

# Poster Session 6: Transplant, Training/Education

## Saturday, June 28, 2025 • 16:00–17:30

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### MP 6.1

#### A systematic review of simulators in benign prostatic hyperplasia surgery

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**Introduction:** Simulation-based training (SBT) is designed to mimic real-life surgeries and help surgeons develop skills they can transfer to the operating room in a risk-free environment. Within the field of urology, surgical simulators are playing an increasingly important role. In particular, with the emergence of numerous minimally invasive surgical therapies (MISTs) for benign prostatic hyperplasia (BPH), a need has developed for new learning tools in addition to standard clinical exposure. In this review, we focused on three main surgical techniques for BPH, including transurethral resection of the prostate (TURP), laser enucleation (HoLEP), and photovaporization of the prostate (PVP).

**Methods:** We conducted a systematic review based on a prespecified protocol and used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. References were identified through searches of MEDLINE, Embase, and the Cochrane CENTRAL databases from inception through July 31, 2022. Keywords and medical subject heading terms searched included those related to simulators, medical education, and BPH surgeries. Studies included were original articles on simulators used for BPH surgery. Data was collected on each simulator used, including a description, design of simulator integration in training, and type and expertise of participants using the simulator. Simulator validity was collected, such as face, content, and construct validity. Acceptability and feasibility of integration were also assessed.

**Results:** Among the 37 records identified, 26 studies aimed to assess the validity of prostate models for TURP simulation training, six studies for GreenLight laser prostatectomy, four studies for HoLEP procedures, and one article for THuLEP procedures. We identified only three models that were validated for face, content, construct, acceptability, and feasibility. Most models were virtual reality-based.

**Conclusions:** Our results suggest a need for development of models other than TURP and the evaluation of feasibility and acceptability of current valid BPH surgical models.

### MP 6.2

#### Impact of functional ischemia time and hemodynamic parameters on deceased donor renal transplant outcomes in donation after cardiac death

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**Introduction:** Donation after cardiac death (DCD) occurs when organ recovery takes place after cardiorespiratory arrest following the withdrawal of life-sustaining treatment (WLST). Unlike organs from donors after neurologic determination of death, DCD donor organs are subjected to additional warm ischemia time. Recently, functional ischemia time (FIT) or clinical instability during the agonal phase (the period between WLST to arrest) has been increasingly recognized as a source of ischemic damage and therefore a predictor of graft function. Despite this, literature evaluating FIT during the agonal phase and its effect on graft outcomes is limited and often presents conflicting results. This study aimed to assess the impact of FIT and donor hemodynamic parameters during the agonal phase on renal transplant outcomes and identify predictors of short-term and long-term graft function.

**Methods:** We performed a retrospective cohort study using Ontario provincial transplant program data from Trillium Gift of Life (TGLN). DCD kidney donors and recipients who underwent DCD kidney transplantation within TGLN between January 1, 2015, and December 31, 2022, were included and evaluated for primary non-function (PNF) and death-censored graft survival. Estimators of functional ischemia time for minute-to-minute agonal phase vitals were created. Kaplan-Meier curves were used to compare graft survival based on FIT. Cox proportional-hazard regression analysis assessed FIT on graft survival while controlling for donor and recipient characteristics.

**Results:** A total of 1349 DCD recipients from 736 donors met the criteria for inclusion; 295 recipients were excluded due to insufficient followup resulting in 1054 recipients analyzed. (Mean arterial pressure) × (heart rate) under 25th percentile of all donors outperformed other measures of FIT. Cox proportional hazard model demonstrated significance with this predictor of graft survival when accounting for other well-known predictors of graft survival (HR 1.04, p<0.02). Our Kaplan-Meier survival curve analysis demonstrated an association between FIT and differences in graft survival.

**Conclusions:** Our study contributes to existing knowledge about donor FIT and its contribution to duration of graft function. To our knowledge, this is the largest study of FIT thus far and our long duration of followup allows us to see the impact of FIT directly on graft duration as opposed to surrogate markers such as delayed graft function.

**Acknowledgements:** Funded by the St. Michael's Hospital Department of Research Grant. This abstract was accepted for an Interactive Poster Session at AUA 2025.

**MP 6.3**

**Prescribing patterns and clinical impact of glucagon-like peptide-1 receptor agonists among kidney transplant population in British Columbia, Canada**

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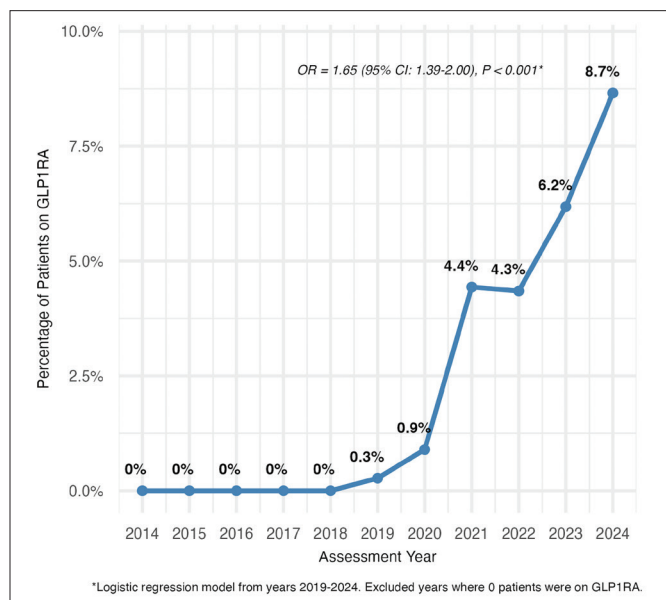
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**Introduction:** Obesity is a significant barrier to accessing kidney transplantation (KT) and is associated with worse post-transplant outcomes. Glucagon-like peptide-1 receptor agonists (GLP1RA) are a relatively new diabetic medication with now well-recognized associations with weight loss. The current pattern of GLP1RA prescription in British Columbia (BC) and its clinical impact on our KT population is unknown.

**Methods:** This is a retrospective cohort study of all patients assessed for or received KT at Vancouver General Hospital from 2014–2024. We analyzed prescription patterns, changes in patient weights, and post-transplant outcomes.

**Results:** At time of pre-KT assessment, 63/2789 (2.3%) patients were on GLP1RA. The proportion of GLP1RA users significantly increased in the last decade, from 0 during 2014–2018, to 1 (0.3%), 2 (0.9%), 9 (4.4%), 8 (4.3%), 23 (6.2%), and 20 (8.7%) patients from 2019–2024 (OR 1.65, 95% CI 1.39–2.00,  $p < 0.001$ ) (Figure 1). Among users, 88.7% (55/62) had type 2 diabetes, 4.8% (3/62) had type 1 diabetes, and 6.2% (4/62) had neither. There was a mean weight loss of 1.92 kg at six months ( $p = 0.020$ ;  $n = 27$ ) and 2.57 kg at 12 months ( $p = 0.017$ ;  $n = 28$ ) of use. Among these, 25 patients received a KT and were followed up for a median of 1.14 (IQR 0.19–1.79) years. There were no significant differences in graft failure (0% vs. 4.6%,  $p = 0.6$ ) and mortality (0% vs. 3.0%,  $p = 1$ ) between GLP1RA users vs. non-users at one year post-KT. Estimated glomerular filtration rate (eGFR) for users vs. non-users at one month (median 58 [IQR 39–67] vs. 51 [IQR 38–66] mL/min,  $p = 0.45$ ) and one year (median 67.00 [IQR 46.75–80.25] vs. 59 [IQR 45–75] mL/min,  $p = 0.40$ ) post-KT was not significantly different.

**Conclusions:** GLP1RA use among the KT population in BC has significantly increased over the last decade, and was associated with moderate weight loss at six and 12 months of use, but not with differences in post-transplant outcomes. Our small sample size may have limited power to detect subtle effects.



**MP 6.3. Figure 1.** Proportions of patients assessed for kidney transplant on GLP1RA by year (2014–2024).

**MP 6.4**

**Investigating hypogonadism in renal transplant patients: A comprehensive screening approach**

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**Introduction:** Hypogonadism is prevalent in up to two-thirds of men with renal failure; however, it is rarely screened for in the pre-transplant population. This represents an opportunity to intervene with testosterone supplementation to reverse anemia and sarcopenia—issues for patients facing major surgery. This study aimed to determine the prevalence of hypogonadism in patients awaiting renal transplant at a single academic center and survey the testosterone replacement practice patterns of Canadian transplant clinicians.

**Methods:** Renal transplant waitlist patients above 18 underwent morning total testosterone and luteinizing hormone (LH) screening and completed the Androgen Deficiency in Aging Males (ADAMs) survey. Transplant urologists and nephrologists were asked via email to complete an anonymous survey about hypogonadism screening and treatment.

**Results:** A total of 20 and 19 male transplant patients completed testosterone and LH, respectively. The mean age was  $56.7 \pm 14.8$  (mean  $\pm$  SD). The mean morning testosterone level was  $12.8 \pm 7.3$  and the mean LH level was  $15.0 \pm 11.8$ . More than half of patients (55.0%,  $n = 11$ ) had low testosterone ( $< 10$  nmol/L), and 68.4% ( $n = 13$ ) of patients had elevated LH. The 15 men who completed the ADAMs survey all met symptomatic criteria for hypogonadism. A total of six Canadian transplant clinicians completed the survey. All clinicians believed that patients with end-stage renal disease (ESRD) were at elevated risk of hypogonadism but none currently screened these patients. The majority (83.3%,  $n = 5$ ) of clinicians believed that a therapy that could improve anemia and sarcopenia before transplantation would be beneficial; 66.7% ( $n = 4$ ) were comfortable starting testosterone replacement therapy if their patients were found to be hypogonadal.

**Conclusions:** Men with ESRD on the renal transplant waitlist have a high frequency of hypogonadism. Despite the belief that hypogonadism is prevalent in ESRD patients, hypogonadism screening and treatment are not routinely completed in this population.

*Acknowledgements:* This abstract has been previously submitted to AUA 2025.

**MP 6.5**

**Causes of peritoneal dialysis catheter failure requiring surgical revision following laparoscopic placement**

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**Introduction:** Laparoscopic peritoneal dialysis (PD) catheter insertion confers several advantages, including the ability to perform concurrent omentopexy, lysis of adhesions, and rectus sheath tunnelling. In addition, catheters can be embedded initially (placed preemptively and completely buried in the subcutaneous tissues) and later exteriorized to initiate dialysis. This study examined the failure rates and causes of PD catheter failures in laparoscopically placed PD catheters at a tertiary renal transplant center over four years.

**Methods:** This was a retrospective study of all laparoscopic PD catheter insertions at St. Michael's Hospital (Toronto, ON) between 2019 and 2023. Data on PD catheter insertion (including embedded vs. non-embedded, omentopexy status), date of exteriorization for embedded catheters, timing of catheter revision, and postoperative diagnosis, were collected from patient health records.

**Results:** A total of 146 patients underwent laparoscopic PD catheter placement over the four-year study period. Of these, 18 (12%) required laparoscopic PD catheter revision for obstruction. Thirteen of the 18 (72%) PD failures had undergone omentopexy at the time of initial catheter insertion. Despite this, four failures were related to omental wrapping; three required repeat omentopexy at the time of revision for either an additional omental tongue or failed prior

omentopexy and one required a de novo omentopexy. The remaining 13 failures (57%) were related to obstruction from intraluminal fibrin plugs (IFPs). Eleven of the IFP failures were previously embedded and two were non-embedded. A two-sample t-test revealed a statistically significant difference in timespan to presentation with obstruction ( $p=0.021$ ) between the embedded and non-embedded cases (embedded catheters presenting earlier, within 0–4 months).

**Conclusions:** Despite the numerous advantages conferred by laparoscopic placement of PD catheters, 12% of catheters continue to fail due to obstruction and require surgical re-intervention. The primary cause appears to be intraluminal fibrin plugs. Catheters embedded at insertion are at significantly higher failure risk and present with obstruction earlier. Efficacious, non-surgical options/tools to address IFPs are currently unavailable and would offer a more cost-effective solution.

## MP 6.6

### Evaluating the longevity and relevance of oncology and non-oncology guidelines in urology

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**Introduction:** Clinical guidelines serve as critical tools for standardizing care, providing evidence-based recommendations, and shaping clinical practice; however, guidelines do not retain their relevance over time. The life cycle of a guideline and the factors affecting its continued impact are not well defined. This study aimed to compare the citation longevity and impact of oncology and non-oncology guidelines across three key urological associations: European Association of Urology (EAU), American Urological Association (AUA), and Canadian Urological Association (CUA).

**Methods:** We extracted citation data for 135 guidelines published by the EAU ( $n=35$ ), AUA ( $n=65$ ), and CUA ( $n=35$ ) from 2010. These guidelines were categorized into oncology and non-oncology based on the topics addressed. For each guideline, we calculated the time to peak citation ( $t_p$ ), the time to citation half-life from peak if reached ( $t_{1/2}$ ), and the time that the guideline retains relevance ( $t_r$ ), defined as the total time from inception to half-life if reached ( $t_r = t_p + t_{1/2}$ ). We also computed the average annual citation rate by dividing total citations by the number of years since publication. Statistical tests (t-tests) were used to determine whether significant differences existed between oncology and non-oncology guidelines.

**Results:** Overall, non-oncology guidelines exhibited a significantly longer time to peak citation (mean 3.92 years vs. 2.71 years,  $p=0.01$ ) compared to oncology guidelines. Non-oncology guidelines were also cited for longer after peak ( $t_{1/2}=2.86$  years vs. 1.97 years,  $p=0.03$ ), and they retained their relevance for a longer period of time (mean  $t_r = 5.2$  years vs. 3.8 years,  $p=0.02$ ). The average annual citations were similar between non-oncology and oncology guidelines (28.0 vs. 30.5 citations/year,  $p=0.7$ ). For the EAU, non-oncology guidelines exhibited longer  $t_p$  (mean: 4.6 years vs. 2.6 years,  $p=0.05$ ), comparable  $t_{1/2}$  (mean 3.3 years vs. 2.0 years,  $p=0.23$ ), and longer  $t_r$  (mean 6.6 years vs. 3.8 years,  $p=0.03$ ) compared to oncology guidelines. Although average annual citations were higher for oncology guidelines (62.7 vs. 27.7 citations/year), it did not rise to statistical significance ( $p=0.07$ ). For the AUA, non-oncology guidelines exhibited longer  $t_p$  (mean: 3.4 years vs. 2.1 years,  $p=0.02$ ), similar  $t_{1/2}$  (mean 2.9 years vs. 2.8 years,  $p=0.9$ ), and comparable  $t_r$  (mean 4.5 years vs. 3.5 years,  $p=0.2$ ) compared to oncology guidelines. Average annual citations were comparable between non-oncology and oncology guidelines (35.6 vs. 34.0 citations/year,  $p=0.8$ ). For the CUA, non-oncology guidelines exhibited comparable  $t_p$  (mean: 3.6 years vs. 3.3 years,  $p=0.7$ ),  $t_{1/2}$  (mean 2.0 years vs. 1.3 years,  $p=0.1$ ), and  $t_r$  (mean 4.6 years vs. 4.3 years,  $p=0.8$ ) compared to oncology guidelines. Average annual citations were not statistically different between non-oncology and oncology guidelines (10.5 vs. 4.2 citations/year,  $p=0.08$ ).

**Conclusions:** This study reveals that non-oncology guidelines generally have a longer citation half-life than oncology guidelines, especially when combining data across the EAU, AUA, and CUA. This likely reflects the rapidly changing literature in urologic oncology. Some trends exist for EAU oncology guidelines being cited more frequently; however, there was no difference in annual citation rates between non-oncology, and oncology guidelines overall.

## MP 6.7

### The effect of learner handover on surgeon entrustment decision-making

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**Introduction:** The current postgraduate surgical medical education system presents many limitations for providing recurring learning opportunities in the context of competency-based medical education (CBME). Specifically, increasing pressures in the training environment, including the need for operative efficiency, increased medico-legal liability, and work hour restrictions, can restrict trainee case exposure and hinder the development of surgical competency. Learner handover (LH), or the sharing of information regarding learners among clinical supervisors, has been proposed to allow assessments from different supervisors to form a longitudinal education strategy, thereby mitigating some of these barriers; however, there remains concern that LH may negatively bias supervisors towards trainees; therefore, our study aimed to examine the effect of LH on entrustment decisions during endoscopic urologic procedures.

**Methods:** Participants were randomized to receive a clinical vignette of either positive or negative LH and watch an anonymized video of resident performance during ureteroscopy and laser lithotripsy for a renal stone. The type of entrustment decision and the timing when it occurred were recorded. Following the video, participants completed a standardized entrustable professional activity (EPA) assessment on the trainees' performance.

**Results:** There was no difference in the entrustment decisions reached between the positive and negative LH groups, with most participants (88%) choosing to "verbally prompt the resident to change their actions;" however, there was a trend towards a longer mean time to reach an entrustment decision in the positive LH group (52 vs. 32 seconds). There was no difference in the overall EPA assessment between groups. Participants who were less frequently involved in supervising trainees were more likely to reach an entrustment decision sooner.

**Conclusions:** LH, either positive or negative, did not affect the overall entrustment decision made by participants; however, there was a trend towards a longer time to the entrustment decision in the positive LH group, suggesting that supervisors were more likely to provide trainees a longer time to "struggle" when accompanied with positive LH. The use of LH may mitigate some of the challenges in modern postgraduate medical education; however, further study is required to determine how this can be optimized to improve surgical teaching while minimizing the potential for bias.

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## MP 6.8

### Assessing Canadian medical students' confidence in undergraduate urologic training and preferences for teaching methods

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**Introduction:** The prevalence of urologic conditions in primary care is rising due to an aging population. This issue highlights the importance of equipping medical graduates with the skills to identify and manage those conditions effectively. Our study aimed to evaluate medical students' confidence in handling common urologic conditions, explore their preferred teaching methods, and assess the impact of the Canadian Undergraduate Urological Curriculum (CanUUC).

**Methods:** A 54-item survey was distributed to Canadian third- and fourth-year medical students to measure self-confidence in history taking, diagnosis, management planning, and physical examinations across 12 urologic conditions. The survey also gathered data on teaching methods and familiarity with CanUUC. Statistical analyses, including ANOVA and t-tests, were used to identify significant differences in confidence levels.

**Results:** A total of 117 medical students and 10 first-year urology residents participated. Students reported comparable confidence levels in history taking ( $3.51 \pm 1.19$ ), diagnosis ( $3.38 \pm 1.19$ ), and physical examinations ( $3.58 \pm 1.16$ ), but significantly lower confidence in management planning ( $3.16 \pm 1.25$ ,  $p < 0.001$ ). Confidence was highest for urinary tract infections and lowest for male infertility. Students with completed urology rotations showed greater confidence in history taking ( $3.67 \pm 0.69$ ,  $p = 0.003$ ) and management planning ( $3.35 \pm 0.66$ ,  $p = 0.003$ ). The top preferred teaching methods were clinical exposure, simulations, and case-based discussions. Awareness of CanUUC was low, with only seven students (6%) familiar with it and five (4.3%) having used it.

**Conclusions:** We demonstrate that medical students display moderate confidence in managing urologic conditions, with those who completed urology rotations reporting higher scores. Incorporating resources like CanUUC into the curriculum may help address educational needs and enhance patient care outcomes.

**Acknowledgements:** This abstract has been accepted as a manuscript for publication in the July 2025 issue of the Canadian Urological Association Journal.

### MP 6.9

#### Using a novel continuous bladder irrigation (CBI) simulator to compare responses to hematuria between novices and experts

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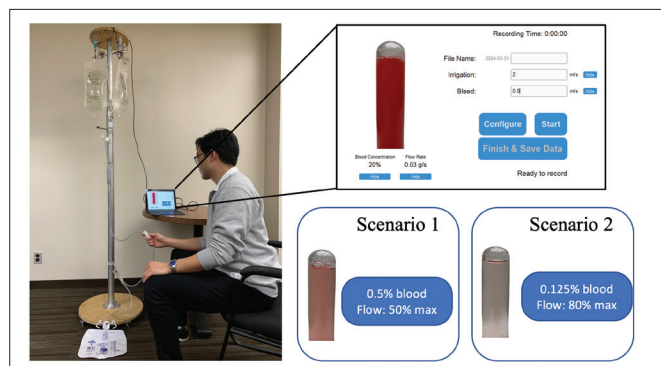
**Introduction:** Previously, our team developed the world's first simulation platform for continuous bladder irrigation (CBI) to better understand providers' responses to hematuria. The platform integrates a physical CBI setup, including tubing and saline bags, with a virtual interface that dynamically displays effluent color based on changes in the irrigation rate (Figure 1). Using this platform, we quantified the CBI provider's responses to different hematuria scenarios.

**Methods:** A total of 20 urology nurses from an academic hospital in Toronto participated in the study, with experience ranging from one month to 30 years. Each nurse was presented with two different hematuria events with specific blood concentration (BC) levels and preset irrigation flow rate (FR) settings: scenario 1: 0.5% BC at 50% max FR; scenario 2: 0.125% BC at 80% max FR (Figure 1). Participants were then tasked to adjust the irrigation rate until the desired effluent color was obtained virtually on the screen. Both flow rate and effluent color data were recorded throughout the trial. Each nurse repeated the trials to investigate their consistency in response.

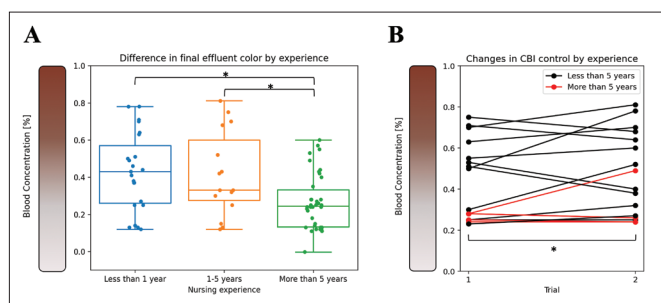
**Results:** Across a total of 76 trials, the median effluent BC nurses adjusted to was  $0.28 \pm 0.20\%$ . There was a significant difference in the final BC based on years of experience ( $p = 0.002$ ) (Figure 2A). Also, more experienced nurses demonstrated greater consistency in their adjustments ( $p = 0.020$ ) (Figure 2B). Additionally, the participants reported the simulator to have high face validity (6.03/7), closely replicating the real CBI administration.

**Conclusions:** Experienced nurses adjusted irrigation to achieve lower effluent color compared to nurses with less experience. Also, experienced nurses were more consistent in achieving the target effluent color. These differences may reflect a lack of structured training and experience, hence we believe our simulator can be used as an educational tool to establish a standard training program for urology nurses.

**Acknowledgements:** The authors would like to thank the urology nurses at St. Michael's Hospital for their participation in the study. This study was accepted as a podium presentation at AUA 2025.



MP 6.9. Figure 1. CBI simulator setup with two scenarios presented.



MP 6.9. Figure 2. (A) Differences in target effluent color based on experience; and (B) differences in target effluent color between repeated trials.

### MP 6.10

#### Advancing laparoscopic surgery with the use of augmented reality headsets: A pilot study

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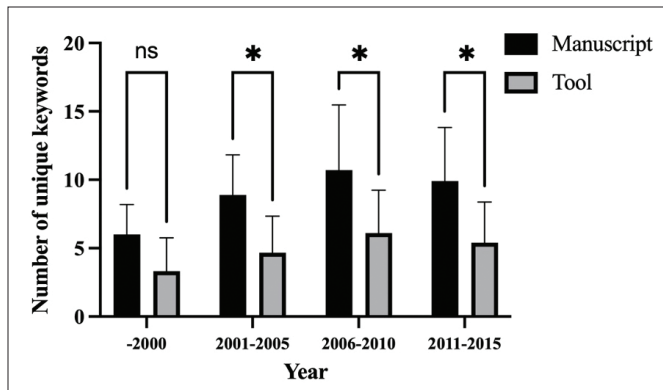
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**Introduction:** Augmented reality (AR) technology is emerging as a tool to overlay three-dimensional digital visuals in real-world settings. Traditional visual displays in laparoscopic surgery are critical for safety and efficiency but often suffer from limitations, including suboptimal positioning, poor image quality, and high costs. This study aimed to investigate the effectiveness of AR glasses in a bench-top laparoscopic trainer and a porcine animal model.

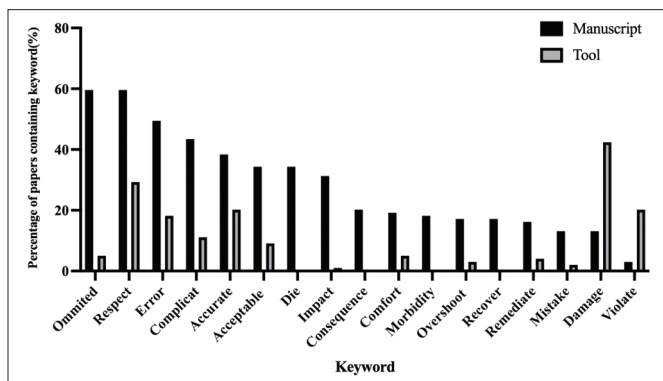
**Methods:** Participants performed basic laparoscopic skills using AR glasses (XREAL Air 2 Ultra) and a traditional 30-inch display (Stryker) in two settings: a bench-top trainer and a live porcine model. Demographic data, including age, training level, prior AR experience, and vision impairments, were collected. Participants then assessed the AR glasses vs. the traditional display in terms of ergonomics, image quality, self-perceived performance, and overall usability on a five-point Likert scale.

**Results:** Thirty-six surgeons (28 urology residents and eight fellows/staff) participated. Most (72%) had no prior experience with AR glasses and 31% required corrective eyewear. Among evaluators, 55% used the laparoscopic simulator and 45% used the live pig model. AR glasses were rated higher than traditional displays for image quality (57% vs. 15%), ergonomics (89% vs. 0%), and perceived performance (58% vs. 13%). Only 17% felt that AR glasses interfered with vision for open surgical tasks, and 78% expressed interest in using AR glasses in clinical practice.

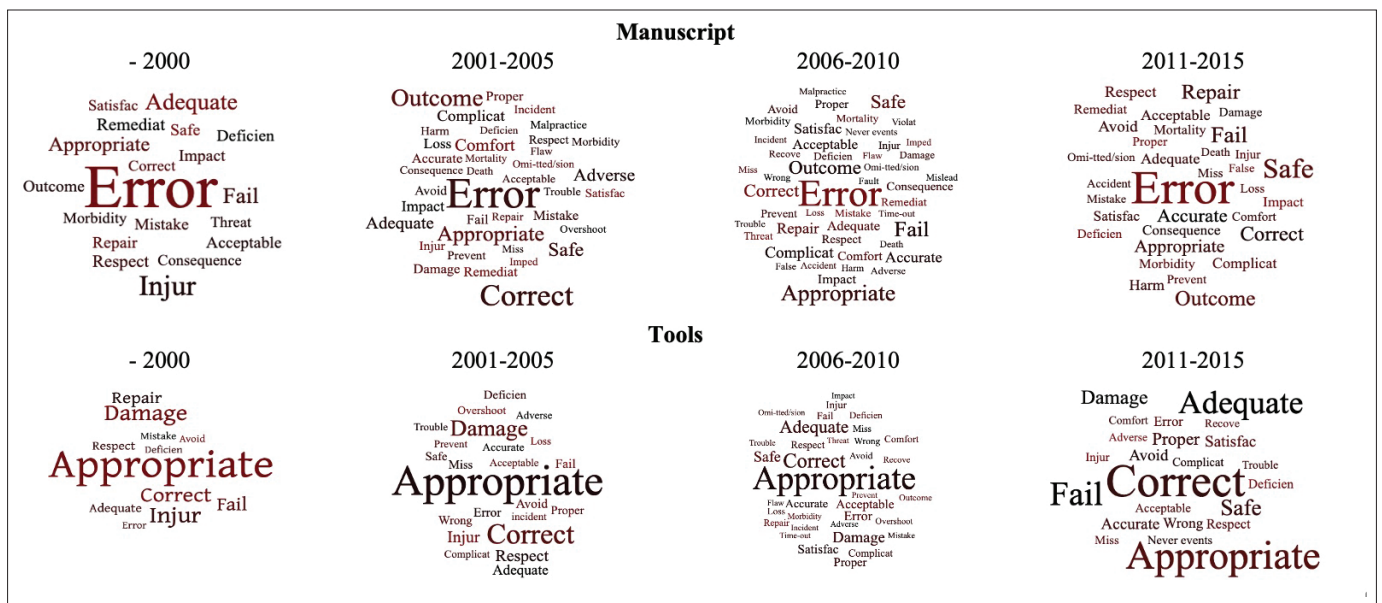
**Conclusions:** AR headsets offer a practical, ergonomic, and cost-effective alternative to traditional displays in the OR. Further studies are needed to explore their integration into live surgeries for potential routine use.



**MP 6.11. Figure 1.** Number of unique keywords in manuscripts and tools over the last two decades. An ANOVA test was completed between the average # of unique keywords in manuscripts and tools across the different year intervals to find statistical differences.



**MP 6.11. Figure 2.** Keywords showing statistically significant differences between prevalence found in manuscripts and tools.



**MP 6.11. Figure 3.** Word clouds with keyword size proportional to prevalence in manuscripts and tools. Average of the prevalence in each year was used to construct the final word cloud.

**MP 6.11**

**Error recovery in surgical training: Integration in assessment tools and perceptions of faculty**

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**Introduction:** Urologic surgery is a technically demanding field, where errors can significantly impact patient outcomes. While error prevention is a cornerstone of surgical training, error recovery (ER) remains an underemphasized skill. ER involves recognizing errors, evaluating their implications, and implementing corrective measures to ensure optimal patient outcomes. Compared to industries like aviation, where error management is systematically taught, surgical education often prioritizes achieving correct performance over managing errors. This study focused on the integration of ER within surgical training, examining its presence in assessment tools and faculty perceptions.

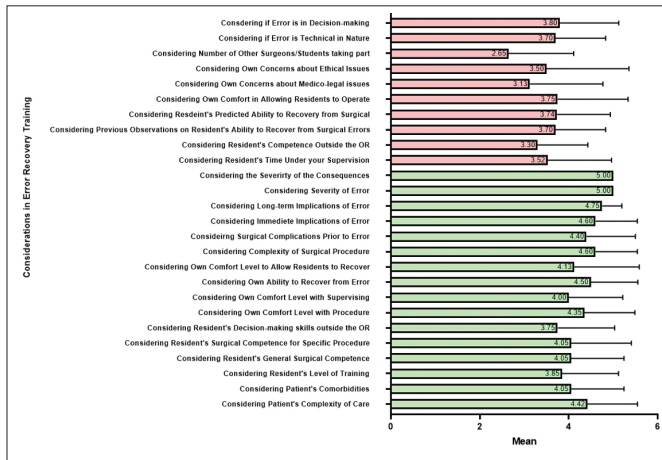
**Methods:** A sequential, multi-method design was used. Part A involved a systematic review of assessment tools specific to surgery, analyzing whether ER concepts were explicitly or implicitly incorporated. Keywords related to error and recovery were identified, and tools were evaluated for their prevalence. Part B surveyed authors and faculty involved in surgical training to explore their practices and perceptions regarding ER. The survey included Likert-scale items and open-ended questions to gather detailed insights.

**Results:** The systematic review identified 42 surgery-specific assessment tools, of which only 19% explicitly and 28% implicitly included ER concepts. Manuscripts associated with these tools more frequently referenced error-related keywords than the tools themselves (Figures 1, 2, 3). Survey responses (n=25) highlighted strong consensus on the importance of ER training for senior residents (mean score 4.82/5) and fellows (4.95/5) (Figures 4, 5). Despite this, only 32% of respondents reported regularly teaching or assessing ER skills. Key barriers included concerns about patient safety during training and the lack of standardized ER-focused tools. Respondents emphasized the importance of addressing complications common in urology, such as ureteral injuries or hemorrhagic events, during training.

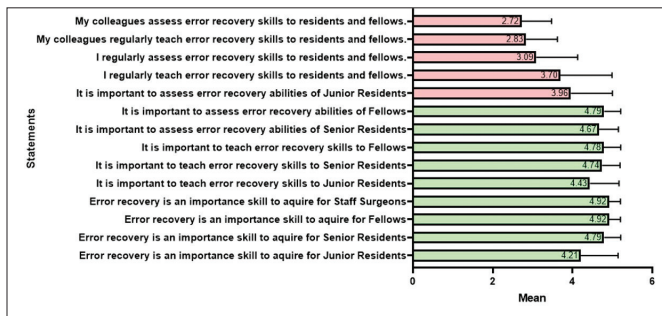
**Conclusions:** Error recovery is a vital skill in urology but is under-represented in existing assessment tools and curricula. Faculty recognize its importance but cite challenges in balancing patient safety with hands-on ER training. Developing standardized tools and incorporating high-fidelity simulation for common surgical errors could enhance ER training. Future research should prioritize integrating ER

into urologic education frameworks, ensuring trainees are equipped to handle intraoperative challenges effectively.

**Acknowledgements:** The authors would like to thank the urology staff at the University of Ottawa, as well as ENT staff and residents at McGill University for their collaborative, unwavering support and for their guidance throughout this project.



**MP 6.11. Figure 4.** Surgeons' opinions on considerations and factors for ER training, with red bars signifying non-conformity and green signifying conformity.



**MP 6.11. Figure 5.** Surgeons' and non-surgeons' opinions on various statements relating to the current and ideal state of ER training, with red bars signifying non-conformity and green signifying conformity.

**MP 6.12**  
**Robotic-assisted kidney transplantation in a Canadian center: A review of the first-in-Canada implementation**

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**Introduction:** Robotic-assisted kidney transplantation (RAKT) is an increasingly adopted technique in select transplant centers around the world, with no transplant program in Canada implementing this procedure to date. RAKT was introduced at the University of Alberta Transplant Program in June 2024 after specialized training was obtained by one transplant surgeon with a urologic practice that includes robotic renal surgery. We sought to review the feasibility of implementing RAKT into a transplant center in Canada.

**Methods:** A review of prospectively collected data of all RAKT completed over the initial six months of implementation was performed. Intraoperative and postoperative parameters are describe and compared to published learning

curve benchmarks. Data on operative times, both total and component parts, were collected prospectively for quality assurance and reviewed with calculation of mean times. These values were compared to published benchmarks for ideal target times derived from multicenter, large-volume learning curve data published in the literature.

**Results:** Five patients have undergone RKT. The initial patient underwent nephrectomy and extracorporeal preparation with autotransplant for Nutcracker syndrome, and four subsequent patients have undergone living unrelated donor kidney transplants (LDKT) using robotic assistance. Mean age was 49 years, mean BMI was 25.6 (range 19–30), and two were males. Four grafts were placed on the right side and one on the left. All LDKT patients were unsensitized and induced with steroids and basiliximab. Mean total operative time for the LDKT cases was 275 minutes. Mean rewarm time (RWT) was 42 minutes across cases (range 37–50 min). Mean duration of arterial anastomosis was 18.4 minutes, venous anastomosis was 15.2 minutes, and ureteric anastomosis was 37 minutes. No cases went beyond the scheduled operative day. RWT, arterial, and venous anastomosis times were within clinically acceptable deviation from target values based on the largest learning curve data published to date (+4%, +11.5%, -12.6%, respectively).

**Conclusions:** Introducing RAKT into a Canadian transplant center is feasible when there is adequate surgeon/surgical team experience in both robotic and transplant surgery. Components of the operation that influence graft function (RWT, anastomotic times) can be performed satisfactorily even in initial cases. Opportunities for improving efficiency emerge in the non-anastomotic components of the surgery and in improving OR workflow dynamics. Further study of outcomes regarding long-term function, complication risks, cost analysis, and patient satisfaction is required.

**Acknowledgements:** The Intuitive Surgical and Paladin Pharmaceuticals contributed in kind support for the proctoring of our initial case.

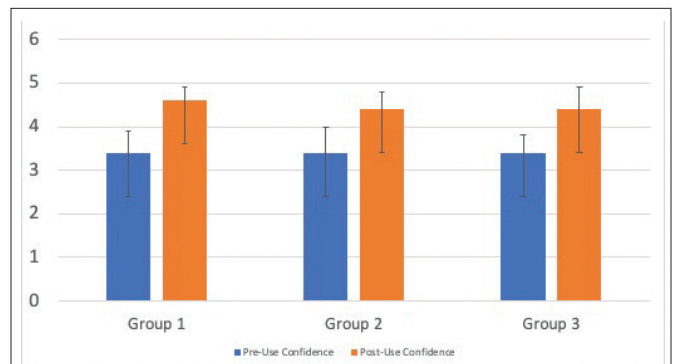
**MP 6.13**  
**UroLearn: A mobile learning solution for medical students on urology rotations**

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**Introduction:** Clerkship rotations are pivotal for medical students to explore specialties and solidify career interests; however, a significant challenge lies in identifying comprehensive yet concise educational resources that adequately prepare students for their urology electives. To address this, an interactive mobile app was developed to provide concise summaries of high-yield urology topics. This pilot study aimed to assess the app's effectiveness in enhancing medical students' learning and readiness for urology rotations.

**Methods:** Structured questionnaires were first distributed to urologists and residents across Canada, aiming to identify important educational topics for urology electives. Guided by these responses, an educational mobile app was created featuring content from online resources and textbooks tailored for medical students. The app includes interactive quizzes, videos, and guideline summaries. Third- and fourth-year medical students at the University of Ottawa completing a urology rotation were recruited to use the app. Pre- and post-use surveys



**MP 6.13.** Improvement in medical students' confidence before and after using UroLearn.

**MP 6.13. Table 1. Improvement in medical student confidence before and after using UroLearn**

Group	Students	Content completion	Average initial confidence score	Post-use confidence score	Percentage improvement of confidence (%)	P	T-stat
Group 1	14	Before rotation (≥75%)	3.4 / 5	4.6/5	35.29	0.000001	-6.22
Group 2	8	End of rotation (75%)		4.4/5	29.41	0.030454	-2.41
Group 3	2	End of rotation (<75%)		4.4/5	29.41	0.115725	-2.68

were conducted to evaluate the app's utility.

**Results:** The app was downloaded by 24 students: 14 (group 1) completed at least 75% of the content before their rotation; eight (group 2) completed 75% by the end of the rotation, and two (group 3) did not complete 75% by the end of the rotation. Initial confidence scores of 3.4/5 increased to 4.6/5 for group 1 and 4.4/5 for groups 2 and 3 post-use (Figure 1, Table 1). Perceived preparedness increased from 42% to 83%. High engagement levels were also reported, with 92% finding the app 'very useful' and 88% recommending its inclusion in all urology rotations.

**Conclusions:** The development of this educational app addresses critical gaps in medical student preparedness for urology rotations. Improvements in confidence and preparedness scores support its potential as a valuable resource. Despite sample size limitations, expanded implementation in Canadian medical schools is planned, with continuous optimizations based on feedback.

**Acknowledgements:** The authors would like to acknowledge that this project was inspired by the success of the LearnENT App in educational technology. Furthermore, they would like to express their sincere gratitude to the University of Ottawa Urology team and residents for their invaluable guidance and support throughout the development of this project.

## MP 6.14

### The gap in urology resident understanding of a robotic prostatectomy: What residents do not perceive when assisting

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**Introduction:** Urology training programs internationally have adopted robotic surgery, particularly robotic prostatectomy. We aimed to determine the knowledge gap in the understanding of robotic prostatectomy for residents compared to urologists, as there is a need for dedicated robotic training curricula.

**Methods:** A 16-question survey was developed, documenting the difference in understanding between residents and urologists. The survey contained items pertaining to patient anatomy, procedural steps, and surgical decision-making. The survey was completed immediately following a robotic prostatectomy by both the urology resident performing the bedside assistance, and the urologist. Statistical analysis of the quantitative questions was performed using kappa scores and thematic analysis was performed to analyze the qualitative responses.

**Results:** forty-two surveys were administered to urology residents and urologists at The Ottawa Hospital over 10 weeks. Disagreements were identified between urology resident and urologist responses. This was noted with the comparison of the following procedural steps: vesicourethral anastomosis (kappa 0.138), apical dissection (kappa 0.149), and seminal vesicle dissection (kappa 0.342). The qualitative responses found discrepancies between resident and urologist understanding. When asked to describe challenges during the procedure, uro-

logists described causal factors leading to challenges and how to manage these issues intraoperatively. In contrast, the residents' responses focused on readily visible aspects of the procedure, including bleeding or difficult exposure, omitting to describe the cause of these challenges.

**Conclusions:** There is a gap in urology resident knowledge and understanding of a robotic prostatectomy. This information is key to expand the understanding of robotic prostatectomy surgical decision-making and its training.

## MP 6.15

### Payments by drug and medical device manufacturers to Society of Urologic Oncology (SUO) fellowship program directors

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**Introduction:** Society of Urologic Oncology (SUO) program directors (PD) are key in shaping the next generation of urologic oncologists. In recent years, urologic oncology has seen many novel pharmaceutical treatments and, resultantly, intensified marketing activities. Given their influence, PDs play an important role in mediating the relationship between industry and trainees. This study characterizes payments from drug and medical device manufacturers to current SUO fellowship PDs.

**Methods:** We identified all SUO PDs from SUO fellowship websites as of February 2024. Education, demographic, and scholarly data were collected via departmental websites, LinkedIn profiles, and Scopus. Industry payments to U.S. SUO PDs (2014–2023) were extracted from the CMS Open Payments database. Descriptive statistics summarized PD characteristics and industry payments. Univariable linear regression assessed associations between PD characteristics and payments by drug and medical device manufacturers.

**Results:** We identified 51 PDs from 37 SUO fellowship programs, predominantly male (94%) and mid-career. Over the nine-year study period, PDs received \$USD 18.9M in industry payments, and 81.6% of payments were for associated research funding (\$15 472 073; median [IQR] per PD, \$126 584 [\$36 565–706 516]; 1262 payments). Thirty-two PDs (66.7%) received one or more research payments, and 100% of PDs received at least one general payment. General payments accounted for \$3.4M (18%), while education payments amounted to \$120K (0.6%). There was no association between PD demographics or research metrics and industry payments.

**Conclusions:** SUO PDs receive significant industry payments, mostly for research, with smaller portions for general support and educational initiatives. There is an opportunity for enhanced collaboration between industry and SUO leadership to support high-quality educational initiatives while ensuring transparency and mitigating conflicts of interest, given the rise of novel treatments.

### MP 6.16

#### Reimagining urology education: Revision of the CanUUC curriculum through the lens of equity, diversity, inclusion, and accessibility

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**Introduction:** In 2011, urologists across Canada created the Canadian Urological Association (CUA) Undergraduate Urology Curriculum (CanUUC), a multifaceted, online curriculum that covers 10 important topics in urology. This resource is available to supplement medical students' urological knowledge. In recent years, the CUA has stated its commitment to advancing EDIA principles to improve care for all Canadians. To ensure the curriculum reflects the CUA values of EDIA, a comprehensive review and revision has been implemented. This project aimed to revise the CanUUC modules to ensure inclusivity of the materials.

**Methods:** Criteria for EDIA were developed by group consensus based on similar work to improve inclusivity of undergraduate medical educational case-

based learning at Dalhousie University. CanUUC materials (slideshows, videos, self-assessment quizzes, and podcasts) are reviewed and content is analyzed using a two-step, multireviewer process to evaluate inclusivity, biases, stereotypes, and accessibility. Following analysis, content is updated to better integrate EDIA principles, i.e., using inclusive language, updating imagery, enhancing text readability, and including more representative cases/examples.

**Results:** Anticipated outcomes include enhanced representation of diverse perspectives, improved accessibility for students, and a curriculum that supports a more equitable learning experience overall.

**Conclusions:** This project will advance the CUA's commitment to inclusivity and equity by integrating EDIA principles into educational content. The revised curriculum will help create a more representative and supportive learning environment for medical students. The revised curriculum will meet current educational standards and serve as a benchmark for inclusivity in medical education. This project emphasizes the importance of ongoing efforts to address and improve disparities in educational resources and practices within medical education.