percentile scope >90. The Maslach Burnout Inventory is scored as three levels (low, intermediate, high) in three sections (emotional, depersonalization, injury to personal achievement). Burnout was defined as high-level burnout in either Emotional Burnout or Depersonalization subsections, consistent with current literature. Demographic data, including age, gender, years of practice, and training level, were collected to see if subgroups demonstrated outlier trends. All data was de-identified and securely stored. Fisher's test, ANOVA, and Student's t-test, were performed to assess associations.

Results: Fifty-five individuals completed the survey. The majority (65%) were attendings. Most respondents (58%) were men. Overall, 51% were burned out; 45% had maladaptive perfectionism. 15% had high grit. Twenty-eight of 55 respondents (51%; 95% CI 30–60%) were burned out and 21 of 47 (45%; CI 30–60%) were above the 90th percentile for maladaptive perfectionism. Individuals with maladaptive perfectionism (76%) were more likely to be burned out than their counterparts (42%) (OR 4.3, 95% CI 1.2–15.5). Burnout was found to be inversely related to Grit score (p=0.008; Fisher's exact). Moderate grit scores (2 or 3) were more likely to be burned out than those with highest Grit (p=0.01) (Figures 1, 2).

Conclusions: In our cohort, we found that dysfunctional perfectionism is associated with higher burnout and that high grit was protective. These findings offer clues to new strategies to combat burnout.



Abstract #38. Figure 1. Relationship between emotional burnout and total perfectionism. Emotional subscale burnout score as a function of perfectionism score. Dotted red lines indicate thresholds for emotional burnout and maladaptive perfectionism. Solid line is quadratic fit to data.



Abstract #38. Figure 2. Relationship between depersonalization and total perfectionism. Depersonalization subscale burnout score as a function of perfectionism score. Dotted red lines indicate thresholds for depersonalization burnout and maladaptive perfectionism. Solid line is quadratic fit to data.

Abstract #39

Radical robotic-assisted prostatectomy with concomitant inguinal hernia repair: 10 years' experience

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University of Rochester

Introduction: We aimed to evaluate the feasibility and safety of concurrent robotic-assisted laparoscopic prostatectomy and inguinal hernia repair (RARP-IHR).

Methods: We retrospectively analyzed data from January 2014 to November 2024 on patients undergoing RARP-IHR with mesh using the da Vinci XI system. Data included clinical demographic, perioperative details, 30-day complications (Clavien-Dindo), and long-term outcomes. Primary outcomes included procedural success and complications; secondary outcomes included operative time, estimated blood loss (EBL), and followup results (Table 1). Two techniques were used: a general surgeon performed the hernia repair after RARP, using various meshes; meanwhile, a single urologist performed both procedures using a Covidien Parietex mesh (Figure 1).

Results: Eighty-seven patients underwent RARP-IHR, with a median age of 68 years. Hernias were classified as left-sided (35.36%), right-sided (35.36%), or bilateral (26.4%). Twenty-nine percent had prior hernia repair (IHR), including 20 on the same side. Sixty-five of the 87 procedures were performed solely by a urologist using Covidien Parietex mesh (74.71%). All RARP-IHR procedures were completed as planned (success rate=100%). The median surgical time was 243 minutes (IQR 225–280), with a median EBL of 200 mL; 78.8% and 10.8% were discharged on the first and second postoperative day. There were six (6.9%) 30-day readmissions for complications, but no mesh-related infections. Long-term followup showed no mesh complications, with one patient developing a new contralateral hernia.

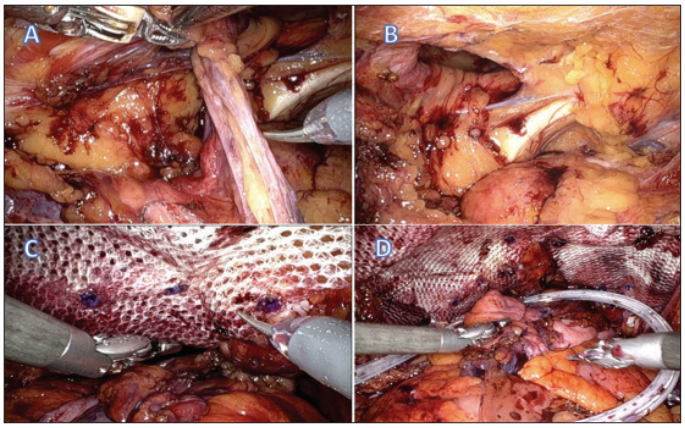
Conclusions: Our 10-year experience supports the safety, feasibility, and efficacy of combining RARP and IHR. All procedures were completed successfully with no mesh-related complications or hernia recurrences. While the IHR repair adds time to the planned RARP procedure, it obviates the need for subsequent related surgical procedures, sparing the patient added surgical morbidity.

Abstract #39. Table 1. Demographic, clinical characteristics, preoperative risk assessment, operative and postoperative outcomes of patients who underwent robotic-assisted radical prostatectomy with concomitant IH repair

Patients characteristics	
Age (years), median (IQR)	68 (62.5–72)
Body mass index (kg/m²), median (IQR)	29.5 (26.6-32.4)
PSA (ng/ml), median (IQR)	6.5 (4.7-8.5)
Comorbidities, n (%)	
Smoker	35 (40.2)
Diabetes mellitus	22 (25.3)
Hypertension	55 (63.2)
Previous abdominal surgery	50 (57.4)
Previous inguinal surgery, n (%)	31(35.3)
Previous IH repair, n (%)	25(28.5)
Redo – ipsilateral hernia repair	
Yes	20 (23.3)
No	5 (5.8)
ASA classification, n (%)	
2	38 (43.6)
3	48 (55.2)
4	1(1.1)
PCa grade group, n (%)	
Grade 1	13 (14.9)
Grade 2	39 (44.8)
Grade 3	15 (17.2)
Grade 4	14 (16.1)
Grade 5	4 (4.36)
Missing	2 (2.2)

Abstract #39. Table 1 (cont'd). Demographic, clinical characteristics, preoperative risk assessment, operative and postoperative outcomes of patients who underwent robotic-assisted radical prostatectomy with concomitant IH repair

Operative and postoperative outcomes	
Estimated blood loss (ml), Median (IQR)	200 (127-300)
Time for surgery (minutes), median (IQR)	243 (225-280)
Surgical repair, n (%)	
Left	31(35.36)
Right	31(35.36)
Bilateral	23 (26.4)
Missing	2 (2.3)
Type of mesh, n (%)	
Parietex Covidien mesh	65 (74.7)
Davol 3D max mesh	9 (10.3)
Gore-Tex mesh	2 (2.3)
Polypropylene	2 (2.3)
Other	9 (10.3)
30-day surgical outcomes, n (%)	
ED admission	14 (16)
Urinary tract infection	3 (3.4)
Urinary sepsis*	2 (2.3)
Lymphocele *	3 (3.4)
Abdominal pain	1 (1.1)
Atrial fibrillation	1 (1.1)
Myocardial infarction*	1 (1.1)
Pulled Foley by accident	1 (1.1)
Left leg DVT	1 (1.1)
Gallstone pancreatitis*	1 (1.1)
Readmission, n (%)	**6 (6.9)**
Radiotherapy (RT), n (%)	20 (23)
Recurrence, n (%)	1 (1.1)



Abstract #39. Figure 1. (A) Left IH defect. (B) Left IH defect after dissection. (C) Repair of the IH defect with Covidien Parietex mesh and tracker setup along the pectineal line. (D) Bilateral inguinal mesh repair with left JP drainage following prostatectomy.

Abstract #40

Robotic retrorectus repair of ileal conduit parastomal hernia: A case series

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Introduction: Parastomal hernia (PSH) is a common complication following ileal conduit urinary diversion. Repair of PSH is traditionally performed using the intraperitoneal space and is associated with high recurrence rates. This study reports on the technique and outcomes of a modified retrorectus keyhole technique for repair of ileal conduit PSHs at our institution.

Methods: This study is a retrospective case series of patients with PSH following ileal conduit creation. Patients underwent robotic repair using a retrorectus extended totally extraperitoneal (eTEP) approach. The procedure begins by entering the retrorectus plane contralateral to the ostomy, crossing midline in the upper abdomen, and bringing down the posterior components from xiphoid to pubis while reducing any ventral hernias. The parastomal hernia is then encircled with a partial transversus abdominis release for adequate mesh coverage. Following parastomal reduction, the anterior and posterior rectus sheaths are then closed around the conduit, as well as any midline hernias. Polypropylene mesh is positioned in keyhole fashion around the bowel, with an additional mesh placed to cover the entire dissected retrorectus space. We collected demographic profiles, perioperative, and postoperative outcomes among patients at our institution who underwent ileal conduit eTEP PSH repair.

Results: Six patients were eligible, with a median age of 63 years (range 49–80) and median body mass index of 32.63 kg/m2 (range 30.85–34.14). All patients underwent eTEP repair of their PSH without intraoperative complications. Median operating time and length of stay (LOS) were 195.5 min (range 149–224) and 1.5 days (range 1–11), respectively. Postoperatively, the median change in creatinine and glomerular filtration rate was 0.08 mg/dL (range 0–1.27) and 79.5 mL/min (range 17.7–90). The median followup period for our cohort was 183 days (range 11–284). One patient experienced extended LOS of 11 days, with a 3.12 mg/dL postoperative creatinine and 17.7 mL/min GFR, and recovery complicated by urinary retention and leakage that was managed non-operatively. Another patient was readmitted to the hospital within the 90-day postoperative period for an episode of pyelonephritis, which resolved following antibiotic therapy. Two patients experienced 90-day complications: one urine leak (healed conservatively), one pyelonephritis. One patient has had recurrence of parastomal hernia.

Conclusions: Robotic repair of PSH following ileal conduit urinary diversion using a retrorectus eTEP approach can safely reduce parastomal hernia recurrence.

Abstract #41

Slots for all? Trends in international medical graduate representation in urology residency and fellowship matches

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Introduction: Diversity enhances quality, innovation, and cultural competence; yet, international medical graduates (IMGs) may face disparities in matching in residency and fellowship programs. This study examined the influence of medical education (U.S./Canada [US/CA] vs. IMGs) on matching outcomes in urology.
Methods: We analyzed AUA residency and subspecialty fellowship match data (2014–2024), examining trends in total match slots and those filled by US/CA vs. IMG applicants across residency and fellowship programs. Secondary analyses assessed residency and fellowship trends separately, compared match rates, and evaluated unmatched applicants. Spearman's correlation assessed trend monotonicity, and Chi-squared tests compared match outcomes by applicant group.
Results: A total of 7273 applicants (6061 [83.3%] US/CA; 1212 [16.3%] IMG) participated in urology matches from 2014–2024, with 4995 (68.7%) applying to residency and 2278 (31.3%) to fellowship programs. Total residency and fellowship slots significantly increased from 385 in 2014 to 586 in 2024 ($p<0.001$). Matched US/CA applicants rose significantly from 342 to 499 ($\rho=1.0$, $p<0.001$), while matched IMGs showed no significant change ($\rho=0.5$, $p=0.104$). US/CA applicants primarily drove the increase in filled slots (Figures 1A-C). Secondary analyses showed US/CA applicants had significantly higher match rates overall (OR 10.5, 95% CI 9.1–12.1, $p<0.001$), in residency (OR 6.7, 95% CI 5.3–8.5, $p<0.001$), and in fellowship (OR 17.8, 95% CI
14.4–22.5, $p<0.001$) (Figures 1D–F).
Conclusions: Over the past decade, urology residency and fellowship slots have increased, predominantly filled by more US/CA applicants. In contrast, IMG participation and match rates have remained stagnant, with significantly lower outcomes overall and within both matches.

Abstract #41. Figure 1. (A, B, C) Offered slots, matched IMGs and U.S. graduates. (D, E, F) Match rates for U.S. vs. IMG applicants.

Abstract #42

How a grape popularized robotic surgery to the general public

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Introduction: Educating the public about the advances in robotic surgery is critical, as it can help lead trust in healthcare and show the progress of our profession. In recent years, many have come to doubt medical advancements. Some of this doubt likely stems from the public not knowing or understanding recent innovations. Surgical videos can be too gruesome for public viewing. We present how the video "da Vinci Surgical System: Surgery on a grape" may have helped popularize robotic surgery by becoming the theme of a meme spread through popular culture.
Methods: Urology websites, news sources, and YouTube videos were reviewed that depicted or discussed surgery on a grape.
Results: The video "da Vinci Surgical System: Surgery on a grape," published on YouTube in 2010 by Edward Hospital, Illinois, highlighting the precision of the da Vinci Xi Robot, has 10 million views. The robot demonstrated its technological precision by carefully incising and peeling the skin off a red seedless grape, preserving the skin, then suturing it back onto the grape. The video resurfaced in January 2018, when a technology news site, Cheddar, posted an edited video to Twitter with the caption: "They did surgery on a grape." That same month, an Instagram user posted a screenshot from the Cheddar post showing the surgical system peeling the grape. In November 2018, BBC posted an article titled, "New meme alert: Did you know they did surgery on a grape?" discussing the meme, the shortage of surgical robots in the U.K., and the precision these robots offer. From there, several grape memes went viral with the tagline, "They did surgery on a grape." The meme had a urologic origin. In May 2009, urologist Dr. Michael D. Stifelman appeared on Good Morning America to demonstrate how the da Vinci system revolutionized prostate cancer care — and performed live surgery on a grape. In November 2023, potentially influenced by the grape meme's popularity, the Columbia University Department of Urology created a robotic training program called GAMERS (GU Alliance for Maximizing Education for Robotic Simulation), which included a grape module with a detailed grading rubric.
Conclusions: Humor and relatability are important tools in bridging the gap between medical information and public understanding. A popular meme showing surgery on a grape had roots in urology and prompted people worldwide to take an interest and appreciate robotic surgery advancements without using images that many would find unsettling.

Abstract #43

Evaluating whether using a novel Veress needle insertion model made of inexpensive operating room materials can enhance surgical skill training for novice medical students

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Introduction: Veress needle (VN) insertion is a critical step in laparoscopic surgery, aiding urologists in achieving intra-abdominal access; however, existing training models for this technique are expensive and difficult to assemble. The purpose of this study was to present a novel, cost-effective VN insertion model and evaluate its efficacy in training medical students for VN insertion.
Methods: Our training model was assembled using two different-sized plastic cups, a 5½ sized sterile glove, a large-sized nitrile glove, pink pad cushioning, and surgical tape to replicate the three abdominal wall layers (Figure 1). Five senior urology residents and two attending urologists answered a six-question questionnaire to verify the functionality of the VN insertion model. To test the efficacy of the model, 15 medical students with no prior experience using a VN were recruited. Initially, all students performed VN insertion on a cadaver and were evaluated using the Objective Structured Assessment of Technical Skills (OSATS) scale by an attending urologist. Students were then randomized into two groups: one practiced with the VN model, while the other received supplemental instructional videos. Immediately following the training, all students repeated the VN insertion into a cadaver and were reevaluated using the OSATS scale. Students also rated their confidence with VN technique at the beginning and at the end of the study. Statistical analyses were conducted using t-tests in Stata. Statistical significance was set at $p<0.05$.
Results: Students who used the VN insertion model had a significant improvement in their time and motion (1.57 vs. 2.86, $p=0.005$), instrumental handling (1.86 vs. 2.57, $p=0.004$), flow of operation (1.86 vs. 2.57, $p=0.047$), and use of assistants (2.00 vs. 3.00, $p=0.008$). Students who used supplemental videos only saw improve-

ment in their ability to use assistants (2.00 vs. 2.75, p=0.040). VN model users felt more confident in their ability to place a VN following the training (p=0.003). **Conclusions:** The novel VN insertion model increased medical student confidence and proficiency in VN placement. This additional exposure can help students become more familiar with surgical techniques prior to their clinical years and residency. Future studies with larger sample sizes can help determine whether this model is robust enough to be implemented in medical education.

Abstract #43. Figure 1. Varess needle model.

Abstract #44

Trends in female representation in urology fellowship subspecialties

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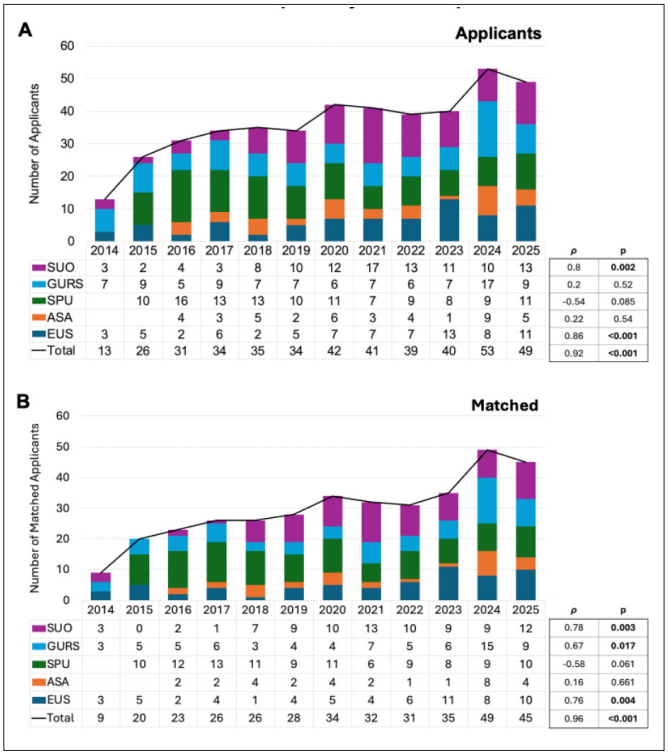
Introduction: We aimed to analyze trends in female representation across American Urological Association (AUA) fellowship subspecialties.

Methods: Fellowship match data (2014–2025) for Endourology Society (EUS), Society for Urological Oncology (SUO), American Society of Andrology (ASA), Society of Genitourinary Reconstructive Surgeons (GURS), and Society of Pediatric Urology (SPU) were analyzed. The primary analysis assessed trends in female-matched fellowship slots. Secondary analyses examined trends in female applicants, their proportion among matched applicants, and their distribution across all matched slots. Spearman's correlation (ρ) measured monotonic trends.

Results: Of the 2531 applicants, 437 (17.2%) were female, increasing from 13 in 2014 to 53 in 2024 (ρ=0.92, p<0.001) (Figure 1). Overall, 358 (81.9%) females matched, with a significant rise from nine in 2014 to 49 in 2024 (ρ=0.84, p=0.001) (Figure 2). This increase was driven by EUS (ρ=0.76, p=0.004), SUO (ρ=0.78, p=0.003), and GURS (ρ=0.67, p=0.017), while SPU showed a non-significant decline (ρ=-0.58, p=0.061). The proportion of females among matched applicants rose from 11.4% in 2014 to 30.6% in 2024, with SUO showing a significant increase (ρ=0.73, p=0.007). Within the matched female cohort, SPU proportions declined sharply from 52.2% in 2016 to 18.4% in 2024 (ρ=-0.9, p<0.001) (Figure 3).

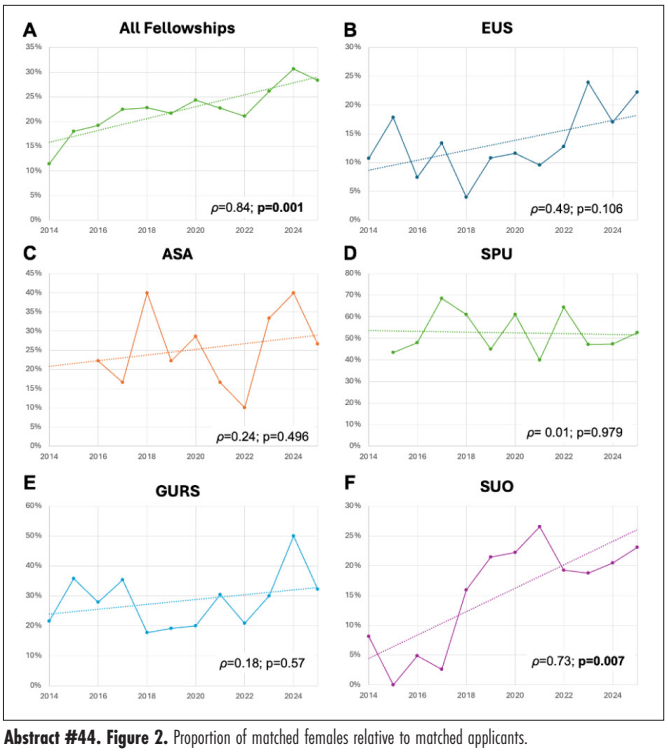
Conclusions: Female fellowship slots significantly increased, driven by EUS and SUO, with a rising proportion in SUO. SPU saw a decline, while GURS and ASA showed no significant changes.



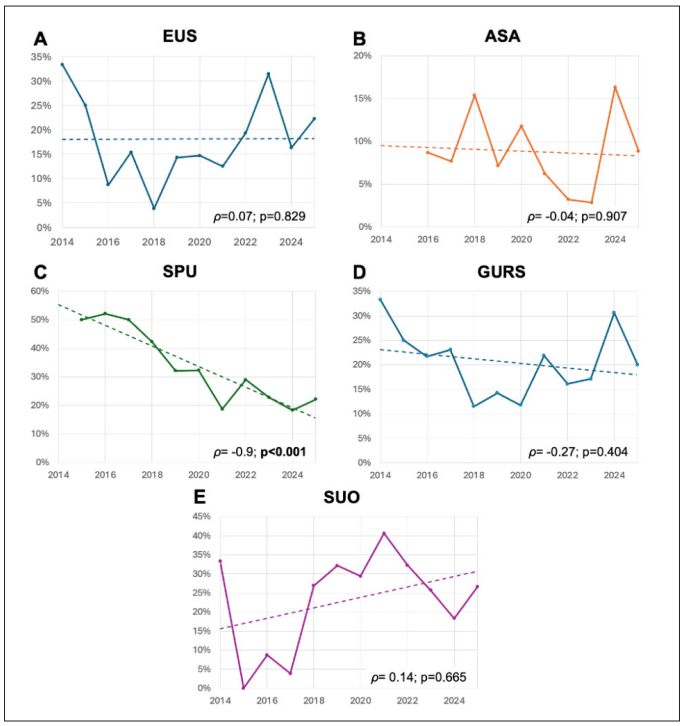
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	ρ	p
SUO	3	2	4	3	8	10	12	17	13	11	10	13	0.8	**0.002**
GURS	7	9	5	9	7	7	6	7	6	7	17	9	0.2	0.52
SPU		10	16	13	13	10	11	7	9	8	9	11	-0.54	0.085
ASA			4	3	5	2	6	3	4	1	9	5	0.22	0.54
EUS	3	5	2	6	2	5	7	7	7	13	8	11	0.86	**<0.001**
Total	13	26	31	34	35	34	42	41	39	40	53	49	0.92	**<0.001**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	ρ	p
SUO	3	0	2	1	7	9	10	13	10	9	9	12	0.78	**0.003**
GURS	3	5	5	6	3	4	4	7	5	6	15	9	0.67	**0.017**
SPU		10	12	13	11	9	11	6	9	8	9	10	-0.58	0.061
ASA			2	2	4	2	4	2	1	1	8	4	0.16	0.661
EUS	3	5	2	4	1	4	5	4	6	11	8	10	0.76	**0.004**
Total	9	20	23	26	26	28	34	32	31	35	49	45	0.96	**<0.001**

Abstract #44. Figure 1. Females in subspecialty fellowship match.



Abstract #44. Figure 2. Proportion of matched females relative to matched applicants.



Abstract #44. Figure 3. Proportion of matched females relative to all matched females.

Abstract #45

Generative artificial intelligence for patient education in kidney stones: A review

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Introduction: Kidney stone disease (KSD) is a condition that significantly impacts health-related quality of life and healthcare costs. Patient education is essential for prevention and effective management of KSD; however, patients lack information, and online resources show poor readability. Generative artificial intelligence (GAI), which creates content from large datasets, offers a potential solution for patient-centered educational content. In 2024, 17% of adults reported using an AI chatbot at least once a month as a source of health information, rising to 25% among those under 30. This review aimed to evaluate the information provided by GAI tools regarding patient education on KSD.

Methods: The Joanna Briggs Institute methodology was followed. Ovid MEDLINE, Embase, CENTRAL, Web of Science, CINAHL, and Google Scholar were searched for studies in all languages, from 2015 to February 16, 2025, evaluating GAI tools to create educational content on KSD. Two independent reviewers completed screening, full-text review, and data extraction, with conflicts resolved by a third reviewer.

Results: Seventeen studies were included, most published in 2024 (n=11). The most evaluated GAI tools were ChatGPT (88%), Bing (29%), and Bard (18%). Content generated included general knowledge, symptoms, management, and prevention of KSD. Five of six studies assessing readability found that GAI responses exceeded the recommended 6th–8th-grade reading level, although one study showed effective prompting can help meet this target. Of the eight studies assessing accuracy, six studies reported adequate to very good performance, with two showing comparable performance to traditional information sources. The seven studies evaluating quality revealed variable performance, highlighting the lack of references in responses, although two studies reported similar DISCERN scores to traditional materials. Three studies assessed patients' perception, revealing a mixed but generally favorable experience, highlighting the usefulness of GAI tools. Three studies examined empathy, with one suggesting superiority to physicians, and another highlighting critical limitations in default empathetic responses.

Conclusions: GAI tools show potential as first-line sources of information for KSD and may serve as alternatives to traditional patient education materials. In their current form, most GAI present challenges that could be mitigated by the development of a urology-trained Chatbot integrating validated information sources and trained to provide empathetic and easily understandable responses to patients. Further evaluation with patient populations is essential. This could ultimately support clinical integration, streamline physician workload, and empower patients to actively manage their health.

Acknowledgement: Amy Bergeron, medical librarian at the University of Montreal.