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Abstract Posters & Videos presented at the 2024 Canadian Surgery Forum in Winnipeg, Manitoba

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Abstracts

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19

Physician Peer Support Programs: A Scoping Review. *Bailey Russell, Arezoo Ahmadzadeh, Khadija Haris, Stephanie Jiang, Tyler Chesney, Helen MacRae, Marisa Louridas.* From the University of Toronto (Russell, Ahmadzadeh, Haris, Stephanie Jiang, Chesney, MacRae, Louridas); Saint Michael's Hospital (Chesney, Louridas).

Background: Involvement in patient complications can lead to significant emotional distress for physicians. In these situations, studies show that physicians prefer a supportive discussion with a peer physician over other forms of psychological support. In response to the growing interest in peer support, this scoping review was conducted to identify the critical components of one-on-one peer support programs for physicians. **Methods:** A literature search was conducted to systematically identify original studies describing the conception, implementation, and/or update to a one-on-one peer support intervention for healthcare providers including physicians. Studies meeting inclusion criteria were reviewed and charted to describe 1) critical components of a peer support encounter, 2) logistical considerations for implementation, and 3) methods of evaluating a peer support program. **Results:** 1028 citations were identified and 25 were included in the final analysis. Principals of peer support identified included confidentiality (n=13; 52%), informality (n=2; 8%), and voluntary participation (n=3; 12%). Creation of a process by which to escalate to higher levels of care such as counselling or emergent psychiatric care was the most frequently described program component (n=19; 76%). Peer supporters were most often recruited based on peer nominations (n=8; 32%) or appointment (n=6; 24%), rather than self-nomination (n=4; 16%). Utilization metrics (n=12; 48%) and feedback through open-ended (n=7; 28%) or quantitative (n=7; 28%) surveys were the most common mechanisms of program evaluation. **Conclusion:** Through this review, we have established key elements of one-on-one peer support for physicians and created a framework outlining important considerations for program implementation. We have compiled methods most frequently used to assess the impact of a peer support program but have not yet established a consensus definition or measure of program success. With the tools and strategies outlined here, physicians may be better equipped to lead change within their departments though the implementation of peer support initiatives.

22

Transparency of Wellness Policies and Benefits in Canadian General Surgery Residency Programs. *Stephanie Jiang, Gazelle Halajha, Justin Barr, Erika Rangel, Kyla Terhune, Stephanie Mason[7], Ashlie Nadler.* From the Division of General Surgery, Department of Surgery, University of Toronto (Jiang, Mason, Nadler); Queen's University, School of Medicine (Jiang); Temetry Faculty of Medicine, University of Toronto (Halajha); Division of General Surgery, Department of Surgery, Toronto General Hospital University Health Network (Barr); Department of Surgery, Division of General and Gastrointestinal Surgery, Brigham and Women's Hospital, Harvard Medical School (Rangel); Department of Surgery, Vanderbilt University Medical Center (Terhune); Division of General Surgery, Department of Surgery, Sunnybrook Health Sciences Centre (Mason, Nadler).

Background: Studies show medical students are reluctant to discuss parenthood during their surgical residency interviews due to concern for biased assessment. Thus, they heavily rely on publicly accessible information on parental support. Multiple studies have demonstrated disparities and limited transparency in parental leave policies across US surgical residency programs, but less is known about transparency in Canada. This study investigated the transparency of parental benefits and support available to general surgery residency applicants in Canada. **Method:** Twenty-nine items of transparency (IOT) were deemed relevant based on previous studies and tailored to Canadian programs. IOT included the presence of maternity or paternity leave, lactation policy, childcare, and primary care coverage. Public platforms for Canadian Resident Matching Service and Royal College of Physicians and Surgeons of Canada accredited general surgery programs, including websites, contracts, and social media, were accessed to collect information on the availability of the pre-determined IOT. Program directors (PD) were contacted if there was missing information. Non-parametric and linear regression were used to compare program variables, namely PD gender and program size. **Results:** There are 23 accredited general surgery residency programs (Table 1). The median number of IOT among programs was 19 (range: 17-24). All programs were transparent regarding the presence of maternity, paternity, and adoption leave (Table 2). Fourteen programs (61%) had lactation rooms. Thirteen programs (57%) had onsite childcare. A significant association between program size and number of IOT was found ($p = 0.01$). At least three different platforms per program had to be accessed to identify IOT, which were then cross-referenced with provincial contracts due to contraindicating information. **Conclusion:** This study demonstrates that while surgical resident parental and health policies exist, they are difficult to access. Efforts should be made to centralize the information on these vital policies to ensure an equitable and inclusive culture of surgery.

23

Large Language Model-Derived Clinical Practice Guideline for the Surgical Management of Appendicitis. *Bright Huo, Elisa Calabrese, Sunjay Kumar, Bethany Slater, Wesley Vosburg.* From McMaster University (Huo); University of California South California, East Bay (Calabrese); Thomas Jefferson University Hospital (Kumar); University of Chicago (Slater); Harvard Medical School (Vosburg).

Background: Large Language Models (LLMs) may enhance the efficiency behind surgical guideline development, with growing interest in their ability to provide clinical recommendations. The Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) recently completed a guideline update to synthesize the evidence for the surgical management of uncomplicated and complicated appendicitis. **Methods:** ChatGPT-4 & Google Gemini were queried with standardized prompts on February 21st, 2024, to generate all sections of the guideline while following the GRADE approach. ChatGPT-4 performed data analysis for key questions on nonoperative versus operative management, timing of surgery, the role of routine drain placement, and the need for short-term versus long-term antibiotics for complicated appendicitis. Reporting standards were appraised using AGREE-S, while clinical accuracy was evaluated using the SAGES guideline update. **Results:** Three of five LLM-generated guideline recommendations

aligned with the SAGES guideline. The LLM guideline recommended nonoperative intervention for uncomplicated acute appendicitis, conflicting with the SAGES guideline. The need for additional antibiotics was considered a harm by the LLM guideline at 25 more per 1000 patient, but a benefit in the SAGES guideline at 9 fewer per 1000 patients. Recommendations regarding the operative management, drain placement, and duration of post-operative antibiotics in complicated appendicitis were concordant between the LLM-generated guidelines and SAGES guidelines. AGREE-S scores were 144/168 and 130/168 for the LLM and SAGES guidelines, respectively. **Conclusion:** Clinicians, researchers, and policymakers should note that the use of LLMs can produce surgical guidelines with robust reporting standards. LLMs can analyze data efficiently with relative accuracy, but this may impact patient safety.

25

Knowledge Sharing of Indigenous Patient Experiences with Bariatric Care. *Wenjing He.* From the University of Manitoba.

Background: The Indigenous population in Canada have higher rates of obesity and its associated comorbidities. The Centre for Metabolic and Bariatric Surgery (CMBS) in Manitoba offers a preoperative behaviour change intervention to improve bariatric surgery outcomes. However, Indigenous teachings and traditional healings are lacking in the bariatric care program. This study aims to understand patient experiences on living with obesity and bariatric surgery health care and improve the health and wellness outcomes of Indigenous bariatric patients. **Methods:** An Indigenous Elder facilitated a knowledge sharing at the Miracle Garden at Victoria General Hospital (VGH). Common themes extracted from transcribed sharing circle and individual interviews audio recordings were identified using thematic analysis. Themes were presented to the CMBS clinic staff, nurses, dietician, and VGH director at the knowledge sharing event. **Results:** Common themes generated were weight struggles and motivation for healing, barriers to surgery, positive experiences with the clinic, and recommendations for program improvement from a patient perspective. There was a positive response and support from clinic staff to implement Indigenous practices and materials into the CMBS program. **Conclusion:** Incorporating traditional Indigenous knowledge and healing into the current program and creating Indigenous focused health and wellness materials such as videos, brochures, manuals, and recipes are essential to provide culturally appropriate care towards Indigenous bariatric patients.

26

Fragility index for Extended Venous Thromboembolism Prophylaxis Following Abdominopelvic Surgery: A Methodological Survey. *Ruxandra-Maria Bogdan1, Tyler Mckechnie, Kelly Brennan, Victoria Shi, Shan Grewal, Cagla Eskicioglu, Ameer Farooq, Sunil Patel.* From the Division of General Surgery, Department of Surgery, Queen's University, Kingston Health Sciences Centre (Bogdan, Brennan, Farooq, Patel); Division of General Surgery, Department of Surgery, McMaster University (Mckechnie, Eskicioglu); Michael G. DeGroote School of Medicine, McMaster University (Shi, Grewal).

Background: Fragility Index (FI) is increasingly used to assess robustness of statistically significant p-values reported in randomized controlled trials (RCTs). FI represents the lowest number of patients

whose outcome needs to be changed from 'non-event' to 'event' for the p-value to increase >0.05. When FI is smaller than loss to follow up, study findings are not considered robust. This methodological survey was designed to assess the fragility of RCT literature regarding extended venous thromboembolism prophylaxis VTEp following major abdominopelvic surgery. **Methods:** MEDLINE, Embase, and CENTRAL were searched from inception to November 2023. RCTs with parallel, double-armed, superiority design comparing extended VTEp for patients undergoing major abdominopelvic surgery to controls were included if at least one dichotomous outcome had an associated p-value of less than 0.05. Walsh et al.'s method of calculating FI was utilized. **Results:** Following review of 611 citations, 6 RCTs were identified with 12 statistically significant outcomes between groups. The mean number of patients randomized per RCT was 419 (SD 176). Loss to follow up was ≤ 5% of the study population in 4 RCTs (66.6%). The mean number of patients lost to follow up was 73 (SD 64). The mean p-value for significant outcomes across included RCTs was 0.016 (SD 0.010). The median FI was 1.5 (range: 1-4). The number of patients lost to follow-up was greater than the FI for 10/12 (83.3%) outcomes. **Conclusion:** Statistically significant differences reported in RCTs evaluating extended VTEp following major abdominopelvic surgery are not robust. A difference of a small number of events dramatically changes the interpretation of these studies. More robust studies are required before extended VTEp should be consider for standard of care. This survey is limited by the number of included studies.

27

Laparoscopic Gastropexy with Soft Tissue Anchor is a Safe and Durable Treatment for Hiatal Hernias During or After Sleeve Gastrectomy. *Peter Urbanellis, Alisha Fernandes, Daniel French, James Ellsmere.* From Dalhousie University.

Background: Laparoscopic sleeve gastrectomy (SG) is the most common bariatric procedure in North America. Hiatal hernias are also a very common anatomical abnormality that can complicate SG at the time of operation or develop in the post-operative phase. There is no consensus regarding the optimal management of hiatal hernias identified before, during or after bariatric surgery. Our centre has adopted the novel use of gastropexy using a soft tissue anchor after primary hiatal hernia repair with SG. This study aims to determine if gastropexy with soft tissue anchor is an effective, durable, and safe procedure to address hiatal hernias during or after SG. **Methods:** Single-centre retrospective analysis over the last 5 years. **Results:** Seven procedures were performed during the study period (Female n=7(100%), P=0.02; Median Age=53y, Interquartile Range [IQR]=17y). Six patients had the procedure following SG and 1 had it simultaneous with SG (Time from SG to procedure, median=1451d, IQR=2577d). Type 1 hernias were more common (Type 1, 2, vs 3: N= 5(71%), 1(14%), 1(14%), P=0.05) with a median patient BMI of 38.4 (IQR = 11.6). Median length of post-operative hospital stay was 2d (IQR 2d). There were no other significant complications reported peri-operatively. Median follow-up time is 223d (IQR 1171d) with symptom resolution or improvement reported in all patients (5(71%) vs 2(29%) vs no improvement 0(0%), P=0.07). There were no mortalities, hospital re-admissions, and no documented recurrences in the follow-up period. **Conclusions**: Gastropexy with soft tissue anchor following primary hiatal hernia

repair with SG is a safe and durable procedure. Continued clinical experience with this procedure and thorough comparisons to alternative strategies are required for widescale adoption of this technique.

28

Effect of Patient Position on Perceived and Measured Musculoskeletal Demand on Endoscopists During Simulated Colonoscopy. *Sarah Mackey, Nicholas Fairbridge, Mark Borgaonkar, Kimberley Cullen, David Pace, Diana De Carvalho.* From the Memorial University.

Background: Utilizing both the right lateral position (RLD) and left lateral decubitus position (LLD) has been shown to improve visualization of the colon during colonoscopy, however, it may increase physical demand on the physician. This study explores the effect of patient position on perceived and measured musculoskeletal demand on the back experienced by endoscopists. **Methods:** 16 endoscopists performed simulated colonoscopies with a trainer in three randomized positions: RLD, LLD, and supine. Participants were instrumented with pairs of surface electromyography (EMG) electrodes over the lumbar erector spinae muscles bilaterally. At the start and end of each trial, participants completed ratings of perceived discomfort (100 mm visual analog scale) and exertion (CR-10 Borg scale) for the lower back. Average normalized EMG (% maximum voluntary contraction, MVC) and baseline-removed change scores for perceived discomfort and exertion were compared between conditions with a 1-way MANOVA and Bonferroni post hoc tests. **Results:** Perceived exertion (RLD 1.53 ± 1.70, LLD 0.64 ± 0.76, supine 0.83 ± 1.34 p = 0.117) and muscle activity (right lumbar erectors: RLD 9.24 ± 3.95, LLD 8.05 ± 3.91, supine 9.24 ± 4.60, p= 0.615; left lumbar erectors: RLD 9.76 ± 4.11, LLD 7.99 ± 3.63, supine 9.19 ± 3.63, p= 0.367) were both fairly low and not significantly different between conditions. A significant main effect for perceived low back discomfort was found, with ratings significantly higher in RLD (15.67 ± 22.14) compared to LLD (2.83 ± 8.60, p=0.041). **Conclusion:** Despite increased discomfort in the RLD condition, the lack of difference in exertion and muscle activity suggests the demand in all postures is similar. Low magnitudes of muscle activity sustained for long periods of time can contribute to injury risk. Ergonomic training, with consideration of patient position, should be considered to reduce endoscopists' back discomfort and risk of injury during colonoscopy.

29

Factors Driving Emergency Department Presentation Following Breast Surgery at a Canadian Tertiary Care Centre: A Retrospective Chart Review. *Cameron Penny, Katerina Neumann, Richard T. Spence, Ashley Drohan.* From Dalhousie University.

Background: Same-day surgery has become the standard of care for breast conserving surgery, and more recently a similar trend has been observed for mastectomy. However, little data exists describing emergency department (ED) presentation following breast conserving surgery; while better studied in patients undergoing mastectomy, these data show mixed results. The current study aimed to describe the rate of, and reasons underlying, ED presentation following lumpectomy and mastectomy at a Canadian tertiary care centre. **Methods:** Given a temporal shift toward same-day surgery at the study centre resultant from the Covid pandemic, the 200 most recent ED

visits following lumpectomy or mastectomy were included for analysis. Patients undergoing breast surgery at the study centre prior to July 1st, 2022 (most recent available) were identified using the Discharge Abstract Database (DAD) and the National Ambulatory Care Reporting System (NACRS). NACRS and provincial ED datasets were used to identify patients who presented to the ED within 90 days of operation. Chart review was conducted to determine the reason for presentation, ED length of stay, disposition, and attachment to a primary care provider. **Results:** Analysis of the 200 most recent ED visits identified 123 unique patients comprising these visits. The majority (76/123, 61.9%) had undergone lumpectomy. Among all comers, 70/123 (56.9%) patients presented due to a surgical concern. This was primarily superficial surgical site infections in 18/76 (23.7%) for the lumpectomy group, compared to hematoma in 10/47 (21.3%) patients following mastectomy. Of those presenting to the ED for medical reasons, 13/53 (24.5%) presented due to a chemotherapy-related side effect. Regarding disposition, most patients (101/123, 82.1%) were discharged home. **Conclusion:** Most patients presented to the ED due to a surgical concern. Given the proportion of patients that were discharged home, targeted interventions ¬– such as use of telehealth ¬¬– may help reduce the rate of ED presentation following breast surgery.

30

Post-operative Pain is a Driver of Early Presentation to Emergency Departments after Discharge from Cholecystectomy. *Brianne Cruickshank, Ashley Drohan, Richard Spence, Katerina Neumann.* From Dalhousie University.

Background: Nova Scotia (NS) patients are challenged with long wait times in Emergency Departments (ED). More than 90,000 cholecystectomy procedures are performed each year in Canada. There is little data available on the resulting burden to ED. The purpose of this study was to characterize the reason for ED presentation in patients after undergoing cholecystectomy. **Methods:** Utilizing Nova Scotia Health administrative datasets, patients were identified who underwent cholecystectomy at two tertiary care hospitals in central zone between April 2016 and March 2022 and were seen within 90 days at any provincial ED (n=1356). A retrospective chart review of a randomized sampling of 610 ED visits, corresponding to 503 patients with data taken from their first visit, was undertaken to identify the reason for ED presentation. Descriptive statistics included proportions, means, medians, and range as appropriate. **Results:** Of 6492 patients who underwent cholecystectomy, 1356 (20.9%) presented to any ED within 90 days of surgery. On analysis of a randomized sampling of 503 patients, the mean age was 53.6 years, 322 (64%) were female, the mean Charlson co-morbidity score was 1.7, 28 (5.6%) had no primary care physician on record, and 438 (87.1%) underwent a laparoscopic approach. Median time to presentation was 14 days [1-90], with surgical related reasons reported in 281/487 (57.7%) of presentations. The most common cause for presentation to ED was uncomplicated surgical pain in 98/352 (27.8%) of patients who presented within the first 30 days. Non-surgical related reasons were reported in 107/147 (72.8%) of visits that occurred after 30 days. Only (88/503) 17.5% of cholecystectomy patients presenting to the ED required re-admission to hospital. **Conclusion:** Uncomplicated post-operative pain, often not requiring readmission, accounts for a large proportion of ED presentations after cholecystectomy. A standardized approach to analgesia

prescription at discharge may be an area for targeted intervention.

31

Reporting Quality of Systematic Reviews Evaluating Surgical Interventions According to the PRISMA 2020 Checklist: A Methodological Survey. *Lea Tessier, Tyler McKechnie, Shan Grewal, Christopher Chu, Victoria Shi, Cagla Eskicioglu.* From the McMaster University.

Background: The PRISMA 2020 checklist is a reporting guideline for systematic reviews (SRs) and meta-analyses (MAs). The adherence to these guidelines in SRs and MAs for surgical interventions remains to be fully explored. Our aim is to perform a methodological review evaluating the completeness of reporting of surgical SRs and MAs per the PRISMA checklist. **Methods:** MEDLINE and EMBASE were searched for studies published from 2022 to 2023. SRs and MAs evaluating a surgical intervention were included. The primary outcome is overall PRISMA statement checklist completeness. Our secondary outcome is to evaluate associations between PRISMA reporting completeness and journal endorsement of PRISMA, a priori registration of the study, a priori publication of a protocol, number and type of included studies, open access publication, and journal impact factor. We conducted a Poisson regression to determine the association between the above factors and completeness of reporting, as measured by the number of reported PRISMA items per study. **Results:** From 658 citations, 57 studies were included. Studies mostly pertained to bariatric surgery (n=34), general surgery (n=9), breast surgery (n=6), and colorectal surgery (n=4). The mean number of PRISMA items reported was 31.42 (SD 5.45) out of a total of 42 items. Adjustment analysis revealed that studies with a published protocol were associated with a significantly higher number of PRISMA items reported (incidence rate ratio [IRR] 1.17, 95% confidence interval [CI] 1.02-1.33, p=0.023). No other factor was found to be significantly associated with reporting completeness. **Conclusion:** Adherence to the PRISMA 2020 checklist for SRs and MAs evaluating surgical interventions is low. Publication of a protocol a priori may improve reporting completeness, suggesting a potential avenue for improvement. Journals may consider endorsing the publication of a protocol. Future research endeavors should seek other innovative strategies to enhance transparency, quality, and integrity in research in surgery.

32

Risk Factors Associated with Mortality Following Appendectomy for Acute Appendicitis. *Mirna Matta, Lynn Sukkarieh, Kaylene Duttchen, Donald Buie.* From the University of Calgary.

Background: Appendicitis is a common cause of an acute surgical abdomen. Appendectomy within 24 hours is generally safe and is associated in most cases with rapid and complete recovery. However, there remains a recognized mortality rate. The aim of this study was to examine the risk factors associated with mortality to identify patients who require expedited surgery. **Methods:** All patients who underwent appendectomy for acute appendicitis in Alberta between 2010 and 2017 were identified. The subset of patients who died within 90 days of appendectomy formed the study population. Patient variables including demographics, pre-operative lab values, critical timepoints (such as time to operating room), co-morbidities, surgical factors, and reported cause of death were examined. **Results:**

Thirty-five patients died within 90 days of appendectomy. The average age was 72.8 years with 80% of the patients were old than 65 years of age. Of 11 co-morbidities evaluated, 18 patients (51.4%) had 3 or more. Acute kidney injury was identified preoperatively in 16 (45%) patients and was the only preoperative lab value that was clinically significant. Despite 20 (56%) of our patients meeting sepsis criteria, the average time from emergency triage to surgeon assessment was 9 hours and from surgeon assessment to the operating room was 16 hours. Overall, 20 patients required an ICU admission with 11 (55%) of these having a diagnosis of septic shock and 6 (30%) requiring support for respiratory failure. **Conclusion:** Appendicitis presents with a wide range of disease severity. Patients who are older, co-morbid (>3 co-morbidities), presenting with sepsis or acute kidney injury have a high risk of death within 90 days. Early recognition and assessment of these high-risk patients by physicians and surgeons followed by expedient appendectomy and supportive care will help to optimize outcomes.

33

Pre-operative Gastroesophageal Reflux Does Not Affect 30-Day Outcomes in Patients Undergoing Revisional Bariatric Surgery to Single Anastomosis Duodeno-Ileal Bypass (SADI): MBSAQIP Analysis of 933 Patients.
Daniel Meyer, Valentin Mocanu, Noah Switzer, Daniel Birch, Shahzeer Karmali. From the University of Alberta.

Background: Single anastomosis duodeno-ileal bypass (SADI) represents a poorly understood revisional procedure in patients with pre-operative GERD. Thirty-day outcomes in patients with pre-existing GERD undergoing revision to SADI have not been previously characterized. **Methods:** The Metabolic and Bariatric Accreditation and Quality Improvement Program registry was analyzed for patients undergoing revisional bariatric surgery to SADI between 2020 and 2021. Analysis was performed to determine if preoperative GERD had any significant impact on thirty-day outcomes. Bivariate analysis and multivariable logistic regression modeling was used to identify independent predictors of 30-day morbidity. **Results:** Revision to SADI was performed for weight recidivism in 444 (47.6%), 397 (40.6%) for inadequate weight loss, 42 (4.5%) for GERD, and 22 (2.3%) for persistent metabolic comorbidities. The most frequent index procedure was sleeve gastrectomy in 723 (78.5%). Of the included patients, 342 (36.7%) had preoperative GERD. Anastomotic leak was not associated with preoperative GERD (2.5% non-GERD cohort vs. 1.2% GERD cohort; p = 0.2). Bleeding occurred in 6 (1%) of the non-GERD cohort and 6 (1.8%) of the GERD cohort (p = 0.33). There was no difference in thirty-day readmission (5.6% vs 5.9%, p = 0.9) reintervention (2.4% vs 1.2%, p = 0.2), or reoperation (3.6% vs 2.05%; p = 0.19) rates. Multivariable regression analysis revealed a history of dyslipidemia was associated with a significantly elevated risk of serious complication (OR 2.2; 95% CI 1.04-4.56; p = 0.04) as was a history of myocardial infarction (OR 12.2; 95% CI 2.79–53.23; p = 0.001). **Conclusions**: The presence of GERD in patients undergoing revisional bariatric surgery to SADI does not have any association with anastomotic leak, hemorrhage, thirty-day readmission, reintervention, or reoperation. The presence of dyslipidemia and prior myocardial infarction are independent predictors of post-operative thirty-day morbidity, regardless of the presence of preoperative GERD.

35

Safety and Efficacy of Locally Manufactured Hypochlorous Acid Solution in the Management of Complicated Wounds in a Tertiary Public Hospital: A Single Arm Validation Study. *Kristine Joy Flores, Neil Mendoza.* Fatima University Medical Center (Flores, Mendoza); Valenzuela Medical Center (Flores, Mendoza).

Background: Chronic non-healing wounds represent a prevalent concern encountered at the Surgery Department of Valenzuela Medical Center. Hypochlorous (HOCl) Acid solution is one of the irrigating solutions widely recognized in the medical field for its antiseptic properties including as nasal and pharyngeal sprays, intra-operative peritoneal lavage solutions, ocular solutions, hemodialysis solutions, peritoneal dialysates, intravenous fluids, fogging solutions for airborne pathogen sterilization and as a topical treatment. This study endeavors to furnish substantial data on the clinical safety and cost-effectivityof utilizing locally manufactured HOCl Acid in the management of non-healing wounds. **Methods:** The study adopted a single-arm design, with data collection conducted at the Department of Surgery of Valenzuela Medical Center in Karuhatan, Valenzuela City. Progress for each subject will be meticulously documented during every wound dressing session, commencing from the initial wound assessment until the completion of 4 weeks of treatment or until the wound achieves full healing. Data analysis involved evaluating reductions in healing time and wound size for each group. **Results:** The treatment of chronic non-healing wounds using Hypochlorous Acid irrigating solution yielded marked reduction in the size of the wound from Day 0 of application until Day 14 of observation and elimination of heavy exudative discharge on the wound bed was observed in weeks 1 to 4. The mean data was derived from average day the wound beds had light or almost zero discharge. **Conclusion:** The use of stabilized Hypochlorous Acid (HOCL) as an irrigating solution has been proven effective in a variety of chronic non-healing wounds by reducing the percentage wound size, decreasing time to fully heal and eliminating exudative discharge within 4 weeks in patients treated in a Tertiary Government Hospital in Karuhatan, Valenzuela City, Philippines. No cytotoxicity related to the HOCL solution was observed and recorded.

36

Not Just a BLiP: Early Experience with a Novel Multidisciplinary Case Conference for Benign Hepatopancreatobiliary Disease at a Tertiary Canadian Healthcare Centre. *Sydney Selznick, Nick Mitrou, Ephraim Tang, Ken Leslie, Jeff Hawel*. From the Western University (Selznick, Mitrou, Tang, Leslie, Hawel); Department of Surgery, London Health Sciences Centre (Selznick, Mitrou, Tang, Leslie, Hawel); CSTAR (Canadian Surgical Technologies & Advanced Robotics) (Hawel).

Background: Benign Liver and Pancreas (BLiPs) rounds, implemented in 2022 at our Canadian tertiary care centre, is a novel concept of a multidisciplinary case conference (MCC) for discussion of benign hepatopancreatobiliary (HPB) disease. BLiPs Rounds are a monthly virtual meeting of surgeons, gastroenterologists, and interventional radiologists experienced in biliary and pancreatic disease. **Methods:** This case series was completed to review the patient cases discussed over the first year of BLiPs rounds, and to evaluate the effect of the multidisciplinary discussion on patient management plans. Meeting minutes were reviewed for BLiPs rounds between May 2022 to July 2023. Data were collected retrospectively on all discussed patients by

review of the electronic medical record, and analyzed using frequencies and means with standard deviations. **Results:** Between May 2022 to July 2023, 56 cases were discussed at 12 case conferences. 68% of cases concerned pancreatic pathology, 25% concerned biliary pathology, the remainder liver or duodenal pathology. 49 cases (88%) were presented to discuss therapeutic options, and 7 presented as diagnostic challenges. Cases were usually presented once, but 7 patients were discussed at multiple conferences due to complex issues or ongoing symptomatology. 40 patients (71%) had undergone previous endoscopic, radiologic, or surgical interventions prior to discussion. Endoscopic intervention was recommended in 32% of cases, percutaneous interventional approach in 13%, a combined endoscopic and percutaneous approach in 9%, and surgery in 18%. Repeat imaging or observation were recommended in 29% of cases. Discussion at rounds led to a change or adjustment in the proposed management in 46 cases (82%). The plan recommended by the MCC was carried out in 71% of cases. **Conclusion:** BLiPs case conference provides a valuable venue to discuss cases, encourage interdisciplinary collaboration, and refine treatment approaches, leading to a change in management plan in over three-quarters of cases presented.

37

Surgical Morbidity and Mortality: A Survey of Continuous Quality Improvement Rounds in British Columbia General Surgery Departments Identifies Areas For Quality Improvement. *Sam Wiseman, Nathan Louie*. From St. Paul's Hospital (Wiseman, Louie); University of British Columbia (Wiseman, Louie).

Background: Continuous quality improvement rounds (CQIRs) play an important role in medical education, quality assurance, and accreditation in Canadian hospitals. While previous studies within Canada and internationally have assessed the use of CQIRs in medical and surgery departments, we aim to establish a more thorough understanding of their specific conduct and perceived value in general surgery departments at a provincial scale with a focused scope of hospitals in British Columbia (BC), Canada. **Methods:** A cross-sectional electronic survey was disseminated amongst general surgery department heads across BC hospitals. The survey was conducted between August-December 2023, and included 27 key items involving open and close-ended questions to obtain information on CQIR logistics such as scheduling, format, and content, as well as surgeons' subjective assessments on quality improvement, educational value, and barriers to participation. **Results:** Thirteen responses representing surgical departments across BC were qualitatively analyzed. Most reported monthly or four-monthly CQIR meetings, lasting at least one hour, with strong attendance by attending surgeons. A common trend noted was the shift from primarily in-person to a mix of in-person, video call, or hybrid formats post-pandemic. Noted areas for improvement included the absence of specific inclusion criteria, the need for standardized error classification, and lack of post-CQIR engagement for educational assessment. Respondents expressed satisfaction with CQIR effectiveness but expressed desire for more in-person meetings and increased structure. **Conclusion:** CQIRs in BC are effective but occur less frequently than is ideal, as defined in past studies, for medical education and quality improvement. Our study suggests that in addition to increasing the frequency of CQIRs, a more organized approach to case selection and analysis may enhance the delivery and application of key learning objectives in

future practice. Further research on CQIRs could provide a more comprehensive understanding by surveying and interviewing all meeting attendees, beyond just surgical leads.

38

Current and Recent Past State of Gender Diversity in Canadian Surgical Residency Programs. *Rahim Valji, Sheharzad Mahmood, Kevin Verhoeff, Simon Turner.* University of Alberta (Valji, Verhoeff, Turner); University of Toronto (Mahmood).

Background: Diversity of gender representation in medicine is known to positively influence patient outcomes and predict career trajectories for female trainees. This study aims to identify the current and recent past state of gender diversity amongst trainees entering Canadian surgical residency programs. **Methods:** Data was sourced from the Canadian Post-M.D. Education Registry (CAPER) and the Canadian Resident Matching Service (CaRMs) for ten surgical specialties. CAPER data includes PGY-1 trainees in all surgical specialties for the academic years 2012-2013 to 2021-2022. CaRMs provided data of total applicants and matched applicants for Canadian Medical Graduates (CMGs) in the match years 2013-2022. **Results:** From 2012-2022, there were 4011 PGY-1 surgical residents across Canada (50.4% female, 49.6% male). Over the years 2012-2022, the surgical specialties with the most female representation were obstetrics/gynecology (82.1-91.9%), general surgery (40.2-70.7%), and plastic surgery (33.3-54.2%). The surgical specialties with the least female representation were neurosurgery (18.8-35.3%), urology (11.8-42%), and orthopedic surgery (17.5-38.5%). The number of female applicants to surgical programs has increased since 2013 and outnumber male applicants each subsequent year. The match rate to surgical programs for female applicants has varied by year, with the highest being 63.9% in 2014 and the lowest in 2018 at 48.8%. **Conclusions**: Our study shows promising trends that reflect increased representation among female trainees. However, while the number of female trainees in general surgery and obstetrics/gynecology programs match and even exceed Canadian demographic proportions, this is not true for most other surgical specialties. This calls for continued efforts to improve gender equity at all training levels and focus on including intersectionality when evaluating program diversity, systemic changes to ensure inclusive culture within surgical programs, and evaluating the retention of women surgeons.

39

Percutaneous Cholecystostomy: A Single Centre Review. *Dora Laczko, Brad Moffat, Kelly Vogt, Daniele Wiseman, Laura Allen*. From the Western University (Laczko); London Health Sciences Centre (Lackzo, Moffat, Vogt, Wiseman, Allen).

Background: In patients with acute cholecystitis who are at high risk for surgical complications, percutaneous cholecystostomy tube placement allows for the immediate decompression of the gallbladder. Selecting patients for cholecystostomy tube insertion and their subsequent management remains controversial. We aim to determine the patient population that received cholecystostomy tubes and the outcomes following their initial treatment of acute cholecystitis at a tertiary care centre. **Methods:** This is a retrospective chart review of all adult patients who received a cholecystostomy tube from 2017-2018 for the treatment of acute cholecystitis at London

Health Sciences Centre. All other indications for cholecystostomy tube placement were excluded. **Results:** In total 81 of 113 patients who underwent cholecystostomy tube placement met inclusion criteria. The mean age was 74.5 years and 75.3% of patients were assigned an ASA score of III or IV. Overall, 29 (35.8%) patients ultimately underwent a cholecystectomy, while 26 (32.1%) patients had removal of the cholecystostomy tube without cholecystectomy and 26 (32.1%) patients had a permanent cholecystostomy tube. While followed by interventional radiologists, 56.8% of all drain related procedures were performed for unplanned indications such as dislodged, blocked, or leaking drains. Of the patients that underwent cholecystectomy 82.7% of the procedures were performed on an elective basis, at a median of 3 months following placement of the cholecystostomy tube. The conversion rate from laparoscopic to open cholecystectomy was 20.7% and 10.3% of patients underwent a subtotal cholecystectomy. Additionally, 46.9% of patients required at least one readmission to hospital and all-cause mortality was 6.2% in one year of cholecystostomy placement. **Conclusion:** At our tertiary center, percutaneous cholecystostomy tubes were typically placed in older patients with multiple medical comorbidities. Cholecystostomy placement was associated with a low rate of cholecystectomy, high likelihood of unplanned re-interventions and hospital re-admission.

40

Development of a Rural Surgical and Obstetrical Network and Enhanced Surgical Skills Program: Inception to Action. *Christine Li, Suzanne Higgins, Mark Prins, Abdullah Saleh.* Division of Colorectal Surgery, Department of Surgery, St. Paul's Hospital, University of British Columbia (Li); Rural Surgical and Obstetrical Networks of Alberta (RSONA), Provincial Surgical Utilization, Alberta Surgical Initiative, Alberta Health Services (Higgins); Office of Rural and Regional Health, Department of Family Medicine, University of Alberta (Prins); Division of Pediatric General Surgery, Department of Surgery, Stollery Children's Hospital (Saleh); Office of Global Surgery, Department of Surgery, University of Alberta (Saleh).

Background: Delivering surgical and obstetrical services in rural and remote communities is challenging and requires multidisciplinary involvement and buy-in. Rural surgical programs are plagued with low or inconsistent case volumes and difficulties retaining or recruiting skilled staff. This contributes to the insecurity of programs and increases the inequity of access to surgical care in rural communities. In the past 20 years, over 25 rural surgical sites in Alberta have closed. Enhanced skills programs and formalization of support networks have been shown to be powerful approaches to creating and supporting rural providers. Creation and adoption of a successful province-wide solution and overcoming barriers to this complex problem requires a collaborative and system-based approach. **Methods:** A formal evaluation of local practices was undertaken. Multi-stakeholder consultations, surveys, and semi-structured interviews were used to gain understanding and participation from administration, surgery, obstetrics, anesthesiology, tertiary care and rural care providers. The process involved creating alignment, incentives, buy-in and dispelling myths to bring necessary members to the table. The final proposal required multiple iterations and reviews by a steering committee, competency-specific subcommittees, and oversight from administration. **Results:** The Rural Surgical and Obstetrical Networks of Alberta

(RSONA) involves integrating rural surgical and obstetrical providers with regional and tertiary specialists, supported by a six-pronged approach including: residency training programs, standardization of privileging, support for continuing medical education, coaching, continuous quality improvement, and an organizational and financial framework. The program has received operational funding to establish the first formalized training program of its kind in Alberta and a comprehensive system-based solution. **Conclusion:** RSONA aims to ensure sustainable, evidence-based, high-quality, and safe surgical service provision in rural communities. RSONA is a large scale, transformative surgical and obstetrical program to meet the needs of patients in rural areas, support providers, improve utilization of existing infrastructure, and save healthcare resources and dollars.

41

Understanding the Landscape and Perspectives of Canadian General Surgical Trainees on Robotic-Assisted Surgery: A Nation-Wide Study. *Prachikumari Patel, Hala Muaddi, Ahmer Irfan, Taylor M. Coe1, Nadia Rukavina, Thomas Geleff, Shilpa Balaji, Roxana Bucur, Jad Abou Khalil, Chaya Shwaartz.* From the Abdominal transplant and HPB surgical oncology, Department of Surgery, University of Toronto (Patel, Irfan, Coel, Shwaartz); HPB Oncology research program, University Health Network (Patel, Rukavina, Geleff, Balaji, Bucur, Shwaartz); Department of Surgery, Mayo Clinic (Muaddi); Division of General Surgery, Department of Surgery, University of Ottawa (Khalil).

Background: Over the past decade, the global adoption of robotic-assisted surgery (RAS) has surged due to its better intra-operative ergonomics, enhanced visibility, and increased technical capabilities. Similarly, Canada has witnessed an expansion of robotic surgery platforms across many surgical specialties including general surgery. However, despite the widespread availability of RAS platforms, there exists a notable gap in standardized training curricula for general surgery trainees. Consequently, trainees' exposure to RAS varies throughout their training programs, prompting the need for a comprehensive investigation into the perspectives and experiences of Canadian general surgery trainees with RAS. **Methods:** We are conducting a cross-sectional survey of Canadian general surgery residents and subspecialty fellows through a survey distributed with the help of program directors and coordinators across the country. **Results:** To date, we have received 104 responses, of which 78% are from general surgery residents and 22% from fellows. Despite the RAS systems available in 83% of Canadian programs, a staggering 87% of trainees reported limited technical knowledge of RAS, with only 18% of trainees having access to the RAS system for practice at their institution. Although, 80% expressed a keen interest in becoming proficient in RAS, only 33% of trainees had hands-on experience, mostly in an observational or assistant capacity. Furthermore, while 85% of trainees expressed a desire for RAS to be integrated into their curriculum and gain additional training, 95% reported the absence of formal training opportunities or RAS curricula in their programs. **Conclusion:** The findings underscore a pressing need for enhanced RAS training opportunities within Canadian general surgical programs. Despite trainees' enthusiasm for RAS, the current landscape presents significant deficiencies in practical exposure and structured curricula. Moving forward, concerted efforts must prioritize the integration of robust RAS training into

general surgery programs across Canada, ensuring the preparedness of future surgeons.

42

The Utility of Pre-emptive Ketorolac for Hernia Repair Using Local Anesthetic. *Kala Hickey, Erin Bonisteel, Jurgienne Umali, Ibrahim Dogar, Geoffrey Warden, Darrell Boone1, Bradley Evans, Alexander Mathieson, David Pace.* From the Discipline of Surgery, Faculty of Medicine, Memorial University of Newfoundland, St. John's (Hickey, Bonisteel, Umali, Dogar, Boone, Evans, Mathieson, Pace); Discipline of Anesthesia, Faculty of Medicine, Memorial University of Newfoundland (Warden).

Background: The utility of ketorolac as pre-emptive analgesia for hernia repair under local anesthetic (LA) is unknown. Studies suggest a possible short-term benefit. This study examines its effects on pain control and patient satisfaction in this setting. **Methods:** Sixty-two patients underwent hernia repair using LA between August 2022 and September 2023. The control group (n=33) received LA (xylocaine 1% with epinephrine) before and during surgery. The ketorolac group (n=29) received 30mg of intravenous ketorolac in the preoperative waiting area in addition to LA. All patients were prescribed postoperative oral ketorolac. No patients were prescribed narcotics. Patients were contacted by telephone on postoperative day (POD) 0, 1, and 7 to assess pain using a 4-point Verbal Rating Scale (VRS) and patient satisfaction using a 9-item Quality of Recovery Score (QoR-9). **Results:** Fifty-three males and 9 females were enrolled with a mean age of 56 (range 22-88) and mean BMI of 28 (range 21-42). There were no differences in sex, age, or BMI between groups. Repairs in each group included 29 inguinal, 27 umbilical, 5 incisional, and one femoral hernia with similar proportions. Mean operative time was similar between groups (28.5 vs 34.1 minutes, p=0.15). Mean LA volume required was greater in the control group (42ml, sd11 vs 33ml, sd15, p=0.2). Mean VRS score on POD 0 favored the ketorolac group (1.3 vs 1.0, p=0.04). A trend towards a better QoR-9 score on POD 0 favoured the ketorolac group (16.1 vs 17.0, p=0.05), with no difference in VRS or QoR-9 scores on POD 1 and 7. Postoperative complications were minimal and similar between groups. There were no hernia recurrences at the 2-month follow-up visit. **Conclusion:** Hernia repair using LA is well-tolerated without narcotics. Pre-emptive ketorolac appears to decrease pain on POD 0 and decreases LA required during surgery.

43

Addressing Burnout in Surgery and Vascular Surgery. *Rebecca Lozano-Franco, Nardin Farag, Cedric Keutcha Kamani, Rita Mancini, Kristina Shanahan, Dawn Coleman, Laura Drudi.* From the Faculty of Medicine and Health Sciences, McGill University (Lozano-Franco); Division of General Surgery, University of Ottawa (Farag); Faculty of Medicine, University of British Columbia (Kamani); Faculty of Medicine, Université de Montréal (Mancini); Innovation Hub, Centre de Recherche du Centre Hospitalier de l'Université de Montréal (Shanahan); Division of Vascular and Endovascular Surgery, Duke University Medical Center (Coleman). 7Division of Vascular Surgery, Centre Hospitalier de l'Université de Montréal (Drudi).

Background: By exploring the scientific literature, this article seeks to equip healthcare professionals with the knowledge to identify solutions to burnout within surgery and vascular surgery. **Methods:** A narrative literature review included French and English articles and was conducted in

April 2023 with the help of PubMed and Google Scholar databases. Our search included specific MeSH (Medical Subject Heading) terms such as "burnout," "solution," and "healthcare." The review focused on surgical specialties, with a particular lens toward vascular surgery when evidence was available. However, it was broadened to include non-surgical specialties to address knowledge gaps. Through the literature review, we canvased information about operational interventions against burnout, which was then described descriptively. **Results:** We presented a summary of interventions to mitigate burnout as a tiered-approach, categorized into three groups that encompass the individual, the team, and the system. Research supports individual-focused interventions that enhance work-life balance and the use of other tools such as peer support groups, coaching, and counseling. Team-based strategies encompass relationships and mentorship as vital positive factors that curb burnout rates. Finally, the literature advocates for organizational support through good leadership and institutional investment into the workforce's culture and well-being for solutions to burnout at the system level. **Conclusion:** The prevalence of burnout in healthcare professionals is a public health crisis. Indeed, contemporary evaluations in the vascular surgery specialty demonstrate that nearly half of the workforce has experienced burnout. This paper explores the current literature to identify solutions that could help address burnout for surgeons. Current literature supports a tiered approach to mitigate burnout that encompasses elements at the individual, team, and organizational levels.

44

The Ability of Artificial Intelligence Large Language Model-Linked Chatbots to Generate Recommendations for the Surgical Management of GERD Using SAGES Guidelines. *Bright Huo, Elisa Calabrese, Sunjay Kumar, Romeo C. Ignacio, Rodolfo Oviedo, Imran Hassan, Bethany Slater, Danielle S. Walsh, Wesley Vosburg*. From McMaster University (Huo); University of California South California, East Bay (Calabrese); Thomas Jefferson University Hospital (Kumar); University of California (Ignacio); Nacogdoches Center for Metabolic and Weight Loss Surgery (Oviedo); University of Iowa (Hassan); University of Chicago (Slater); University of Kentucky (Walsh); Harvard Medical School (Vosburg).

Background: Large language model (LLM)-linked chatbots may be an efficient source of clinical recommendations for healthcare providers and patients. This study evaluated the performance of LLM-linked chatbots in providing recommendations for the surgical management of gastroesophageal reflux disease (GERD). **Methods:** Nine patient cases were created based on key questions addressed by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) guidelines for the surgical treatment of GERD. ChatGPT-3.5, ChatGPT-4.0, Bing Chat, Google Bard, and Perplexity AI were queried on November 16th, 2023, using standardized prompts to generate recommendations for the surgical management of GERD. Chatbot performance was evaluated based on the alignment of responses with SAGES guideline recommendations. Outcomes were reported with counts and percentages. **Results:** Surgeons were given accurate recommendations for the surgical management of GERD in an adult patient for 5/7 KQs by ChatGPT-4.0, 3/7 (42.9%) KQs by Bing Chat, 6/7 (85.7%) KQs by Google Bard, and 3/7 (42.9%) KQs by Perplexity according to the SAGES guidelines (Table 1). Patients were given accurate

recommendations for 3/5 (60.0%) KQs by ChatGPT-4.0, 2/5 (40.0%) KQs by Bing Chat, 4/5 (80.0%) KQs by Google Bard, and 1/5 (20.0%) KQs by Perplexity, respectively. In a pediatric patient, surgeons were given accurate recommendations for 2/3 (66.7%) KQs by ChatGPT-4.0, 3/3 (100.0%) KQs by Bing Chat, 3/3 (100.0%) KQs by Google Bard, and 2/3 (66.7%) KQs by Perplexity. Patients were given appropriate guidance for 2/2 (100.0%) KQs by ChatGPT-4.0, 2/2 (100.0%) KQs by Bing Chat, 1/2 (50.0%) KQs by Google Bard, and 1/2 (50.0%) KQs by Perplexity. **Conclusions**: Gastrointestinal surgeons, gastroenterologists, and patients should recognize both the promise and pitfalls of LLM's when utilized for advice on surgical management of GERD. Additional training of LLM's using evidence-based health information is needed.

45

Evaluating the Impact of Shared Care Surgical Practices on Trainee Education and Experience, a Qualitative Study. *Janelle Rekman, Anastasia Turner, Morgann Reid, Victoria Strachan, Joana Abou-Rizk, Fady Balaa.* From the University of Ottawa (Rekman, Turner, Balaa); University of Toronto (Reid); King's College London (Strachan); Nutrition International (Abou-Rizk).

Background: In comparison to traditional solo surgeon models, shared care models (SCMs) or team-based models are defined as groups of surgeons who share resources, teaching and clinical responsibilities. SCMs have been shown to bolster key vulnerabilities of the Canadian healthcare system by improving timely access to care and physician wellness, all without compromising patient outcomes. Although currently on the rise in Canada, the impact of SCMs on surgical trainee education is unknown. This study aimed to characterize the educational experience of surgical trainees working in SCMs, thus contributing to global understanding of how these practice models shape acquisition of knowledge, technical competencies, and interpersonal skills. **Methods:** Purposive sampling was used to identify postgraduate surgical trainees who have worked in SCMs. Semi-structured interviews were conducted using an interpretive phenomenological qualitative method to explore trainee lived experience within SCMs. Data analysis was conducted using a framework approach to thematic analysis until thematic saturation was reached. **Results:** Preliminary data include analysis of 6 in depth semi-structured qualitative interviews. After team analysis, several themes emerged. Residents identified a cultural difference between SCMs and solo surgeon models, with SCMs placing a greater emphasis on collaboration, mentorship, and asking for support when needed. Perceived benefits to residents included greater staff surgeon availability and structured teaching in SCMs. However, drawbacks to trainee education were also identified. These included a potential increased administrative burden due to shared consents and longer clinics and decreased operative opportunities for trainees due to staff assisting one another. Solutions to mitigate these drawbacks were explored, such as a comprehensive team pre-brief before each surgery to set expectations for trainees' involvement. **Conclusion:** Our results suggest that SCMs do not pose a strong detriment to trainee education in comparison to solo surgeon models and can be tailored to optimize learning with implementation of thoughtful measures.

46

Establishing Quality of Care Indicators for Thyroid Cancer Management: A Scoping Review. *Kimia Ameri, Michelle Kwon, Akie*

Watanabe, Sam Wiseman. From the University of British Columbia (Ameri, Kwon, Watanabe, Wiseman); Department of Surgery, St Paul's Hospital (Ameri, Kwon, Watanabe, Wiseman).

Background: Defining quantitative and qualitative quality indicators (QIs) are imperative in facilitating optimal perioperative outcomes for thyroid cancer patients. This review aimed to identify a comprehensive and evidence-based list of QIs to improve thyroid cancer care consistency. **Methods:** A database search through MEDLINE (OVID), EMBASE (OVID), PubMed and Web of Science included studies up to June 16, 2023. QIs that defined structures and resources, processes, and outcomes of thyroid cancer care were collected and categorized into 5 phases of care: pre-diagnosis, diagnosis, treatment, post-treatment care & surveillance, and end of life care. **Results:** Amongst 3,143 articles identified, 105 met criteria for full-text review, and 39 articles were included for data extraction. Of the 185 QIs extracted, 1 was categorized in the pre-diagnosis group, 30 in the diagnosis group, 128 in the treatment group, 19 in the post-treatment & surveillance group, and 7 into the end-of-life care group. Frequently reported diagnostic QIs included the use of a standardized ultrasound reporting system (N=4), followed by the performance of diagnostic fine needle aspiration biopsy (FNA) (N=3), and standardized FNA cytology reporting with the Bethesda System for Reporting Thyroid Cytopathology (TBSRTC) (N=3). Thyroidectomy performed by high-volume surgeons (≥ 10-32 cases/year) was the most common treatment related QI (N=7) in addition to performance of preoperative voice assessment and laryngoscopy for higher risk patients (N=4). Use of intraoperative recurrent laryngeal nerve monitoring (N=4), assessment for postoperative hypocalcaemia with parathyroid hormone (PTH) measurements (N=3) and evaluation of recurrent laryngeal nerve (RLN) injury (N=3) were also emphasized. Surveillance with serum thyroglobulin (Tg) for disease recurrence (N=2) was the most important post-treatment QI. **Conclusion:** Establishing an evidence-based list of QIs can be used to help identify current gaps in care delivery, improve practice efficacy, promote standardization, and ultimately improve patient thyroid cancer care.

47

Prescribing Preoperative Weight Loss Prior to Major Non-Bariatric Surgery for Patients with Elevated Weight: A National Provider Survey (PREPARE Provider Survey). *Tyler McKechnie, Alex Thabane, Phillip Staibano, Maisa Saddik, Manon Guez, Dennis Hong, Aristithes Doumouras, Cagla Eskicioglu, Sameer Parpia, Mohit Bhandari.* From McMaster University (McKechnie, Thabane, Staibano, Saddik, Hong, Doumouras, Eskicioglu, Parpia, Bhandari); From the Centre Intégré Universitaire de Santé et de Service Sociaux de L'Est-de-L'Île-de-Montréal (Guez).

Background: The surgical patient with obesity presents several challenges in intraoperative and postoperative care. We designed this cross-sectional survey to assess surgeon willingness to prescribe preoperative very low energy diets (VLEDs) and practice patterns in prescribing preoperative weight loss interventions for patients with obesity undergoing non-bariatric abdominal surgery. **Methods:** We conducted a cross-sectional survey of practicing surgeons in Canada who perform major non-bariatric abdominal surgery, reported in accordance with the Consensus-Based Checklist for Reporting of Survey Studies and utilizing non-probability

convenience sampling. The primary outcome was willingness to prescribe preoperative VLED to obese patients undergoing major non-bariatric abdominal surgery for both benign and malignant indications. We created a multivariable proportional odds model to identify factors associated with willingness to prescribe VLEDs. **Results:** A total of 78 participants completed and returned the survey (response rate 10.9%; mean age 43.54 ± 8.13 years; 48.72% female). Most surgeons (79.5%) felt that obesity significantly impacted the technical difficulty of their operations. Most surgeons felt that preoperative weight loss would significantly impact the technical ease of their operations and enhance postoperative recovery (71.5% and 55.2%, respectively). We identified a disconnect between those surgeons who were willing to prescribe VLEDs versus those who prescribed them (78.2% vs 30.8%, respectively). Approximately half of respondents reported being unfamiliar with VLEDs. Institutional barriers to preoperative VLED use included cost (18.0%) and lack of personnel to safely run and monitor preoperative weight loss programs (12.8%). Regression analysis identified practicing in academic institutions was associated with increased willingness to prescribe (odds ratio (OR) 3.71, 95% confidence intervals (CI) 1.01-13.7, p=0.049). **Conclusion:** Although the majority of surgeons feel that obesity adversely impacts perioperative care, only one-third routinely discuss preoperative VLEDs with their patients. Opportunities to increase awareness and evaluate the impact of VLEDs on patient outcomes remain high.

49

Burnout and Mistreatment in the Learning Environment amongst Canadian General Surgery Residents. *Benjamin Fung, Yue-Yung Hu, Joshua Eng, Gordon Best, Isabelle Raiche*. From the University of Ottawa (Fung, Best Raiche); Northwestern University (Hu); Indiana University School of Medicine (Eng).

Background: Surgical residents have higher rates of burnout compared to their non-surgical peers. Learner mistreatment in the workplace have been associated with higher rates of burnout amongst trainees in the United States, but little is known about the Canadian landscape. Our objective was to (1) determine the rates of burnout, attrition, and suicidal ideation in Canadian general surgery programs; (2) measure learner mistreatment; and (3) assess the impact of mistreatment on resident wellness. **Methods**: We conducted a national survey of general surgery residents in Canada. All participants of the 2022 Canadian Association of General Surgeons (CAGS) in-training exam were invited to participate. The survey assessed burnout with the Maslach Burnout Inventory, suicidal thoughts, mistreatment, and learning environment conditions. Multivariable logistic regression was used to assess the demographic and learning environment factors that were associated with burnout. **Results**: A total of 153 residents (30.3% response) across all residency programs completed the survey. Of all clinically active respondents, 98 (77.8%) reported burnout, 29 (22.7%) reported thoughts of attrition, and 14 (10.9%) reported thoughts of suicide in the past 12 months. Workplace mistreatment was reported by 116 (92.1%) residents, with bullying (n=106, 84.1%) and sexual discrimination (n=70, 55.6%) as the most common forms. Female residents reported higher rates of mistreatment (98.6% vs. 83.9%, p=0.005), particularly sexual harassment (52.9% vs. 29.6%, p=0.01) and sexual discrimination (91.4% vs. 10.7%, p<0.001). After adjusting for demographics, mistreatment, and learning environment factors, burnout was most frequently

associated with poor work-life integration (OR 5.07, 95% CI 1.18-21.73, p=0.029) and lack of meaning in work (OR 11.17, 95% CI 1.11-112.69, p=0.041). **Conclusions**: Burnout and learner mistreatment is a significant and prevalent problem among Canadian general surgery resident trainees, with higher rates among female residents. General surgery programs should continue to accurately measure mistreatment and target interventions to the learning environment.

50

Evaluating Frailty using Modified Frailty Index for Colonic Diverticular Surgery: Analysis of the National Inpatient Sample 2015-2019. *Tyler McKechnie, Ghazal Jessani, Noor Bakir, Yung Lee, Niv Sne, Aristithes Doumouras, Dennis Hong, Cagla Eskicioglu, Swati Anant*. From the Division of General Surgery, Department of Surgery, McMaster University (McKechnie, Anant); Department of Health Research Methods, Evidence, and Impact, McMaster University (McKechnie, Doumouras); Michael G. DeGroote School of Medicine, McMaster University (Jessani, Sne, Doumouras, Hong, Eskicioglu); Harvard T.H. Chan School of Public Health, Harvard University (Bakir); Division of General Surgery, Department of Surgery, McMaster University (Lee, Sne, Doumouras, Hong, Eskicioglu); Division of General Surgery, Department of Surgery, University of Toronto (Lee, Doumouras).

Background: Frailty has been associated with increased postoperative mortality and morbidity; however, the use of modified frailty index (mFI-11) to assess patients undergoing surgery for diverticular disease has not been widely assessed. This paper aims to examine frailty, evaluated by mFI-11, to assess postoperative morbidity and mortality amongst patients undergoing operative intervention for colonic diverticular disease. **Methods**: We used data from the Healthcare Cost and Utilization Project National Inpatient Sample (October 1, 2015- December 31, 2019). ICD-10-CM codes were utilized to identify a cohort of adult patients with a primary admission diagnosis of diverticulitis. mFI-11 items were adapted to correspond with ICD-10-CM codes. Patients were stratified into robust (mFI<0.27) and frail (mFI≥0.27) groups. Primary outcomes were in-hospital postoperative morbidity and mortality. Secondary outcomes included system-specific postoperative complications, length of stay (LOS), total admission cost, and discharge disposition. Multivariable regression models were fit. **Results**: Of the 26,826 patients, there were 24,194 patients with mFI-11<0.27 (i.e., robust) and 2,632 patients with mFI-11≥0.27 (i.e., frail). Adjusted analysis showed significant increases in postoperative mortality (aOR 2.16, 95%CI 1.38-3.38, p=0.001) and overall postoperative morbidity (aOR 1.84, 95%CI 1.65-2.06, p<0.001). Length of stay was higher in the frail group (MD 1.78 days, 95%CI 1.46-2.11, p<0.001) as well as total cost (MD $25,495.19, 95%CI $19,851.63-$31,138.75, p<0.001). **Conclusion:** Frailty was associated with greater postoperative morbidity and mortality for patients undergoing surgery for diverticulitis. Incorporating frailty assessments may allow early stratification of frail patients and opportunity for clinicians to modify risk factors, thereby improving outcomes for diverticular disease surgery.

51

What are the Core Competencies for Global Surgical Training? A Scoping Review. *Roy Hilzenrat, Rachel Livergant, Jayd Adams, Catherine Binda, Allison Chhor, Helen Hsiao, Esther Chin, Faizal Haji*. From the University of British Columbia (Hilzenrat,

Livergant, Hsiao, Haji); Global Surgery Lab (Adams); University of Ottawa (Binda, Chhor); McMaster University (Chin).

Background: In the last few decades Global Surgery has emerged as an academic field in its own right. While the number and range of training programs in Global Surgery has grown, there is limited research investigating what the competencies of an academic global surgeon are. This scoping review aims to summarize the learning objectives and competencies required for modern global surgery curricula. **Methods**: An extensive review of electronic databases (Medline, Embase, Emcare, PsycInfo, Global Health, Global Index Medicus) and the grey literature was conducted in compliance with the PRISMA-SCr guideline to identify learning objectives and competencies pertaining to academic Global Surgery. Findings were thematically categorized according to the 11 Consortium of Universities for Global Health competency domains. **Results**: The scoping review yielded 333 distinct learning objectives and competencies from 43 academic publications and 61 grey literature sources, including international representative bodies, non-government organizations and post-graduate curricula. The identified catalogue of learning objectives and competencies underscored important themes in academic Global Surgery including cultural humility, quality improvement, advocacy, Indigenous health, and anti-colonialism. **Conclusion:** This scoping review captures the broad landscape of vital skills and competencies required as a foundation for contemporary academic global surgery curricula. The emergence of themes not traditionally included in global surgery education highlights the modern shift in focus from mission-based trips to bidirectional partnerships, sustainability, capacity-strengthening, health equity, sociocultural awareness, and self-governance. Integrating these forward-looking themes into Global Surgery curricula is crucial to elevating the worldwide standard of surgical care while forging an adept, globally minded accompanying workforce.

52

Leadership in Global Surgery: A Scoping Review. *Dunavan Morris-Janzen, Sukh Jatana, Ryerson Seguin, Kendell Pon, Janice Kung, Marion Mwanganyi, Wenjie Lin, Christine Li, Abdullah Saleh*. From the Department of Surgery, University of Alberta (Morris-Janzen, Jatana, Seguin, Pon, Saleh); College of Health Sciences, University of Alberta (Morris-Janzen, Seguin, Pon, Kung, Mwanganyi, Saleh); Office of Global Surgery, University of Alberta (Mwanganyi, Saleh); Department of Colorectal Surgery, Singapore General Hospital (Lin); Colorectal Surgery Division, Department of Surgery, St Paul's Hospital (Lin, Li); Division of Paediatric General Surgery, Department of Surgery, Stollery Children's Hospital, University of Alberta (Saleh).

Background: Universal access to safe, affordable and effective surgical care has not historically been prioritized within global health agendas. However, the Lancet Commission for Global Surgery (LCGS) has helped galvanize the global community to expand surgical care in low and middle-income countries (LMICs). Leadership has been key to the success of many global health initiatives in the past. As global surgical care expands it will become increasingly important to understand the role of leadership in the success of programs, how leadership is being implemented, gaps in the field, and the current landscape of formal leadership training. **Methods:** A comprehensive search of MEDLINE, Embase, Global Health, CINAHL, Scopus, and Web of Science Core Collection was performed, identifying

articles that address leadership in global surgery. Study screening will be done in duplicate, and extracted results will be organized into emerging themes. This scoping review will be reported according to the PRISMA Extension for Scoping Reviews. **Results:** After removing duplicates, 4,476 articles were identified for title and abstract screening. Preliminary review of articles revealed four key themes: surgical education and training, thought leadership, surgical systems, and international or global surgical partnerships. **Conclusion:** This scoping review aims to identify gaps and opportunities in the current literature on global surgery leadership, as well as successful models for building leadership capacity. Our findings will provide a foundation for frameworks to empower leadership roles, address inequities, and identify areas for further development. Understanding the successes, challenges, and opportunities in global surgery leadership will facilitate achieving the ambitions goals outlined by the LCGS.

53

Neuroendocrine Breast Cancer-Associated Ectopic Adrenocorticoid Hormone Syndrome Requiring Bilateral Adrenalectomy. *Kala Hickey, Hannah Yaremko, David Pace.* From the Memorial University, Faculty of Medicine, Department of Surgery (Hickey, Pace); From the Memorial University, Faculty of Medicine (Yaremko).

Background: Ectopic adrenocorticotropic hormone syndrome (EAS) occurs when a tumor develops neuroendocrine differentiation with secretion of ACTH resulting in hypercortisolism and Cushing's syndrome (CS). Only 5-10% of CS cases are attributed to EAS; of these, breast tumors comprise less than 1%. The two known variants of breast neuroendocrine tumors include neuroendocrine-differentiated carcinoma and ductal carcinoma with neuroendocrine features. Currently, guidelines for treatment are limited and EAS is associated with significant morbidity and mortality. **Case Report**: A 39-year-old female presented with a rapidly enlarging breast mass. Biopsy demonstrated neuroendocrine carcinoma with small cell features of presumed breast origin. Staging at diagnosis confirmed metastatic disease to liver and bone. First line chemotherapy (Cisplatin/Etoposide/Durvalumab) was initiated with evidence of disease progression after 4 cycles. Given the poor response to therapy a simple mastectomy was performed for local control and to allow for complete pathologic analysis. This demonstrated large cell histology of likely breast origin. Second line therapy (Adriamycin/Cyclophosphamide) was initiated for 3 cycles after which the patient required admission for severe and refractory hypokalemia. Workup confirmed elevated ACTH consistent with paraneoplastic EAS and further evidence of disease progression. Third line therapy (Nab-Paclitaxel) was initiated, and genetic testing completed confirming PIK3 mutation for which access to Alpelisib therapy was requested. **Results**: Given symptoms of progressive severe CS with significant liver disease precluding medical treatment the patient underwent urgent bilateral laparoscopic adrenalectomy after which she was able to be discharged home without complication while awaiting additional systemic therapy. **Conclusion**: EAS resulting in CS secondary to breast neuroendocrine carcinoma is a rare and challenging diagnosis. Further research is needed to inform treatment guidelines to improve outcomes. While patient survival is dependent upon the underlying disease process, laparoscopic bilateral

adrenalectomy is an accepted, definitive treatment option.

54

Development of a Novel Online General Surgery Learning Platform and a Qualitative Pre-Implementation Analysis. *Christine Li, Hasnaien Ahmed, Abdullah Saleh*. From the Division of Colorectal Surgery, Department of Surgery, St. Paul's Hospital, University of British Columbia (Li); Department of General Surgery, University of Alberta (Ahmed); Division of Pediatric General Surgery, Department of Surgery, Stollery Children's Hospital, University of Alberta (Saleh); Office of Global Surgery, Department of Surgery, University of Alberta (Saleh).

Background: Quality surgical education during residency training is central to graduating competent general surgeons. The project aims to capture the current experience of residents and program directors (PDs) in structured residency programs using a qualitative approach, and to subsequently create and implement a comprehensive online curriculum designed for general surgery trainees in both high- and low-resource settings. **Methods:** A national survey was distributed to residents and program directors in 18 general surgery training programs across Canada. The questions addressed demographics, educational needs and resources, and evaluation of surgery education and resident management. Agreement was calculated using Mann-Whitney U analysis. In parallel to this study, a novel online general surgery platform based on the Royal College of Canada objectives is being developed and implemented. Data from the qualitative analysis will be used to inform the design and content of the platform. **Results:** We received responses from 51 residents (13.7%) and 11 PDs (45.8%). Eighteen residents (35.3%) felt their program provides high quality resources. Residents listed more than 32 unique education resources they access regularly. Most residents pay or are willing to pay more than $500 per year on their learning resources (39, 76.6%). Male residents were significantly more likely to be confident in the quality of the resources they find (U=108, p=0.007). Despite finding more conflicting information (U=128, p = 0.03), male residents were also more likely to be confident in their preparedness for exams (U=118, p=0.016). PDs were more likely to believe they are providing high quality, up to date resources (U=62.5, p<0.001). PDs were also more likely to believe their residents feel prepared for exams (U=28, p<0.001). **Conclusion:** There is an ongoing need for high quality, contemporary, and standardized surgical education resources. Corroboration of existing knowledge into a single access system would be of benefit to surgical trainees.

55

Correction of a Prolapsed Stoma with the "Phillips" Ileostomy Technique. *Elizabeth Clement, Michelle Kwon, Ahmer Karimuddin.* From the University of British Columbia.

Background: Stoma prolapse is a common complication that can result in appliance leakage, bowel obstruction, and ischemia. The common approaches for prolapse repair are not robust with recurrence rates as high as 66%. Recently, a novel technique called the "Phillips ileostomy repair" was described. This video submission demonstrates this technique. **Methods:** Under general anesthesia, the prolapsed stoma is mobilized. The bowel is everted along the distal 2-3 cm segment, and this segment was fixed at 3 locations using a laparoscopic linear non-

cutting stapler. The repaired stoma was subsequently secured to the skin. Resection of bowel is not necessary for this technique. **Results:** At our center, we have performed the operation twice within the past year, and thus far have had no recurrences or complications. **Conclusions**: The Phillips ileostomy correction is a technique that preserves the bowel and can be done as a local procedure without the need for laparotomy or laparoscopy. These advantages make this technique an attractive option in the setting of stoma prolapse.

YouTube Video Link: https://www.youtube.com/watch?v=4L9XVQeuI-0

56

The Effect of Graphic Narratives on Patient Outcomes: A Systematic Review. *Sophie Carr, Kiana Burran, Ahmer Karimuddin, Terry Phang, Manoj Raval, Amandeep Ghuman, Carl Brown.* From the University of British Columbia.

Background: Patient education is a cornerstone of patient-centered care and informed consent for medical procedures. Multiple educational tools have been described, however those that combine text and pictures have demonstrated increased efficacy with enhanced patient understanding. Specifically, graphic narratives, also known as comics, have shown promise as patient education tools and adjuncts to the consent process, however, it remains unclear whether they have tangible effects on patient outcomes. As such, this systematic review aimed to explore the utility of graphic narratives for invasive medical procedures and their effect on patient outcomes. **Methods:** This review was registered with PROSPERO and guided by PRISMA standards. A search of MEDLINE, Embase, and CINAHL was conducted on January 5, 2024 with the assistance of a medical librarian. Articles were included if they described using a graphic narrative to educate patients about an invasive medical procedure. Studies with patients < 18 years old were not included. The primary outcome was effect of graphic narratives on measurable patient outcomes. **Results:** The search yielded 1376 articles, 6 of which were included (2 pilot studies and 4 randomized trials). Graphic narratives were used for patient education and/or to supplement procedural informed consent for a range of procedures including transcatheter aortic valve implantation, angiography, percutaneous coronary intervention, bronchoscopy, radiation therapy, immunization, and invasive contraception methods. Key themes include reduction in patient anxiety, improved understanding of procedure-related information, and increased patient satisfaction. The usability and informativeness of graphic narratives was also highlighted. **Conclusion:** Our review reveals that literature on graphic narrative use is limited, however, existing publications demonstrate that they are a valuable patient education tool that can be used to supplement informed consent with meaningful effects on patient outcomes. Further work is needed to develop, implement, and evaluate more procedure-specific graphic narratives and optimize their use in clinical practice.

57

Seatbelt Injury Resulted in an isolated, Completely Transacted Small Bowel with Mesenteric Injuries: A Case Report. *Mohammed Khair Lissan, Basem Othman, Asem Ghasoup.* From the Security Forces Hospital.

Background: Isolated, small bowel, and mesenteric injuries in seatbelt syndrome

present a diagnostic challenge and are often delayed or missed, resulting in increased morbidity and mortality. We report a case of an isolated, completely transacted small bowel with mesenteric injury following a motor vehicle accident. **Case summary**: A 46-year-old man was driving when he was involved in a head-on collision traffic accident and was wearing a 3-point seatbelt. Upon arrival at our hospital, he was alert and communicating with normal vital signs apart from persistent tachycardia. He had a right knee injury, and his chief complaint was abdominal pain. The patient had a "seatbelt sign across the lower abdomen and abdominal tenderness in the initial physical examination, with abnormal laboratory findings. An abdominal CT scan showed significant wall thickening of the proximal and mid-jejunum with normal enhancing walls and surrounding fat stranding. There were features of acute mesenteric injury with hemoperitoneum, no pneumoperitoneum, and no evidence of bowel perforation. The patient required an emergency due to persistent tachycardia despite adequate analgesia, abdominal pain and tenderness, and a radiological finding of hemoperitoneum in the absence of a solid organ injury. **Results**: A large amount of blood and multiple small bowel and mesenteric injuries, with complete severing of the distal jejunum and proximal ileum were found. Since there was no faecal contamination resection and primary anastomosis was carried out. The patients made a satisfactory postoperative recovery. **Conclusion:** The presence of a seatbelt sign should raise suspicion of a significant intra-abdominal injury, necessitating a critical evaluation of the patient's clinical presentation and imaging results. To effectively assess the potential presence of seatbelt-related small bowel and mesenteric injuries, a high index of clinical suspicion and a low threshold for laparotomy should be maintained.

58

Systematic Review of Gender Differences in Reference Letters for Surgical Postgraduate Training Programs. *Betty Wen, Rajan Bola, Tracy Scott, Ahmer Karimuddin*. From the Division of General Surgery, Department of Surgery, University of British Columbia (Wen, Scott, Karimuddin); MD Undergraduate Program, Faculty of Medicine, University of British Columbia (Bola); Department of Surgery, Providence Health Care (Scott, Karimuddin).

Background*:* Reference letters (LORs) are a ubiquitous and important requirement of surgical residency and fellowship applications, yet their subjective nature renders them vulnerable to gendered linguistic biases. This can include differences in letter length, strength of endorsement, and gendered descriptors. These implicit gender biases may impact applicant success. This review aimed to synthesize the literature examining gender differences in LORs for surgical postgraduate training across institutions and surgical specialties. **Methods:** A search of MEDLINE, Embase, and CINAHL from conception until June 2023 was completed to identify studies which assessed LORs to surgical postgraduate training programs for gendered linguistics and content. Two authors completed title and abstract screening, full-text screening, and data extraction. Data extracted included study design and demographics, letter content, gendered language, gender differences amongst letter writers, and applicant-writer gender interactions. **Results*:*** Thirty-nine studies were included, encompassing 25 residency and 14 fellowship programs across 16 surgical specialties. Seven studies

reported no gender bias; 32 showed varying degrees of gender differences, of which the majority reflected traditional gender stereotypes. Men were often described with emphasis on their leadership and actions, compared to women more so on their communication and relationships. Descriptions of applicants' research, clinical, technical, and teaching skills did not show consistent gender differences. Some studies found that women's letters were written with greater clout tone and men's with greater authenticity. Applicant-writer gender interactions included female writers using more communal, grindstone, and agentic language for male applicants, while male writers used more standout and communal language for male applicants. **Conclusion*:*** Male and female applicants to postgraduate surgical training programs are described differently in LORs, often in ways that conform to traditional gender roles. Letter writers and assessors should be aware that implicit gender bias exists in LORs. Guidance and tools to help write gender-neutral LORs are available.

59

Incidental Diagnosis of Intraductal Papillary Mucinous Neoplasm Originating from a Jejunal Heterotopic Pancreas. *Zainab Alhumoud, Mufeed Alwabari, Abdulrahman Albakheet.* From the King Fahad Hospital in Alhufouf.

Background: Heterotopic pancreas is a rare congenital anomaly in which pancreatic tissue is anatomically separate from the main gland. It usually occurs in the upper gastrointestinal tract, specifically the stomach, duodenum, and proximal jejunum. An uncomplicated heterotopic pancreas is typically asymptomatic, with the lesion discovered incidentally during an unrelated surgery or imaging examination. Intraductal papillary mucinous neoplasm (IPMN) is a pancreatic cystic tumor; however, this pathologic entity is extremely rare in heterotopic pancreatic tissue. Here, we report a case of IPMN arising within the heterotopic pancreatic tissue and found incidentally in the jejunum during surgery for bowel obstruction. **Methods:** A 34-year-old female presented to the hospital with acute abdominal pain associated with abdominal distension started two days ago. She had clinical signs of peritonitis. The patient had a history of elective Cesarean section delivery three days previously. The previous procedure was performed without any intraoperative complications. An initial computerized tomography scan (CT) of the abdomen and pelvis revealed peritoneal free fluid associated with a dilated small bowel loop. The patient's clinical condition indicated the need for an emergency exploratory laparotomy procedure with high suspicion of post-delivery-related complications and possible bowel ischemia. **Results**: Intraoperative findings included dilated small bowel loops. We found a palpable small bowel mass in the proximal jejunum located about 10 cm from the duodenojejunal junction during palpation of the dilated small bowel loop. This bowel, including the mass loop, was resected, followed by primary anastomosis. Histopathology examination revealed a heterotopic pancreas with IPMN. **Conclusion:** Heterotopic pancreas with IPMN is a rare disease. It is crucial to study further IPMN cases because ectopic pancreatic IPMN is often found incidentally, and no clear guidelines make the decision about surgical treatment challenging to determine. Moreover, no evidence is available to guide the frequency and type of surveillance for patient follow-up.

60

Intra-Corporeal vs Extra-Corporeal Anastomosis for Laparoscopic Right Hemicolectomy: Short-Term and Long-Term Outcomes. *Zach Sagorin, Danlin Zeng, Nam Nguyen, Ekua Yorke, Sharadh Sampath.* From the University of British Columbia, Department of Surgery, Division of General Surgery (Sagorin, Nguyen, Yorke, Sampath); UBC Faculty of Medicine (Zeng); Richmond Hospital (Nguyen, Yorke, Sampath).

Background: Laparoscopic hemicolectomy is the standard of care technique for resection of right-sided colonic malignancies and endoscopically unresectable polyps, but there remains disagreement on the preferred anastomotic technique. This study evaluates short-term and long-term differences between extra-corporeal anastomosis (ECA) and intra-corporeal anastomosis (ICA) for laparoscopic right hemicolectomy. **Methods:** Retrospective chart review of right-sided colon resections in a community centre from January 2015 until March 2022. Right hemicolectomies performed for infectious or inflammatory etiologies and ICA with midline extraction sites were excluded. Demographic, operative, and postoperative data were collected and analyzed using Chi-squared test or Fisher's exact test for categorical variables and T-test for numerical variables using SPSS 29.0.0. **Results:** 181 patients were included, 53 ECA (23.6%) and 128 ICA (70.7%). ECA operative time was 144.9 (SD=31.4) minutes compared to ICA 152.5 (SD=41.8) minutes (p=0.233). ICA patients passed flatus earlier (2.0, SD=1.0 vs 3.6, SD=2.7 days; p=0.001), passed bowel movement earlier (2.2, SD=0.9 vs 4.6, SD=3.2 days; p<0.001), and had shorter length of stay in hospital (3.0, SD=1.9 vs 4.9 SD=3.2 days; p<0.001). Nodal harvest was greater for ICA 21.0 (SD=8.4) vs ECA 15.4 (SD=5.3; p<0.001). Incidence of small bowel obstruction (SBO) was greater after ECA 3 (5.7%) vs ICA 0 (0.0%; p=0.046). The 30-day emergency department re-presentation (ECA 6, 11.3%; ICA 16, 9.6%) and 30-day readmission (ECA 4, 7.5%; ICA 10, 5.8%) were similar. Incidence of surgical site infection for ECA was 3 (5.7%) vs 0 (0.0%) for ICA (p=0.087). Incisional hernias occurred in 0 (0.0%) ICA and 3 (5.7%) ECA (p=0.056). **Conclusion:** ICA resulted in earlier return of bowel function, shorter hospital stay, greater nodal harvest, and decreased incidence of SBO compared to ECA. ICA and ECA operative times were similar. Though not statistically significant, there was a trend towards decreased SSI and fewer incisional hernias amongst ICA.

61

Intraoperative Pilot Usability Study of a Novel Passive Neck Exoskeleton for Surgeons. *Joseph Y. Kim, Hamid Norasi, Tianke Wang, Stephen D Cassivi, M. Susan Hallbeck.* From Mayo Clinic.

Background: Neck pain is a prevalent problem among surgeons. A systematic review by Stucky et al., (2018) reported the prevalence of neck problems among surgeons to be about 50%. One potential solution is to use passive exoskeletons to decrease the neck muscle load required to hold the weight of the head in extreme flexion. **Methods:** Eight surgeons (six male, two female; breast, cardiovascular, plastic, thoracic, and vascular) trialed a passive neck exoskeleton (NekSpine$^{TM.}$, CMI, San Clemente, CA, USA) during 14 open surgeries lasting at least two hours requiring flexed neck positions This neck exoskeleton supports the head using a headgear connected to a flexible carbon fiber rod. The rod is encased in a soft vest to redistribute a portion of the head weight from the neck to the trunk. Surgeons' completed post-procedural surveys and gave comments; median (IQR) scores were calculated and reported. **Results:** During

93% (13/14) of the procedures, surgeons reported wanting to use the NekSpine™ again; the 14th said "maybe", did try again and likes it. Surgeons reported median scores on physical comfort (0=decreased, 5=no change, 10=increased comfort) as 6.5 (5-7) , improvement in ability to perform surgery (0=none, 10=max) as 3 (1-5), restrictions to range of motion (0=none, 10=max) as 0.5 (0-2); and interference with their ability to perform surgery (0=none, 10=max) as 1 (0-2.75).Two surgeons reported minor headlight issues and one surgeon mistakenly put on loupes before the exoskeleton, showing a learning curve. One surgeon noted the neck exoskeleton felt like someone was helping them hold their head up. Another surgeon who did not report a benefit during surgery reported noticeably improved neck-related sensation the next day. **Conclusion:** Wearing intraoperative passive neck exoskeletons may improve support and reduce neck discomfort in surgeons, while not impeding their range of motion or interfering with surgical ability.

62

Tweets, TikTok's, and The Surgeon; Understanding the Social Media Landscape within Surgery. *Mansi Dave, Zuhaib Mir, Sunil Patel, Ameer Farooq.* From Queen's School of Medicine (Dave); Department of Surgery, Dalhousie University (Mir); Department of Surgery, Kingston Health Sciences Center (Patel, Farooq).

Background: Social media sites that host user-generated content and foster interaction have been used by medical professionals for a myriad of reasons ranging from knowledge translation to debates. With the onset of TikTok and rise of influencers, it remains to be seen whether media content relevant to surgery has evolved as well. The objective of this study was to characterize how content related to surgery is being presented on social media and evaluate its engagement. **Methods:** We conducted a search of surgical content posted to YouTube, X, TikTok, and Instagram. Results were sorted by view count, date posted, or "top posts" status. Only posts with more than 250 likes were considered. Post content and metrics including likes, comments, and subscribers were abstracted. **Results:** The top 5 posts from each platform were analyzed. The most liked surgical videos on YouTube were short animations describing steps in surgical procedures. However, the comments were often satirical in nature, and did not foster educational discussion regarding the content. The most popular videos on TikTok ranged from "a day in the life of a surgeon" to physicians answering common questions related to surgery. On X, the content was largely technical in nature, with descriptions of recent publications and techniques on suturing. The content on Instagram ranged from physicians posting photos at conferences to educational infographics on surgical procedures, however, interaction was low. Users were physicians posting from their personal account or educational organizations. **Conclusions**: The nature of surgical content varies between platforms as the most popular videos on YouTube and TikTok largely reached a non-medical audience, whereas X and Instagram appeared to be a more intimate environment for interaction between medical professionals. All content was posted by US or UK based accounts, although further research can determine if the Canadian social media landscape is similar.

63

Making Equity in Surgery Actionable: The UpSurge Experience. *Betel Yibrehu, Adom*

Bondzi-Simpson, Amanpreet Brar, Nour Bakhash, Kennedy Ayoo, Elliott Yee, Chantal Valiquette, Tyee Fellows, Savtaj Brar. From the University of Toronto (Yibrehu, Bondzi-Simpson, Bakhash, Ayoo, Yee, Valiquette); University of Michigan (Brar); University of Toronto (Fellows); Mount Sinai Hospital (Brar).

Background: Medicine has undergone a rapid increase in the volume, breadth and depth of Diversity, Equity, and Inclusion (DEI) initiatives. Historically, surgical specialties have been slow adapters of these initiatives and struggle to increase diversity within their workforce. This case study presents UpSurge, a timely and multifaceted approach to DEI in surgery that takes discussion into action. **Methods:** We review the approach used by UpSurge from 2020-2023 to build a successful Canada-wide, trainee-led equity program. UpSurge uses a 4-pronged approach that covers Mentorship, Research, Community Outreach, and Sustainability to structure its programming. Participant data was collected through periodic surveying. **Results:** Over 300 mentors and mentees have participated in the mentorship program over 2 years. It is among the largest surgical mentorship programs in North America. Participant feedback has been uniformly positive. Simulation events, led by surgical trainees, have been hosted with elementary, high school, university, and medical students. These have helped connect the Department of Surgery with the community it serves. Nationally, the program has expanded, and chapters are in various stages of development from British Columbia to Nova Scotia. In addition to developing leadership and communication skills, the resident leaders of UpSurge have also applied for and secured over $65,000 in grant funding. **Conclusion:** UpSurge has and continues to positively impact future generations of surgeons through direct mentorship, early exposure to medicine, scholarships and more. Resident-leaders have also developed meaningful skills that embody the CanMEDS roles and will assist in their future careers. Continued investment in and expansion of initiatives like UpSurge can improve DEI in surgery and broaden the range of students who pursue the profession.

64

Assessment of Surgical Foundations Residents' Knowledge Retention after a Point of Careultrasound Course. *Mostafa Alhabboubi, Pouya Bandegi, Louis-Martin Boucher, Jean-Sebastian Pelletier, Atif Jastaniah.* From the University of Jeddah (Ahabboubi) McGill University (Alhabboubi, Bandegi, Boucher, Pelletier, Jastaniah).

Background: Point of Care Ultrasound (POCUS) has gained recognition for its noninvasive nature and clinical utility. However, its underutilization in surgical specialties underscores the need for structured training programs. **Methods**: A POCUS training program was integrated into the Surgical Foundations Training Program, comprising a didactic lecture and hands-on session. The course included teaching eFAST, volume assessment and ultrasound guided peripheral catheter insertion. Pre-course and post-course surveys assessed residents' knowledge, interest, and confidence in POCUS. Post-course surveys were collected immediately and 3 months post-course. Data analysis employed descriptive statistics and Chi-square tests. **Results:** The total number of participants was 36, with 34 answering the pre-course survey. Most residents lacked prior formal POCUS training (67%), but expressed interest in its incorporation into the curriculum (88%). The course was well-

received, with the immediate post-course survey showing increased confidence in using PoCUS for different indications. An example is residents having a collective ratio of high and very high confidence to detect intra-abdominal free fluid increased from 14% pre-course to 80% post-course. Confidence decreased slightly in the three-month follow-up survey, though it remained higher than pre-course levels. Residents showed good knowledge retention at the three-month follow-up. However, the course did not translate into increased use of PoCUS. Barriers included limited knowledge and time constraints. Follow-up surveys indicated sustained interest in POCUS among participants. **Conclusion:** Integrating POCUS training into surgical residency programs is crucial. This study demonstrates the feasibility and efficacy of such programs, highlighting the importance of addressing barriers to implementation. Further research is warranted to assess long-term impacts on clinical practice and patient outcomes.

65

Mitigating Bias in the Residency Selection Process: Comparing Live and Transcribed Interview Scores. *Mojgan Rezaaifar, Ishita Aggarwal, Isabelle Raiche, Nada Gawad.* From The Ottawa Hospital.

Background: The residency selection process heavily weights the interview, which is criticized for its subjectivity and inherent bias, thus potentially contributing to inequity and a lack of diversity. Despite attempts to mitigate unconscious bias, identifiable demographics may influence candidates' interview scores. This study aimed to investigate the effect of blinding interviewers to candidate demographics to determine the impact on candidates' interview scores. **Methods:** In this prospective cohort study, 2024 residency candidates completed a demographics survey followed by a mock virtual Multiple Mini Interview (MMI), after which their responses were transcribed. Six general surgery interviewers scored live and transcribed candidate responses separately. Interviewers were blinded to candidate demographics when scoring the transcribed interviews. Data was analysed using Pearson's correlations and t-tests to compare live vs transcribed interview scores based on candidate demographics. **Results:** Thirty-one candidates participated in mock interviews, with a total of 56 interviews carried out across two MMI stations. Seventeen (54.8%) participants self-identified as a visible minority. There was a weak correlation between all participants' live versus transcribed interview scores for Station A ($r=0.25$, $p=0.11$) and a moderate correlation for Station B ($r=0.57$, $p<0.001$). Visible minority participants had lower interview scores compared to non-visible minorities during Station A live interviews (12.5 vs 14.2, $p=0.003$), but no difference for transcribed interview scores (13.0 vs 13.1, $p=0.43$). There were no significant differences between visible minority and non-visible minority Station B scores in the live (13.3 vs 13.7, $p=0.29$) or transcribed (10.5 vs 10.7; $p=0.11$) scores. **Conclusion:** Visible minority candidates score lower during some live interview stations compared to scoring transcribed interview responses, where identifiable demographic characteristics and non-verbal communication cues are removed. This underscores the importance of using multiple independent interviews (i.e. MMI) and multiple interviewers to mitigate the impact of unconscious bias on the residency selection process.

66

Validation Testing of the Revolve Surgical System: A Novel Table-mounted Alternative

to Robotic Minimally Invasive Surgical Platforms. *Justin Wee, Samaunus Safa, Christopher Schlachta.* From the Western University (Wee, Safa, Schlachta); London Health Sciences Centre, London, Canada (Wee, Safa, Schlachta).

Background: The Revolve Surgical System (RSS) is a novel minimally invasive surgery platform that combines standard laparoscopic and robotic surgical systems, giving surgeons the ability to counterbalance instruments during laparoscopic surgery. The RSS mitigates several shortcomings of current robotic systems (e.g., long setup times, extensive training requirements) and is augmentable with wristed instruments, similar to the Intuitive da Vinci Surgical System (dVSS). There are no studies that compare RSS to Manual Laparoscopic Instruments (MLI). Therefore in this non-inferiority study, we will (1) assess the performance and ergonomics of RSS, in comparison to MLI, and (2) analyze the impact RSS has on the operating room (OR) workflow. **Methods:** 20 recruited participants (e.g. medical students, General Surgery residents, and staff surgeons) will perform standardized Fundamentals of Laparoscopic Surgery (FLS) tasks (e.g., PEG transfer, circle cutting, suturing) using RSS and MLI, in a randomized order. Their performance will be assessed using time-to-completion, accuracy and number of errors. The ergonomics will be assessed using the National Aeronautics and Space Administration Task Load Index (NASA-TLX) questionnaire. The impact on OR workflows will be based on the average RSS setup time, and time required for switching tools. Statistical analysis will include paired t-tests between the RSS and MLI for the separate FLS tasks. Further subgroup analyses will be performed based on surgical expertise. The setup time, and time to switch tools using the RSS will be compared against existing data published for the dVSS. **Results:** The study is currently in progress and will be completed in May 2024. Results will be available for the Canadian Surgical Forum in September 2024. **Conclusion:** We hypothesize that the RSS will be non-inferior to MLI, and it is a feasible solution that addresses many of the shortcomings of current robotic systems.

67

Endoscopic Management of a Sleeve Gastrectomy Leak. Kyoo-Yoon Choi, Dennis Hong, Irtaza Tahir. From McMaster University.

Background: Sleeve gastrectomy, a bariatric procedure for weight loss, involves removing a large portion of the stomach to create a gastric sleeve. Despite being considered a safe and effective treatment for obesity, sleeve gastrectomy carries a risk of complications, one of the most serious being leaks from the staple line. Managing a sleeve gastrectomy leak involves early detection, aggressive medical management, and, in some cases, surgical intervention. Endoscopic management of a sleeve gastrectomy leak has emerged as a valuable tool in the treatment algorithm, offering a minimally invasive approach. Endoscopy allows for the direct visualization of the leak site and allows for the washout of the abscess cavity, and debridement of necrotic tissue. In this video, we present a patient with a sleeve gastrectomy leak managed endoscopically. **Methods**: The entire procedure was carried out in the endoscopy suit under conscious sedation. A gastroscope was inserted into the abscess cavity and washed out. Two double J stents were inserted into the abscess cavity under direct visualization. The immediate post-procedure CT scan confirmed the correct placement of the stents within the abscess cavity. The 2-week post-procedure

CT scan showed a significant reduction in the cavity size. **Results**: The patient who presented with a sleeve gastrectomy leak at the staple line was managed endoscopically with the washout of the abscess cavity and the placement of 2 double J stents. **Conclusion**: A sleeve gastrectomy leak is traditionally managed with medical management and, in some cases, with surgical interventions. Endoscopic management of a sleeve gastrectomy leak has emerged as a valuable tool, and we have demonstrated successful endoscopic management of a sleeve gastrectomy leak.

YouTube Video Link: https://youtu.be/onmhd3Nt5P8

69

Bibliometric Analysis of Near-Infrared Autofluorescence use for Parathyroid Identification. *Aiya Amery, Sam Wiseman, Reina Lim*. From the University of British Columbia (Amery, Wiseman, Lim); University of Saskatchewan (Amery).

Background: Recent advancements in the innovative label-free technique Near-Infrared Autofluorescence (NIR-AF) for intraoperative detection of parathyroid glands (PG) have gained significant research interest. Our study conducts a comprehensive bibliometric analysis of all published articles on NIR-AF, aiming to map the developmental trajectory and identify evolving trends in this emerging field. **Methods:** Bibliometric data from papers published on NIR-AF until October 1, 2023 were extracted from the Web of Science database. Descriptive bibliometric analysis and graphical networks were performed using Bibliometrix, Microsoft Excel, and VOSViewer software. Countries, institutions, journals, authors, keywords, and citation lifecycles of the collected articles were examined using various analyses such as co-citation, co-authorship, and co-occurrence analysis. **Results:** 128 unique publications were extracted with 95 original articles, 25 review articles, and 11 proceedings papers. The research of NIR-AF for PG detection has garnered 2055 citations, averaging 18.66 citations per document and an annual citation rate of 3.63 per document. A substantial growth in this field is seen as evidenced by a 30.32% annual increase in scientific production. In terms of contributions to NIR-AF research, the United States has the highest scientific production with Vanderbilt University, Cleveland Clinic, and Ohio State University at the forefront of institutional publications. The most prolific contributors are Mahadevan-Jansen and Berber. The most frequently occurring keywords in the literature are "autofluorescence," "parathyroid gland," and "thyroid surgery," reflecting the core focus of the research topic. The journals having the highest production for this research are Frontiers in Endocrinology and the Journal of Surgery, highlighting their significance in the field. **Conclusion:** Bibliometric analysis of the literature on NIR-AF provides an overview of the contributions of the field and the evolution of the novel technique. The analysis also highlighted the importance of NIR-AF for endocrine surgery and the trajectory of the emerging research.

CSF/Video - 03

Omphalomesenteric Duct Remnant Presenting with a Small Bowel Obstruction. *Danielle Mackenzie, Peter Szasz, David Robertson, Boris Zevin*. From Queen's University.

Background: A video describing the case of an omphalomesenteric duct remnant presenting with a mechanical small bowel obstruction. **Methods:** A 30-year-old male

presented to the emergency department with a mechanical small bowel obstruction in a virgin abdomen. During the diagnostic laparoscopy, a Meckel's diverticulum with a cyst and a congenital fibrous adhesion to the umbilical stalk was identified in the mid-abdomen, around which there were loops of small bowel. The congenital adhesion (remnant of the omphalomesenteric duct) was divided to release the point of obstruction. There was hyperemic bowel without evidence of ischemia or perforation. The Meckel's diverticulum measured 10cm in length. A stapled diverticulectomy was performed. The patient did well post operatively. **Results**: Failure of the omphalomesenteric duct to close completely, which occurs in the 7-10th week of gestation, results in anomalies. Potential complications vary in their severity and onset, with most occurring in the first decade of life. Meckel's diverticulum is the most prevalent omphalomesenteric anomaly. Among adult patients, obstruction is one of the more common presentations. It can be the result of intussusception, a mesodiverticular band, volvulus of the diverticulum, extension of the Meckel's diverticula into a hernia, or, as in our case, the Meckel's diverticulum can be connected to a fibrous band, creating an internal hernia for the nearby bowel. **Conclusions**: The management of Meckel's diverticulum varies by the presentation. For a bleeding Meckel's diverticulum, a small bowel resection with anastomosis is recommended to remove all ulcerated mucosa on the opposing ileum. When the presentation is related to an obstruction or inflammation, the literature varies. Some advocate for a small bowel resection with anastomosis, while others report diverticulectomy as definitive treatment. There remains debate for asymptomatic Meckel's diverticulum. The literature seems to lean towards surgical resection for higher risk patients.

Youtube Video Link: https://youtu.be/6oyOawyAVhE

CSF/Video - 04

Endoscopic Removal of 15 cm Wooden Spoon from the |Duodenum. *Eliahu Bekhor, Eran Shlomovitz.* From the University Health Network.

Background: A 58 years old male with a medica history of previously diagnosed of Schizophrenia. The patient presented to the emergency department with a history of foreign body ingestion approximately one month prior to admission. Clinical Examination Findings: Abdominal Examination: Abdomen was soft, non-distended, and non-tender; Vital Signs: Within normal range; Laboratory **Results:** Within normal limits; Imaging: Abdominal CAT scan revealed two focal duodenal perforations. **Methods**: Non-operative management was initially attempted, but the patient continued to experience abdominal pain and dysphagia; Subsequent upper endoscopy revealed a 15 cm wooden spoon lodged in the first and second parts of the duodenum, which could not be retrieved using standard endoscopic tools; A "Soehentra Rescue Handle" was employed to facilitate the cutting of the wooden spoon, enabling snare retrieval and extraction of the pieces through the mouth; Additionally, two deep ulcerations were visualized during the procedure, requiring no further intervention. **Conclusions**: The patient was discharged home the following day without any complications.

YouTube Video Link: https://youtu.be/gpDj6eG4FPA

CSF/Video - 05

Re-sleeve Gastrectomy in a Patient with Intestinal Non-rotation. *Rebecca Leclair,*

Boris Zevin, Peter Szasz. From the Kingston Health Sciences Centre (Leclair, Zevin, Szasz). From Queens University (Leclair, Zevin, Szasz).

Background: The choice of a conversions/revision procedures for obesity recurrence after sleeve gastrectomy include Roux-en-Y gastric bypass (RYGB), duodenal switch and a re-sleeve gastrectomy. **Methods:** A key consideration in re-operative cases includes anatomical feasibility, as highlighted in this unusual case of 46-year-old female with weight recidivism, without reflux disease who underwent a re-sleeve gastrectomy after the incidental finding of intestinal non-rotation. **Results:** During her revision surgery, non-rotation was identified, and the decision was made to perform a re-sleeve gastrectomy instead of a RYGB after weighing the risks and benefits as well as evaluating her original sleeve anatomy with a dilated pouch, antrum and retained gastric fundus. **Conclusion:** This video case report demonstrates an interesting clinic dilemma of intestinal non-rotation and its impact on intra-operative decision making in a patient undergoing re-operative bariatric surgery.

YouTube Video Link: https://queensuca-my.sharepoint.com/:v:/g/personal/14rl56_queensu_ca/EZQk8mWm_XZHk5H3umRBZHUBICg9iextLYP9YvjXlrwz2g?nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJPbmVEcml2ZUZvckJ1c2luZXNzIiwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXciLCJyZWZlcnJhbFZpZXciOiJNeUZpbGVzTGlua0NvcHkifX0&e=CgLnTW

27

Correction of a Prolapsed Stoma with the "Phillips" Ileostomy Technique. *Elizabeth Clement, Michelle Kwon, Ahmer Karimuddin.* From the University of British Columbia.

Background: Stoma prolapse is a common complication that can result in appliance leakage, bowel obstruction, and ischemia. The common approaches for prolapse repair are not robust with recurrence rates as high as 66%. Recently, a novel technique called the "Phillips ileostomy repair" was described. This video submission demonstrates this technique. **Methods:** Under general anesthesia, the prolapsed stoma is mobilized. The bowel is everted along the distal 2-3 cm segment, and this segment was fixed at 3 locations using a laparoscopic linear non-cutting stapler. The repaired stoma was subsequently secured to the skin. Resection of bowel is not necessary for this technique. **Results:** At our center, we have performed the operation twice within the past year, and thus far have had no recurrences or complications. Conclusions: The Phillips ileostomy correction is a technique that preserves the bowel and can be done as a local procedure without the need for laparotomy or laparoscopy. These advantages make this technique an attractive option in the setting of stoma prolapse.

CSF/Video - 17

Laparoscopic Reversal of Duodenal Switch. *Kyoo-Yoon Choi, Dennis Hong.* From McMaster University, Hamilton, Canada. From McMaster University.

Background: The duodenal switch (DS) procedure is a bariatric surgery that involves sleeve gastrectomy and duodenal ileal bypass to alter the digestive and absorptive process. This procedure is typically performed on individuals with severe obesity, obesity-related metabolic syndromes, or weight regain after a previous bariatric procedure. While DS is effective in achieving significant weight loss and improving metabolic health, it is not without risks and potential complications. Some patients may

experience complications such as malnutrition, vitamin deficiencies, and significant dumping syndrome. Hepatic dysfunction has also been reported post DS, potentially resulting in liver failure. Patients may require a reversal of the DS procedure to alleviate these complications and improve the quality of life. Duodenal switch reversal is not commonly performed due to its complex anatomy and technical complexity. In this video, we present a patient who developed progressively worsening hepatic dysfunction, therefore undergoing the laparoscopic reversal of DS. **Methods:** Reversal of the duodenal switch is performed laparoscopically to restore the original anatomy of the alimentary tract. The duodeno-ileal anastomosis is taken down, and the jejuno-ileal anastomosis is taken down. The duodeno-duodenal anastomosis and ileo-jejunal anastomosis are performed to restore normal anatomy. There was a pancreatic parenchymal injury intraoperatively due to significant adhesion. **Results:** She developed a pancreatic leak postoperatively confirmed by elevated drain fluid lipase level for 2 days. No surgical intervention was required. She was admitted to the rehabilitation ward postoperatively, then passed away on postoperative day 30 for an unknown cause. No autopsy was performed. **Conclusion:** The duodenal switch is an effective bariatric procedure for weight loss and obesity-related metabolic syndromes. Potential complications include malnutrition, vitamin deficiencies, dumping syndrome, or hepatic dysfunction. Patients may require reversal of DS to alleviate these complications. The reversal of DS can be successfully performed laparoscopically.

YouTube Video Link: https://youtu.be/68ZzayMgutM

CANADIAN ASSOCIATION OF THORACIC SURGEONS

08

Customizing a Large Language Model to Provide Geographically Tailored Lung Cancer Screening Recommendations: The Canadian Lung Cancer Screening Tool. *Bright Huo, Nader Hanna, Tyler McKechnie, Yung Lee, Biniam Kidane, Vaibhav Gupta, Kazuhiro Yasufuku, John Agzarian*. From McMaster University (Huo, Hanna, MacKechnie, Lee, Agzarian); University of Manitoba (Kidane); Western University (Gupta); University of Toronto (Yasufuku).

Background: Large Language Models (LLMs) are developed using a training dataset. As a result, they often provide recommendations using American resources. To avoid these limitations, we developed a customized ChatGPT model and evaluated its ability to provide lung cancer screening recommendations for both clinicians and patients in Canada. **Methods:** Thirty-five patient cases were developed using eligibility criteria from the Canadian Task Force on Preventive Health Care (CTFPHC). Standardized prompts were engineered for physicians as the end-user, with separate layperson prompts for patients. A customized GPT was developed to generate recommendations based on the CTFPHC guidelines, creating the Canadian Lung Cancer Screening Tool. Both the Canadian Lung Cancer Screening Tool and generic ChatGPT-4.0 were queried February 10th, 2024. Their performance was evaluated according to the CTFPHC recommendations. Outcome data was presented using descriptive statistics, while chatbot performance was assessed using the chi-square test. **Results:** The Canadian Lung Cancer Screening Tool provided accurate lung cancer screening recommendations for 35/35 (100.0%) clinician inquiries and 35/35 (100.0%) patient inquiries based on CTFPHC guidelines. The generic ChatGPT-4.0 model

produced accurate guidance for 27/35 (77.1%) clinician inquiries and 24/35 (68.6%) patient inquiries ($\chi 2$ = 9.135, *Cramer's V* = 0.511, p = 0.003). Overall, the Canadian Lung Cancer Screening Tool produced 70/70 (100.0%) accurate recommendations for clinician and patient inquiries, while the generic ChatGPT-4.0 model generated 51/70 (72.9%) correct responses to both clinicians and patients. The Canadian Lung Cancer Screening Tool provided recommendations based on CTFPHC guidelines, while ChatGPT-4.0 generated guidance using USPSTF guidelines. **Conclusions**: ChatGPT can be customized to overcome limitations with its training dataset to develop geographically tailored lung cancer screening recommendations with reliable accuracy and consistency. Clinicians, patients, policymakers, and hospital managers should take note that this methodology may be applied for screening recommendations that differ by city, region, or even country.

09

Multivisceral Echinococosis – A Rare and Serious Disease. *Ciprian Bolca, Anton Mak, Medhi Tahiri, Eric Frechette.* From Sherbrooke University (Bolca, Mak, Tahiri, Frechette); Charle LeMoyne Hospital (Bolca, Mak, Tahiri, Frechette).

Background: Hydatid disease or cystic echinococcus remains endemic in many parts of the world, most notably in the Mediterranean region, Australia, New Zealand, the Middle East, and South America. However, this disease is less common in Canada and is thus often underdiagnosed or misdiagnosed, resulting in complications. While hydatid cysts may be found in almost any site of the body, the lungs are affected in approximately 20% of cases. Given the rare presentation of this disease in Canadian hospitals, the surgical management of such cases are uncommon in most Canadian thoracic surgery departments. "Multivisceral echinococosis" is a rare and serious presentation of hydatid disease with implications to diagnosis, treatment, morbidity and mortality. The management of this disease requires a conservative approach, with both surgery and systemic antiparasitic treatment *tailored* to the individual patient. While there are no clear management guidelines in such cases, there are important considerations that should be made. **Conclusion**: This presentation aims to provide an overview of the treatment options, which are dependent on the timing of diagnosis as well as the extent of organ involvement. I will present several clinical cases to highlight these important points.

10

Learning Curve Analysis of Near-Infrared Fluorescence-Guided Robotic-Assisted Minimally Invasive Esophagectomy with Indocyanine Green Dye. *Yogita S. Patel, John Agzarian, Waël C. Hanna*. From McMaster University.

Background: Robotic-Assisted Minimally Invasive Esophagectomy (RAMIE) using near-infrared fluorescence (NIF)-guided perfusion analysis with indocyanine green dye (ICG) is a novel technique for esophagectomy. We aimed to determine the number of cases required to reach technical proficiency at the first Canadian centre. **Methods:** Patients with esophageal cancer who were candidates for esophagectomy were enrolled from 03/2022-03/2024 at one site in this prospective single-arm feasibility trial. Participants underwent RAMIE via a two-stage approach: abdominal stage 5-port robotic approach, and thoracic stage 5-port robotic approach. NIF-guided perfusion analysis with ICG was used to

verify the course of the right gastro-epiploic artery in the abdominal stage, and to confirm the optimal location and perfusion state of the anastomosis in the thoracic stage. The anastomosis was constructed with a hand-sewn 2-layer technique. The learning curve was evaluated using the cumulative sum (CUSUM) method, with operative time as the quantitative metric. **Results:** Of 18 patients enrolled, 11.11% (2/18) were withdrawn: one RAMIE was aborted due to hemodynamic instability; and the other due to conversion to laparotomy because of intra-abdominal adhesions. Median age was 68.5(IQR:58-71.5) and 93.75% (15/16) were men. Mean procedure time was 384.38(SD:57.10) minutes. ICG was used successfully in 100% (16/16) of cases: perfusion was detected with a green hue by NIF in both stages of the operation with clear identification of poorly perfused segments of the conduit. CUSUM analysis did not reveal an inflection point. Median length of stay was 8(IQR:7-11) days. Grade IVa complications occurred in 3 patients (3/16;18.75%): one patient experienced hemorrhagic shock; a second had a tracheoesophageal fistula within 90 days; and a third had an anastomotic leak requiring readmission to hospital. **Conclusion:** CUSUM analysis of the first 16 cases did not reveal an inflection point, meaning the number of cases required to attain proficiency has not been reached yet.

11

Totally Robotic versus Surgeon-Assisted Robotic Lung Resection: An Early Phase Cost Comparison. *Esther Provost, Yogita S. Patel, Waël C. Hanna.* From McMaster University.

Background: During robotic thoracic surgery (RTS), division and sealing of lung tissue, bronchi, and blood vessels can be performed using handheld staplers with assistance from a bedside surgeon, or totally robotically with robotic staplers and energy devices by the console surgeon. Totally robotic lung resection enables the operating surgeon to perform the case independently, but its implication on costs and patient outcomes remains unknown. We conducted a feasibility randomized controlled trial (RCT) in preparation for a larger trial comparing the two approaches. **Methods:** A two-arm, participant-blinded, feasibility RCT was conducted at a high-volume centre for RTS. Patients with early-stage lung cancer who were candidates for RTS-segmentectomy were enrolled between 04/2023-02/2024 and randomized to totally robotic (intervention) or surgeon-assisted (control) RTS. Dissection and sealing were performed with the Vessel Sealer Extend energy device (for vessels <7mm) and the SureForm robotic stapler in the totally robotic arm, while the Signia stapler was used in the surgeon-assisted arm. Primary outcome was feasibility, defined as recruitment ≥70%, and successful collection and computation of costs and patient outcomes. Continuous and discrete variables were analyzed with Student's t test and $\chi 2$ test, respectively ($p<0.05$). **Results:** Primary outcome was achieved with 85.48%(53/62) recruitment. Mean cost of surgery was significantly higher in the totally robotic arm [$3,467.14 (SD:$997.69) vs. $2,331.94 (SD:$616.59); $p<0.01$]. Median of 8 (IQR:7-10; $p=0.98$) stapler reloads were used in each arm. Participants in totally robotic arm had significantly longer hospital stay [4(IQR:2-6) vs. 2(IQR:1-3)days; $p=0.04$] and chest tube duration [4(IQR:2-6) vs. 2(IQR:1-3)days; $p=0.03$)]. No significant differences existed in complications and operating room time. **Conclusion:** Randomization of patients to totally robotic and surgeon-assisted RTS is feasible and safe. Larger trials are warranted to establish whether the costs of totally robotic surgery are justified by improvements in patient outcomes.

13

Robotic Esophagectomy in Canada: An Initial 10-year Single-Centre Experience from a high-volume Thoracic Centre. *Rick Malthaner, Mehdi Qiabi, Rahul Nayak.* From the Western University.

Background: Performing a Robotic Esophagectomy (RE) represents a formidable and intricate surgical endeavor. However, its adoption within Canada has faced significant hurdles, leading to a gradual uptake. Herein, we present the first Canadian experience spanning a decade, highlighting the associated challenges and lessons learned. **Methods:** A retrospective analysis of a prospectively maintained database was conducted on patients who underwent RE from 2014-2024. Outcomes collected were operative times, surgical approach, conversion rates, length of stay and 90-day adverse events. **Results:** Between 2014 and 2024, 27 cases were performed by three surgeons at a single center. The median age was 68 years (range 56-81), and 74% were men. Twenty patients (81%) received induction chemotherapy and radiation. The median total operating room time was 9 hours and 42 minutes (range 6h 56m to 12h 10m), and the median length of stay was 8 days (range 6-64). Initial enthusiasm waned in 2015 after the first 12 cases due to institutional barriers, resulting in a procedural slowdown until 2022. Subsequently, 15 cases were conducted, with a shift from a Transhiatal to an Ivor Lewis approach. All cases were started with a robotic component using the DaVinci Si platform. Conversion-rates increased from 25% in the early series to 64% in the later series. Four cases were done with a planned hybrid approach due to a lack of necessary robotic instruments. Anastomoses were primarily performed using a combination of linear staplers and suture closure. There were no 90-day mortalities; however, 10 out of 27 (37%) patients experienced Grade 3-4 adverse events, while 9 had no postoperative complications. **Conclusions**: Performing Robotic Esophagectomy presents a formidable challenge with a steep learning curve. The slow adoption within Canada can be attributed to multiple factors, underscoring the need for concerted efforts to overcome systemic barriers and enhance knowledge dissemination.

14

A Single Center Retrospective Review on Elective Pulmonary Resections at a Low Volume Academic Center. *Katia Hartwig, Amy Dawson, David Pace, Jenelle Taylor*. From Memorial University.

Background: The surgical literature suggests that there is a volume/outcome relationship for centers performing lung resection. To be considered a high volume center a minimum of 150 lung annual resections per site is recommended. The purpose of this study is to review patient-centered outcomes following lung surgery in a low volume academic center. Outcomes that have a large impact on patient morbidity include post operative infections which occur in 11-46% of cases. **Methods:** A retrospective chart review of 68 adults undergoing elective lung resection between October 2019 and October 2020 was performed. Statistical analysis using SPSS version 29.0 (IBM, Chicago, Illinois, USA) to check for associations between multiple independent variables and our outcome variable, surgical complications, was performed. The Clavin-Dindo classification (CD) was used to assess complications. **Results:** There were 33 males and 35 females with a mean age of 66 (sd). The mean BMI was 30 and 30% percent were current or previous smokers. The majority of patients

(84%) were assigned an ASA classification of 3 or 4. Fifty-three thoracotomies and 15 VATS procedures were performed for a range of anatomic and non-anatomic lung resections. Mean length of stay was 6.5 (sd) days and our significant complication rate (CD>2) was 2.9% with one mortality. The overall postoperative infection rate was 8.9% and the surgical site infection rate was 4.4%. Variables independently associated with postoperative complications included duration of procedure, postoperative antibiotic use, smoking history and blood loss. Following multivariable regression, the only factor associated with a CD >2 was duration of procedure. **Conclusion:** Postoperative complications in our center are comparable to those of higher volume academic centers, possibly due to double staffing of cases. Duration of surgery was the only variable associated with significant complications in our study.

15

Digital Home Monitoring on Patients Undergoing Thoracic Surgery Reduces Postoperative Emergency Department Visits. *Mahesh Nagappa, Natasha Wood, Mehdi Qiabi, Rahul Nayak, Dalilah Fortin, Richard Inculet, Rick Malthaner*. From the Western University.

Background: Postoperative complications and poorly managed pain at home often lead to unplanned emergency department visits and hospital readmissions. This study evaluated the effectiveness of digital home monitoring (DHM) compared to standard care after thoracic surgery. **Methods:** A parallel-group feasibility randomized control trial was conducted at a tertiary care center. Adult patients undergoing thoracic surgery were randomly assigned to DHM with the Vivify platform or standard care. Feasibility criteria were predefined, with primary outcomes including trial recruitment, protocol adherence, and data collection rates. Secondary outcomes encompassed emergency department (ED) visits, readmission rates, complications, length of stay, opioid consumption, quality of recovery, and patient/caregiver satisfaction. **Results:** Ninety-one patients were screened, with 80 randomized (40 in each group). Feasibility criteria were met, with high recruitment (87.9%), adherence (96.3%), and data collection rates (98.7%). The DHM group had fewer unplanned ED visits (2.7% vs. 20.6%; p=0.02), fewer unplanned admission rates (0% vs. 7.6%; p=0.09), lower rates of postoperative complications (20% vs. 47.5%, p=0.009), shorter hospital stays (4.0 vs. 6.9 days; p=0.05), but more opioid consumption (111.6 ± 110.9 vs. 74.3 ± 71.9 mg morphine equivalents; p=0.08) compared to the control group. DHM also resulted in shorter ED visit times (130 ± 0 vs. 1048 ± 1093 minutes; p=0.49) and lower cost per case ($12,145 ± 8,779 vs. $17,247 ± 15,313; p=0.07). The Quality-of- Recovery scores (QoR-40) were clinically and significantly better than the controls (185.4 ± 2.6 vs. 78.3 ± 3.3; p=<0.0001) and patient satisfaction-scores were also excellent for the DHM group. **Conclusion:** The pilot RCT demonstrates the feasibility and potential benefits of DHM in reducing postoperative complications, costs, unplanned ED visits, and readmission rates following thoracic surgery, while improving patients' experience. These findings support a larger, higher powered randomized trial to establish evidence-based continuity of care with DHM.

16

Thoracic Surgeon-Led Bedside Biopsy is Safe, Efficient, and Economic in a Canadian Healthcare Context. Vaibhav Gupta, Stephen Gowing, Lawrence Tan, Richard Liu,

Sadeesh Srinathan, Biniam Kidane. From the Western University (Gupta); University of Manitoba (Gowing, Tan, Liu, Srinathan, Kidane).

Background: Tissue diagnosis through a variety of interventional approaches guides thoracic cancer management, but often introduces delay to definitive treatment and can be resource intensive. We introduced a thoracic surgeon-led, ultrasound-guided point of care biopsy program to provide rapid diagnosis for patients. We assessed the safety, diagnostic yield, efficiency, and resource utilization with this approach. **Methods:** A prospective cohort study was performed of consecutive patients undergoing ultrasound-guided biopsies from July 2021 to December 2023 at a single Canadian tertiary thoracic surgery institution. All biopsies were performed by 4 thoracic surgeons. Using a bedside ultrasound, 20-gauge tissue cores were obtained using multiple passes with a standard spinal needle. Descriptive univariate statistics were used. **Results:** 155 patients underwent bedside biopsy for lung masses (n=118), liver metastases (n=21), mediastinal masses (n=10), or other lesions (n=7). Tissue diagnosis was obtained in 93% of patients (n=144). There was sufficient tissue for comprehensive molecular testing for 143/144 patients. Non-diagnostic biopsies were significantly less likely to occur as surgeon volume increased ($p<0.05$), as well as in those with EBUS/EUS expertise ($p<0.05$). There was 1 post-procedure pneumothorax, for which a pigtail catheter was immediately inserted by the same surgeon and managed as outpatient. There were no other complications (adverse event rate 0.6%). In the 144 patients with tissue diagnosis, time-to-diagnosis was reduced by an estimated 28-35 days. This also reduced endoscopic and radiology resource use, and freed up traditional biopsy appointments for other patients. **Conclusion:** Thoracic surgeon-led bedside biopsies are safe and have high diagnostic accuracy. Thoracic surgeons can safely obtain tissue diagnosis using ultrasound-guided biopsy in an outpatient clinic. This results in reduced time to diagnosis, quicker initiation of therapies, and reduced health resource utilization. This low-cost procedure can be adopted as part of comprehensive thoracic malignancy assessment and can accelerate patient access to cancer treatment.

18

Long-term Recurrence and Reoperation Risk with Robotic, Laparoscopic and Open Hiatal Hernia Repairs – A 10-year Longitudinal Series. Mehdi Qiabi, Srinivas Gopinath, Rahul Nayak, Dalilah Fortin, Richard Inculet, Richard Malthaner. From the Western University.

Background: Giant paraesophageal hernia (GPH) repairs have been plagued by high recurrence rates especially if done laparoscopically. We report our series of elective Robotic Nissen (R) repairs compared to Laparoscopic (L), and traditional Open (O) repairs for GPH. **Methods:** All patients with GPH undergoing an elective first surgical repair from January 1, 2013 to December 31, 2022 in a single institution. Propensity score matching based on age, body mass index (BMI), and Charlson Comorbidity Index was performed along with univariate, multivariate logistic, linear regression and time-to-event analyses to confirm robustness. The primary outcome was the recurrence rate requiring reoperation. Secondary outcome included clinical/radiological/endoscopic recurrences. **Results:** A total of 260 patients were included in the analysis (L=108, O=106, R=46, matched analysis: L=42 vs. R=42; O=43 vs. R=43). Median follow-up for the entire cohort was 50 months. The recurrence

rate was higher with L vs. R vs. O (26% vs. 15% vs. 10%, p=0.01, OR=3.06, p=0.004). There were no reoperation with O. Length of stay was similar between L and R (median [IQR]: 4 [3-5] vs. 5 [3.25-6] days, p=0.103), and with O versus R (5 [4-7] vs. 5 [3.25-6] days, p=0.007). Total operative time (median) was longer with R: 5.3 hours vs 2.7 hours (O) vs 3.3 hours (L), p<0.001. The reoperation-free interval was significantly worse for L (p=0.005). Rate of grade 2+ complication was similar (L=33%, O=34%, R=35%, p=0.98). The hazard ratio of recurrence was in favor of a robotic repair vs. laparoscopy, although not statistically significant (HR 0.57, p=0.18). **Conclusions**: Patients who underwent robotic repairs appear to have a longer recurrence-free interval when compared to laparoscopic repairs. However, laparotomy repairs still appear to have stood the test of time in all parameters.

19

NT-proBNP as a Predictor of Post-operative Atrial Fibrillation After Thoracic Surgery. *Braden Cruise, Andrew Giles, Biniam Kidane, Richard Liu, Stephen Gowing, Gileh-Gol Akhtar-Danesh, Lawrence Tan, Sadeesh Srinathan*. From the University of Manitoba (Cruise, Kidane, Liu, Gowing, Akhtar-Danesh, Tan, Sadeesh Srinathan); Queens University (Giles).

Background: Post-operative atrial fibrillation (POAF) following pulmonary resection is associated with increased morbidity and mortality. The extent of pulmonary resection and pre-operative N-terminal pro-BNP (NT-proBNP) levels have been suggested as contributing factors in the development of POAF. This study aims to investigate a possible relationship between the extent of pulmonary parenchyma resected and peri-operative changes in serum NT-proBNP levels. **Methods:** We conducted a prospective cohort study enrolling patients aged ≥55 years undergoing pulmonary resection with no documented history of atrial fibrillation. Baseline NT-proBNP levels were measured pre-operatively (PRE), in the post-anesthesia care unit (PACU), and on post-operative day 1 (POD1). The weight and volume of the lung resected were determined from the surgical specimen. Statistical analysis utilized repeated measure regression models with NT-proBNP as the outcome, incorporating measurement time (PRE/PACU/POD1), the extent of lung resection, and their interaction as predictor variables. Trajectory plots were generated to assess NT-proBNP changes after surgery and Spearman correlations to determine the relationship between NT-proBNP and extent of resection at each time point. **Results:** 103 patients were analyzed, among whom POAF occurred in 5 (4.9%) cases. Relative to PRE NT-proBNP measurements, the change in NT-proBNP levels at PACU and POD1 was -0.5 ± 37.9 pg/mL (*p=0.905*) and 320 ± 472.5 pg/mL (*p <0.0001*), respectively. The relationship between changes in NT-proBNP and the extent of lung resection was nonsignificant (*p >0.1*) across all time points. Patients developing POAF exhibited a trend towards larger volume lung resections (*p=0.116*). **Conclusions**: Pulmonary resection was followed by elevation in NT-proBNP levels from baseline on POD1. However, the degree of elevation was not related to the extent of pulmonary resection, suggesting that the extent of lung resection is not mechanistically involved in rising NTproBNP levels. Additional research is required to determine the clinical significance and etiology of post-operative NT-proBNP elevations.

20

Development of a Machine-Learning Radiomics-Based Model to Predict Esophageal Adenocarcinoma Staging. *Marcus Milantoni, Edward Wang, Tricia Chinnery, Jaryd Christie, Richard Malthaner, Rahul Nayak, Sarah Mattonen, Mehdi Qiabi*. From the Western University.

Background: Endoscopic "third-space" resection (ER) is an effective treatment for managing early-stage esophageal cancer. Staging is performed via endoscopic esophageal ultrasound (EUS), an invasive, operator-dependent procedure with poor accuracy, alongside CT and PET. Radiomics aims to extract quantitative data from medical imaging and provides an opportunity to characterize tumours without EUS. The present study aims to assess the predictive power of a fully automated, radiomics-based, machine-learning model in classifying early-stage superficial T1N0 esophageal adenocarcinoma (EA), versus locally advanced EA (T2+N+). **Methods:** A retrospective cohort of 166 patients with EA treated by upfront esophagectomy was curated, and histopathology reviewed. All patients underwent combined 18F-2-deoxy-D-glucose positron emission tomography and computed tomography (^{18}FDG-PET/CT) imaging. An esophagogastric region of interest (ROI) and an abdominal ROI were automatically created for radiomic feature extraction. The dataset was split into training, validation, and testing cohorts 10 times via randomly sampled bootstrap. The least absolute shrinkage and selection operator (LASSO) was used to select features for predicting superficial EA on the training dataset, for which a logistic regression (LR) model was developed. This process was repeated for the 10 cohorts. The model was evaluated via the mean test-set area under the receiver operator characteristic curve (AUC), accuracy, sensitivity, and specificity. **Results:** Nine features were consistently selected during LASSO cross-validation. Across all 10 folds, first-order skewness from the esophagogastric ROI on the PET scan was selected. The average test-set performance of the LR model was an AUC of 0.871±0.09, accuracy of 70.9±0.08%, sensitivity of 83.3±0.10%, and specificity of 66.5±0.09%. **Conclusion:** A radiomic-based LR model derived from ^{18}FDG-PET/CT images demonstrates high predictive power in classifying early-stage superficial EA eligible for ER. This is the first time such a model has been developed and prospective clinical validation is needed. The model has the potential to help select patients for third-space surgery.

21

Environmental and Economic Impact Assessment of Cape Breton Thoracic Surgery Clinic. *Felix Leathead, Daniel French, Enam Alsrayheen, Yoana Fuentes, Godson Johnson.* From Dalhousie University (Leathead, French); Research, Innovation and Discovery Department of Nova Scotia Health Authority (Alsrayheen, Fuentes, Johnson).

Background: The Cape Breton Thoracic Surgery Clinic (CBTSC) was established in 2022 with the purpose of providing care closer to home for the Cape Breton community patients and avoiding transportation to Halifax. Consequently, we wanted to evaluate this clinic's environmental and economic impacts. **Methods:** A retrospective review of prospective collected data was conducted for patients seen in the CBTSC in 2023. The average CO_2 emissions and patients' cost of transportation to CBTSC were compared to the emissions and cost for the same cohort if they had to travel to the Queen Elizabeth II (QEII) Hospital in Halifax. The distance to CBTSC and QEII, the CO_2 emissions, and the cost of travel were

computed for each patient using the postal code of the home address and a geographic information system. A federal database was used to measure the average fuel consumption and CO_2 emissions of a 2018 vehicle. A provincial database was used to determine the average fuel price for the year 2023 in Nova Scotia. **Results:** A total of 266 patients were enrolled in the study, with 248 (93.2%) providing sufficient data for analysis. The median CO_2 emissions per patient journeying to the CBTSC were 10.8 kg (Q1: 7.2 kg and Q3: 28.4 kg), contrasting with 192.9 kg (Q1: 188 kg and Q3: 203 kg) (p-value < 0.001) if they had travelled to the QEII. The median reduction in carbon emissions per patient was 182.1 kg (94.4%) of CO_2 . The median transportation cost per patient travelling to the CBTSC was $7.6 (Q1: $5.0 and Q3: $19.8), compared to $134.8 (Q1: $131.5 and Q3: $145.6) (p-value < 0.001) for travel to the QEII, resulting in a median cost reduction per patient of $127.2 (94.9%). **Conclusion:** Outreach surgery clinics decrease the economic toll of transportation on patients as well as reducing their carbon footprint.

22

Transition to Robotic Thoracic Surgery: The Experience from a Tertiary Hospital Setting. *Richard Bigsby, Evan Barber, Jamye Ladebruk-Cathcart, Sean Peace, Renee Kennedy, Steven Bharadwaj, Dimitrios Coutsinos.* From the University of Saskatchewan, Department of Surgery, Division of Thoracic Surgery (Bigsby, Barber, Kennedy, Bharadwaj Dimitrios Coutsinos); Saskatchewan Health Authority, St. Paul's Hospital (Bigsby, Barber, Ladebruk-Cathcart, Peace, Kennedy, Bharadwaj, Coutsinos).

Background: Robotic thoracic surgery is gaining popularity among thoracic surgery services internationally. We describe our successful transition to a primary robotic thoracic surgery service in a tertiary hospital setting. **Methods:** We retrospectively reviewed our first one hundred robotic cases between February and December 2023. We analyzed the types of procedures, operative times, rates of conversion, complication rates, lengths of stay and rates of mortality. **Results:** The most commonly performed procedures were anatomic pulmonary resections. In total, 50 resections were performed which included lobectomies and segmentectomies. 2 cases required conversion, 1 for failure to progress and 1 for pulmonary arterial bleeding. The mean operative time was 140 minutes, and the average length of stay was 2.71 days. 22 patients underwent esophagectomy, including both 2 and 3-field approaches. 6 patients required conversion, 1 for bleeding and the rest for anastomotic defects. The mean operative time was 288 minutes, and the average length of stay was 6.25 days. 17 patients underwent resection of mediastinal masses. 1 of these cases required conversion for suspected great vessel injury and the mean operative time was 93 minutes. 6 patients underwent paraesophageal hernia repair with an anti-reflux procedure. There were no conversions, and the mean operative time was 170 minutes. The remaining procedures included 2 subtotal gastric resections, 2 Heller myotomies, 1 Morgagni hernia repair, and 1 resection of a chest wall mass. Mean operative times decreased uniformly among all procedures with increasing surgeon volume. There were no intra-operative or 30-day mortalities. **Conclusion:** The robotic thoracic surgery platform offers excellent clinical results with decreased morbidity and length of stay. Despite the steep learning curve operative times decrease with increased surgeon and operative team experience. These findings demonstrate the feasibility of transitioning to

a robotic thoracic surgical practice in a tertiary care setting.

23

Wait Times in Lung Cancer Surgery Based on Specialty Referral Patterns - A Canadian Regional Experience. *Linda Chang Qu, Tayne Bong, Ajmal Hafizi, Rachel Chung, Ahmad S Ashrafi, James R Bond, Nazgol Seyednejad, Chuck Wen, Sharon Y Ong*. From the University of British Columbia (Qu, Chung, Ashradi, Bond, Seyednejad, Wen, Ong); Surrey Memorial Hospital (Qu, Bong, Hafizi, Ashrafi, Bond, Seyednejad, Wen, Ong).

Background: Centralized, multidisciplinary referral programs reduce delays in lung cancer management. Shorter wait times have been shown to benefit early-stage lung cancer patients who are candidates for upfront surgery. We aim to illustrate the wait times disparities based on specialty referral patterns in a region without a centralized referral process. **Methods:** A retrospective chart review of patients who underwent a lobectomy in Fraser Health Authority, British Columbia between January 1 and November 9, 2023 was performed. Time intervals are expressed as median days between the date of first abnormal imaging, subspecialty consultation, pulmonary function testing (PFT), positron emission tomography (PET) scan, and surgery. **Results:** There were 96 patients in total, 63 (65.6%) were referred to respirology first, 33 (34.4%) referred directly to thoracic surgery. The time interval from first abnormal imaging to specialist consultation was 71 days (IQR 31-253) – imaging to consultation with respirology was 105 days, compared to 41 days with thoracic surgery. Of patients referred to respirology first, time between respirology consultation and subsequent thoracic surgery consultation was 31 days (IQR 15 – 67). Overall time between specialist consultation to surgery was 89 days (IQR 66-129) – this was 108 days in the respirology group, compared to 83 days in the thoracic surgery group. Overall time between PET to surgery was 61 days (IQR 37-85) – this was 70 days in the respirology group, compared to 46.5 days in the thoracic surgery group. Almost half of all patients (45, 46.9%) did not have PET or PFT prior to thoracic surgery consultation. **Conclusion:** Patients experience considerable delays in accessing lung cancer care in lower mainland British Columbia, especially those who are not directly referred to thoracic surgery. A centralized referral system is needed to improve wait times for early-stage lung cancer patients who are most impacted by surgical delays.

24

Novel Histopathological Assessment Method for Endoscopic Submucosal Dissection: Better Communication, Decision Making, and Technical Improvements. *Gursagar Jhanji, Victoria Xie, Leeane Unfried, Miao Lu, Biniam Kidane*. From the University of Manitoba (Jhanji, Xie, Unfried, Lu, Kidane); Shared Health Manitoba (Unfried).

Background: Endoscopic submucosal dissection (ESD) is a novel organ-sparing resection for gastro-esophageal cancers. There are no standardized histopathological assessment and reporting methods. We developed a novel histopathological assessment method for ESD. We aimed to describe this method and assess its usefulness in communication and decision-making. **Methods:** This novel grid-based method was developed over the course of several years but became used routinely in a single tertiary Canadian centre in 2020. Time periods were divided into 2 eras: Era1 of 2017 (inception of ESD program)-2020 versus Era 2 of 2021-

2024. Pathology reports of ESD specimens from both eras were assessed by a blinded surgeon-endoscopist. Impact on decision-making was assessed. Interview with surgeon performing in both eras and thematic phenomenological analysis was performed. **Results:** Communication and clarity of next treatment step was universally superior with the novel assessment method. Surgeon decision about next step (i.e. surveillance, repeat ESD, escalation to esophagectomy) was rated as "clear" or "very clear" in 100% of era 2 specimens, whereas this only occurred in only 67% of era 1 specimens ($p<0.05$). Thematic analysis of surgeon interview identified that this method provided increased confidence in margin assessment as well as which questionable margins required follow-up biopsies or additional ablative treatments ("it took the guesswork out of it"). Detailed margin assessment provided feedback about areas of concern that may be modifiable by technique alteration. For example, the feedback from this pathology method facilitated improvements in technique that have nearly eliminated indeterminate mucosal margins due to cautery artefact, which is a common issue in ESD specimens. Surgeon noted: "This is indispensable...I can never go back to the old method". **Conclusion:** A novel histopathological ESD assessment method improves communication decision-making and facilitates technical improvements. Implementation at other sites and interviews with other surgeons/endoscopists is needed to confirm generalizability.

25

Efficacy and Safety of Per-oral Endoscopic Myotomy Compared to Heller Myotomy in the Treatment of Achalasia: A Systematic Review of Long-term Outcomes. *Odelle Ma, Karanbir Brar, Sydney McCluskey, Dunavan Morris-Janzen, Jeremy Peabody, Simon Turner.* From the University of Alberta (Ma, Brar, McCluskey, Morris-Janzen, Jeremy Peabody, Turner); University of Toronto (Brar).

Background: Per-oral endoscopic myotomy (POEM) is a minimally-invasive procedure for treating achalasia. Previous studies have reported excellent short-term efficacy for POEM when compared to the established Heller Myotomy (HM), but long-term outcomes are less known. The aim of this study is to systematically review the available evidence on long-term treatment efficacy and safety of POEM. **Methods:** A comprehensive search of MEDLINE, Web of Science, EMBASE, ClinicalTrials.gov, CENTRAL was performed. All articles were included that compared POEM to HM for the treatment of achalasia and had follow-up periods of at least 24 months for both arms. Primary endpoint was treatment success (defined as Eckardt Score <3). Secondary endpoints included postoperative gastroesophageal reflux disease (GERD) and complications. Studies were reviewed and data extracted independently by two authors. Risk of bias (RoB) evaluation is in process using the Cochrane RoB Tool 2.0 for randomized control trials (RCTs) and ROBINS-I for cohort studies. **Results:** Following screening of 1830 citations, 8 cohort studies and 1 RCT were included. There were 583 patients in the POEM group and 516 patients in the HM group. Follow-up spanned 18.2 to 47.3 months across POEM groups and >24 months in all HM groups. Treatment success was reported in 7 studies. POEM treatment success ranged from 72.7% to 99.3%. HM treatment success was 59% to 95.7%. The POEM groups reported GERD symptomatology at final follow-up in 12.5% to 45.8% of patients compared to 9.5% to 50% of patients in the HM groups. Complication rates were low overall across both procedure groups. **Conclusion:**

Preliminary results suggest that POEM is an effective treatment for achalasia with similar moderate-to-long term efficacy and GERD prevalence to HM. This review is limited by the inclusion of only one RCT. Further prospective comparative studies are needed to establish the long-term efficacy and safety of POEM.

26

Intraoperative Fluid Management on Morbidity and Mortality after Esophagectomy: Asystematic Review and Meta-Analysis. *Janhavi Patel, Yung Lee, John Agzarian.* From McMaster University (Patel, Lee, Agzarian); St. Joseph's Healthcare (Agzarian).

Background: Esophagectomy is associated with increased morbidity and mortality. Although the mechanisms for these complications are multifactorial, perioperative fluid management is considered a major contributor to adverse events. Despite its importance, the use of intraoperative GDFT for patients undergoing esophagectomy remains controversial with limited low-level evidence supporting its widespread administration. This meta-analysis aimed to summarize the available evidence of intraoperative GDFT and operative outcomes after esophagectomy. **Methods:** We conducted a systematic review and meta-analysis following PRISMA guidelines. RCTs, prospective and retrospective cohort studies comparing GDFT and standard intraoperative fluid regimen involving adult patients (>18y old) undergoing esophagectomy for esophageal cancer were included in the study. Post-operative morbidity including pulmonary complications, anastomotic leak as well as mortality were primary outcomes included in the meta-analyses. Review articles or studies including patient undergoing esophagectomy for causes other than cancer were excluded from the study. **Results:** After screening 142 studies, a total of 6 studies were included in the final analyses. All 6 studies reported outcomes on post-operative pneumonia demonstrating that procedures using GDFT showed significantly less instances of pneumonia (OR 0.76 [0.58,0.99], P=0.04). Five studies commented on anastomotic leak and showed no difference in leak rate between GDFT and standard fluid administration (OR 0.77 [0.56,1.05], P = 0.10). With analyses of 4 studies, no significant difference was observed in overall mortality (OR 0.81 [0.42,1.54], P = 0.52). Three studies each reported outcomes on bleeding and stroke, with no significant difference observed between different treatment groups. **Conclusion:** Overall, esophagectomy is a procedure with high morbidity and mortality. This meta-analysis demonstrates a significant reduction in post-operative pneumonia after esophagectomy. Given that pulmonary complications are often the most significant contributors to overall morbidity, utilising a GDFT approach is an efficient and systematic way to reduce the overall pulmonary morbidity experienced by patients.

CSF/Video - 08

Modified Per-Oral Endoscopic Myotomy for Zenker's Diverticulum (Z-POEM) With Increased Effectiveness, Safety, and Durability of Results. *Vaibhav Gupta, Biniam Kidane.* From the Western University (Gupta). From the University of Manitoba (Kidane).

Background: Per-Oral Endoscopic Myotomy for Zenker's Diverticulum (Z-POEM) is a newer endoscopic procedure for the management of a pharyngeal pouch which develops as a result of cricopharyngeal muscle dysfunction. In this video, we present

our technique and modifications of the Z-POEM procedure which overcome the limitations of endoscopic stapled and open surgical cricopharyngeal myotomy. **Methods:** The narrated surgical video breaks down the procedure step by step, including preoperative preparation, materials, and technical modifications to improve on the standard Z-POEM procedure. Pre-operative and immediate & four-year post-operative barium swallows are shown to demonstrate safety, effectiveness, and durability. **Results:** We present a 69-year-old gentleman with a significantly symptomatic Zenker's diverticulum. The patient has limited mouth opening and comorbidities that make the endoscopic stapled and open surgical options less desirable. The technique is described. Pre- and postoperative barium swallows demonstrate complete obliteration of the diverticulum, with no impedance to contrast flow at the upper esophageal sphincter. Not shown are temporal improvements in the Dakkak Dysphagia Score and Eckardt Achalasia Score from preoperatively up to 4 years postoperatively. **Conclusion:** We believe our Z-POEM technique modifications lead to increased effectiveness, safety, and durability of cricopharyngeal myotomy. Z-POEM is superior to endoscopic stapled myotomy, which requires the insertion of the Weerda scope, and performs incomplete myotomy due to residual muscle at the tip of the stapler. Compared to the open repair, Z-POEM is incision-less, and carries no risk to the recurrent laryngeal nerve.

YouTube Video Link: https://youtu.be/_ULK8_4wzZM

CANADIAN SOCIETY OF COLON AND RECTAL SURGEONS

22

POLARiS (Pathway Of Low Anterior Resection Relief after Surgery) – Results of the Feasibility Study. *Alexandra Coxon-Meggy, Alun Meggy, Julie Cornish, POLARiS Study Management Group*. From the Cardiff & Vale University Hospital (Coxon-Meggy, Meggy, Cornish, POLARiS Study Management Group); Cardiff University, Cardiff, United Kingdom; University of Leeds (POLARiS Study Management Group); Cedar (POLARiS Study Management Group).

Background: Low Anterior Resection Syndrome (LARS) describes a constellation of debilitating bowel dysfunction symptoms following an anterior resection. The current management of LARS is very variable with many patients left without access to treatment. Recent small studies have identified Transanal Irrigation (TAI) and Sacral Neuromodulation (SNM) as promising treatments for major LARS. The study aimed to assess the feasibility of the POLARiS trial which utilises a Trial Within a Cohort (TWIC) design. In addition to testing the design, the study aimed to investigate the LARS population through establishing the prevalence and and risk factors for major LARS. **Methods**: Using a TWiC design patients who had undergone an anterior resection for rectal cancer in the past 10 years were invited to the cohort. Participants were asked to complete quality of life and bowel function questionnaires. If identified as having major LARS (according to the LARS score) participants were invited to the RCT. Participants were randomised to either OCM, TAI or SNM depending on site and participant eligibility. Four UK sites recruited to the study. **Results**: 156 participants were recruited to the cohort. Of those who returned baseline questionnaires, 49% had major LARS. Of the 76 eligible for randomisation, 31 (41%) consented to take part in the RCT. Risk factors for LARS included anastomotic leak, radiotherapy and the use of an ileostomy. **Conclusion**: This

study confirmed LARS as a common condition. The novel design worked well to identify the major LARS population. Conversion of those with major LARS to the RCT was lower than expected resulting in adjustments to the main trial design. The patient acceptability of TAI and SNM will require further investigation in the main trial.

23

Frailty in Inflammatory Bowel Disease: Analysis of the National Inpatient Sample 2015–2019. *Sahil Sharma, Tyler McKechnie, Luke Heimann, Yung Lee, Nalin Amin, Dennis Hong, Cagla Eskicioglu.* From McMaster University (Sharma, McKechnie, Lee, Amin, Hong, Eskicioglu); Liberty University (Heimann).

Background: Preoperative frailty has been associated with adverse postoperative outcomes in various populations, but application of its use in patients with inflammatory bowel disease (IBD) remains sparse. The present study aimed to characterize the impact of frailty, as measured by the modified frailty index (mFI), on postoperative clinical and resource utilization outcomes in patients with IBD. **Methods**: This retrospective population-based cohort study assessed patients from the National Inpatient Sample database from September 1st, 2015, to December 31st, 2019. Corresponding ICD-10 CM codes were used to identify adult patients (>18 years or age) with IBD, undergoing either small bowel resection, colectomy, or proctectomy. Patient demographics and institutional data were collected for each patient to calculate the 11-point mFI. Patients were categorized as either frail or robust using a cut-off of 0.27. Primary outcomes were postoperative in-hospital morbidity and mortality, while secondary outcomes included system-specific morbidity, length of stay (LOS), in-hospital healthcare costs, and discharge disposition. Logistic and linear regression models were used for primary and secondary outcomes. **Results**: Overall, 7,144 patients with IBD undergoing small bowel resection, colectomy, or proctectomy were identified, 337 of which were classified as frail (i.e., mFI<0.27). Frail patients were more likely to be female, older, have lower income, and greater number of comorbidities. After adjusting for relevant covariates, frail patients were at greater odds of in-hospital mortality (adjusted odds ratio (aOR) 5.42, 95% CI 2.31-12.77, p<0.001), overall morbidity (aOR 1.72, 95% CI 1.30-2.28, p<0.001), LOS (adjusted mean difference (aMD)1.3 days 95% CI 0.09-2.50, p=0.035), and less likely to be discharged to home (aOR 0.59, 95% CI 0.45-0.77, p<.001) compared to their robust counterparts. **Conclusion**: Frail IBD patients are at greater risk of postoperative mortality and morbidity, and reduced likelihood of discharge to home, following surgery. This has implications for clinicians designing care-pathways for IBD patients following surgery.

24

The Impact of Sarcopenia on Post-Operative Outcomes for Patients Undergoing Surgery for Colorectal Cancer: An Updated Systematic Review and Meta-analysis. *Sara Keshavjee, Tyler Mckechnie, Victoria Shi, Muhammad Abbas, Elena Huang, Nalin Amin, Dennis Hong, Cagla Eskicioglu*. From the Division of General Surgery, Department of Surgery, McMaster University (Keshavjee, Mckechnie, Amin, Hong, Eskicioglu); Michael DeGroote School of Medicine, McMaster University (Abbas, Huang).

Background: Sarcopenia is thought to be a marker for underlying frailty and malnutrition, contributing to poor functional

status and suboptimal recovery post-operatively. We aimed to complete an updated systematic review and meta-analysis evaluating the impact of sarcopenia on short- and long-term outcomes following colorectal surgery. **Methods:** We searched MEDLINE, Embase, and CENTRAL up to December 2023. Studies that compared sarcopenic and non-sarcopenic patients' short- and long-term outcomes following curative intent elective surgery for colorectal cancer were included. The main outcomes included postoperative morbidity, postoperative mortality, length of stay (LOS), disease free survival (DFS), and overall survival (OS). Inverse variance random effects meta-analyses were performed. Risk of bias was assessed with Cochrane risk of bias tools. **Results:** After screening 215 studies, we included 40 non-randomized studies, totalling over thirteen thousand patients, of which 5,432 (40.4%) were classified as sarcopenic. Across 28 studies, patients with sarcopenia were more likely to experience 30-day postoperative morbidity (40 vs. 33%, RR 1.30, 95% CI 1.12-1.50, p<0.01). The mean LOS was 1.46 days longer for sarcopenic patients (26 studies, 95% CI 0.85-2.07, p<0.01). Regarding long-term outcomes, patients with sarcopenia had lower five-year DFS (4 studies, RR 0.91, 95% CI 0.84-0.98, p=0.01). Analysis of five-year OS demonstrated a similar effect estimate with 95% CIs crossing the line of no effect (3 studies, RR 0.88, 95% CI 0.76-1.03, p=0.11). **Conclusion:** The findings from this systematic review suggest with low to very-low certainty evidence that in patients who are undergoing curative intent surgery for colorectal cancer, pre-operative sarcopenia is associated with poor short- and long-term postoperative outcomes.

25

A Closer Look at Randomized Trials Evaluating Total Neoadjuvant Therapy for Rectal Cancer: A Methodological Survey Using the Fragility Index. *Tyler McKechnie, Kelly Brennan, Cagla Eskicioglu, Ameer Farooq, Sunil Patel.* From McMaster University (McKechnie, Eskicioglu); Queen's University (Brennan, Farooq, Patel).

Background: A relatively novel summary measure that is not commonly reported in randomized controlled trials (RCTs) is the fragility index (FI). One particular area within colorectal surgery that has experienced exponential RCT growth over the past five years is total neoadjuvant therapy (TNT) for locally advanced rectal cancer (LARC). The robustness of these RCTs has never been evaluated. We designed the present study to assess the robustness of the RCTs evaluating TNT for LARC using the FI. **Methods:** Relevant articles were identified through a review article by Johnson *et al*. We searched PubMed to identify any other relevant RCTs. Outcomes within these RCTs that were either dichotomous outcomes or time-to-event outcomes were eligible for inclusion if the reported effect size had an associated p-value of less than 0.05. The main outcome was the FI for each statistically significant outcome. An RCTs results were considered fragile if the FI was less than the loss to follow up for a given outcome. Correlations between FI and research characteristics were assessed using the Spearman's rank correlation coefficients. **Results:** Ten RCTs were included. Across the included RCTs, 25 outcomes were reported as having statistically significant differences between groups. Thirteen of the outcomes were oncologic outcomes. Three of the outcomes were primary outcomes. The median FI was 2 (interquartile range [IQR] 1-16). The number of patients lost to follow-up exceeded the FI in 17 outcomes (68.0%).

Lower FI was associated with high risk of bias (rho=-0.5594) and greater loss to follow-up (rho=-0.4394), while higher FI was associated with large study size (rho=0.5120). **Conclusion:** TNT for LARC trials commonly reported fragile results. In most cases, a handful of additional events would result in loss of statistical significance in the reported result. Those using the results of these studies should apply caution when interpreting these trials.

26

Fragmented Rectal Cancer Care in Ontario: A Population-Level Retrospective Cohort Study. *Tyler McKechnie, Alessandro Ricci, Victoria Shi, Kelly Brennan, Weidong Kong, Ameer Farooq, Sunil Patel.* From McMaster University (McKechnie, Shi); Queen's University (Ricci, Brennan, Kong, Farooq, Patel).

Background: Locally advanced rectal cancer is often treated with multimodal therapy. Depending on patient characteristics, disease characteristics, and institutional capacity, patients may receive care at a single institution or across multiple institutions. We designed this population-level retrospective cohort study to compare patients receiving fragmented care and those receiving non-fragmented care in terms of timeliness of treatment, completeness of staging and surveillance investigations, and long-term oncologic outcomes. **Methods:** All individuals with stage II/III rectal cancer who received at least two treatment modalities (i.e., surgery, radiation, chemotherapy) between 2010-2019 in Ontario, Canada were included. Patients receiving all treatment modalities at a single institution were classified as receiving non-fragmented care and patients receiving at least one treatment modality at two or more institutions were classified as receiving fragmented care. The primary outcome was timeliness of treatment. Secondary outcomes included completeness of staging investigations, completeness of surveillance investigations, and overall survival (OS). Multivariable logistic regression and Cox proportional-hazard models were used. **Results:** Overall, 3,381 patients received fragmented care (mean age: 63±12, 36.5% female) and 2,026 patients received non-fragmented care (mean age: 63±12, 35.4% female). Patients receiving non-fragmented care were more likely to undergo timely initiation of treatment (OR 1.72, 95%CI 1.50-1.97, p<0.0001). This was largely driven by timely initiation of chemotherapy (OR 1.32, 95%CI 1.16-1.49, p<0.0001). Patients receiving non-fragmented care were less likely to have all recommended staging investigations completed before starting treatment (OR 0.80, 95%CI 0.68-0.93, p=0.005), but more likely to have all recommended surveillance investigations (OR 1.13, 95%CI 1.01-1.27, p=0.04). There was no significant difference in OS between groups (HR 1.11, 95%CI 0.95-1.30, p=0.19). **Conclusion:** Patients with stage II/III rectal cancer receiving multimodal therapy may experience less timely initiation of treatment if they experience fragmentation of care. This did not translate into a significant difference in oncologic outcomes.

27

Triple Row Staple Technology May Reduce the Risk of Anastomotic Leak for Left-Sided Colorectal Anastomoses: A Systematic Review and Meta-Analysis. *Tyler McKechnie, Victoria Shi, Elena Huang, Bright Huo, Aristithes Doumouras, Nalin Amin, Cagla Eskicioglu, Dennis Hong*. From McMaster University.

Background: Some observational data have suggested that anastomotic leak may be reduced with triple row staple technology compared to double row staple technology. We aimed to investigate this further by performing a systematic review comparing double and triple row staple technology for left-sided colorectal anastomoses. **Methods:** This systematic review was reported in accordance with the PRISMA guidelines. MEDLINE, Embase, and CENTRAL were searched up to November 2023. Articles were eligible for inclusion if they were comparing double row staple and triple row staple technology for left-sided colo-colic, colorectal or coloanal anastomosis. The main outcomes included anastomotic leak, anastomotic hemorrhage, 30-day mortality, and reoperation. Meta-analyses with inverse variance random effects were performed. Risk of bias was assessed with Cochrane tools. Certainty of evidence was assessed with GRADE. **Results:** After reviewing 340 relevant citations, six retrospective cohort studies met inclusion. Overall, 19,372 patients (mean age: 60.2 years, 52.7% female) had anastomoses with double row staple technology and 2,298 patients (mean age: 61.3 years, 50.3% female) with triple row staple technology. Most operations were anterior resections (double row: 55.3%; triple row: 43.6%). Seventeen percent and 20.3% had proximal diversion in the double row and triple row staple technology groups, respectively. Across all included studies, the risk of anastomotic leak was reduced with triple row staple technology (6.3% vs. 7.5%, RR 0.54, 95%CI 0.31-0.94, p=0.03, I^2=75%). There were no significant differences in anastomotic hemorrhage (RR 0.47, 95%CI 0.15-1.49, p=0.20, I^2=57%), 30-day mortality (RR 0.66, 95%CI 0.17-2.55, p=0.55, I^2=0%), or reoperation (RR 1.05, 95%CI 0.42-2.64, p=0.91, I^2=56%). All studies were found to be at moderate risk of bias. Overall certainty of evidence for all meta-analyzed outcomes was very low. **Conclusion:** Triple row staple technology may reduce the risk of anastomotic leak in left-sided colorectal anastomoses. Future clinical trials are required to further investigate these findings.

28

Total Neoadjuvant Therapy as Standard of Care for Locally Advanced Rectal Cancer at a Regional Cancer Centre: Completeness of Treatment, Surgical Quality and Postoperative Complications. *Vanessa Wiseman, Sunil Patel, Kristin Wright, Ameer Farooq, Peter Hugh MacDonald, Christopher Booth, Conrad Falkson, Maria Kalyvas.* From Queen's University (Wiseman, Patel, wright, Farooq, Booth, Falkson, Kalyvas); Queen's University (MacDonald).

Background: Total Neoadjuvant Therapy (TNT) has gained popularity in treating rectal cancer, as it may increase treatment compliance and clinical response. Concerns have been raised about the potential increases in “local failure” and/or surgical difficulty. Our aim is to describe a regional cancer centre’s experience with the adoption of TNT as the “Standard of Care” in locally advanced rectal cancer. **Methods:** This retrospective review compared the “Pre-TNT” (01/2021 to 08/2022) and “Post- TNT” (09/2022 to 12/2023) periods. Patients with high-risk stage II/III disease were offered routine chemoradiation (“pre-TNT”) or TNT(short course radiation followed by systemic chemotherapy) (“post-TNT”). The completeness of treatment, quality of surgical excision and post-operative complications were compared. **Results:** 170 individuals with rectal cancer were identified (Pre-TNT 109; Post TNT 61). Average age (64.3 vs. 66.6, P = 0.86), male gender (62% vs. 67%,

P = 0.53), MCC presentation (92% vs. 97%, P = 0.37) and proportion eligible for CRT or TNT (49% vs. 49%, P = 0.94) were similar between periods. Those treated in the post TNT period had a higher proportion of completed treatment as intended (radiation 98% vs 68%, P<0.001; systemic chemotherapy 79% vs. 52%, P = 0.02). Quality of surgical resection was similar between groups (Post vs. Pre TNT: complete/near complete TME 100% vs. 92%, P = 0.21; CRM positivity 9% vs. Pre 15%, P = 0.28; Distal Margin Positivity 2% vs. Pre 0%, P = 0.36). There were no differences in major surgical complications (Post vs. Pre: Anastomotic Leak 5% vs. 8%, P = 0.34; Reoperation 3% vs. 0%, P = 0.25; Readmission 13% vs. 9%, P = 0.35). **Conclusion:** Although limited by small sample size, adopting TNT as a standard resulted in higher completeness of intended treatment, without reducing the quality of surgical excision or increasing major post-operative complications.

29

Eye-hand Coordination of Novices in Endoscopy. *Wenjing He.* From the University of Manitoba.

Background: Flexible endoscopy has been pivotal in diagnosing and treating gastrointestinal diseases in recent decades. Effective eye-hand coordination and workload management are crucial for endoscopy practice. This study aimed to assess the eye-hand coordination and emotional responses of novice endoscopists during simulated endoscopy procedures. **Methods:** We investigated the eye gaze patterns of 15 novice endoscopists with no prior experience in endoscopy during a colonoscopy simulation using the EndoVR simulator and Smart Eye Aurora eye tracker. Data on performance metrics, eye movements, and emotional responses were collected. **Results:** Novices showed significant variability in procedure times, averaging 24 minutes and 10 seconds (± 16:27), with an average percentage of visualized colonic mucosa at 53.39% (± 12.69). They experienced significant mental demand and frustration. Gaze behavior analysis revealed that novices spent approximately 41% of their time looking outside the screen, primarily focusing on handling endoscopic tools. **Conclusion:** Novice endoscopists demonstrate diverse learning experiences, evident in differences in procedure times and mucosa visualization percentages. Notably, they allocate a considerable amount of attention to manipulating endoscopic tools. These findings can inform the development of improved endoscopy training programs, enhancing the proficiency of novice practitioners in this vital medical field.

30

Lateral Lymph Node Dissection for Rectal Cancer: A Survey of Surgeons. *Jessica Bogach, Karim Messake, Shawn Forbes, Vanja Grubac, Gregory Pond, Marko Simunovic.* From McMaster University (Bogach, Messake, Forbes, Pond, Simunovic); Li Ka Shing Knowledge Institute (Grubac).

Background: In rectal cancer surgery, there is recent increased interest in surgical excision of suspicious nodes in the lateral pelvic sidewall with the intent of decreasing lateral local recurrence. Experiences of Canadian surgeons with lateral lymph node dissection (LLND) is not reported. **Methods**: A survey was designed to evaluate surgeon experiences with diagnosis and management of lateral lymph node metastases in primary rectal cancer. This included piloting iterations of the survey with general,

colorectal and surgical oncology surgeons. The survey was distributed using the Canadian Association of General Surgery email distribution list. Descriptive statistics summarized our results. **Results**: Only 14 surgeons completed the survey. Of these 14 surgeons, the number of Colorectal Surgeons and Surgical Oncologists were, 11, and 2, respectively. Twelve surgeons reported completing more than 20 rectal cancer surgeries per year. All surgeons (14) felt that MRI was the best modality to identify positive lateral lymph nodes, though only six surgeons reported confidence in their ability to identify positive nodes on MRI. Even among this small sample of respondents, criteria to label nodes as "positive" was variable and included size (range 5-10 mm), signal heterogeneity, round, irregular borders and change with neoadjuvant therapy. Only two surgeons reported performing >5 LLND in the last 12 months. Common barriers to LLND included inadequate exposure during training, inadequate volume, lack of availability of other surgical specialties, and fear of complications. No surgeon identified "no oncologic benefit" as a barrier. **Conclusion**: Our low survey response rate and the low rate of LLND among respondents may reflect a low practical experience among Canadian surgeons with these procedures. There is likely a need to train Canadian surgeons to identify and refer appropriate patients to surgeons interested in performing lateral lymph node dissection in rectal cancer.

31

The Impact of Frailty on Rectal Prolapse Repair: A Retrospective Analysis of the NationalInpatient Sample for Clinical Outcomes and Health Resource Utilization.
Tyler McKechnie, Janhavi Patel, Ghazal Jessani, Yung Lee, Nalin Amin, Aristithes Doumouras, Dennis Hong, Cagla Eskicioglu.

From McMaster University (McKechnie, Patel, Jessani, Lee, Amin, Doumouras, Hong, Eskicioglu); St. Joseph's Healthcare (Amin, Doumouras, Hong, Eskicioglu).

Background: Rectal prolapse more commonly affects elderly and frail individuals. However, there is a lack of data on the impact of frailty after rectal prolapse repair. The study aims to utilize the National Inpatient Sample (NIS) and the modified frailty index (mFI-11) to compare outcomes between frail and robust patients undergoing rectal prolapse repair. **Methods:** A retrospective cohort study was conducted using the Healthcare Cost and Utilization Project (HCUP) NIS from 2015 to 2019 involving patients undergoing rectal prolapse repair. The mF-11 was employed to identify frail and robust individuals. The primary outcomes included postoperative morbidity and mortality. Secondary outcomes included system-specific postoperative morbidity, length of stay (LOS), total in-hospital healthcare cost, and discharge disposition. Univariable and multivariable regression analyses were performed. **Results:** The final analysis included 2,130 patients, comprising 239 frail (mFI > 0.27) and 1,891 robust patients (mFI < 0.27). Frail patients exhibited higher mortality (OR 10.38, 95% CI 0.65-166.59, p=0.098) and morbidity (OR 2.18, 95% CI 1.31-3.63, p=0.003) than robust patients. Frail patients also had longer length of stay (MD 1.60 days, 95%CI 1.05-2.44, p=0.028), were less likely to be discharged to home (OR 0.47, 95% CI 0.30-0.74, p=0.001), more likely to be transferred to a nursing care facility (OR 1.60, 95% CI 0.88-2.89, p=0.120) and increased treatment-related costs (MD $15,561.56, 95%CI -6,023.12-37,146.25, p=0.157). **Conclusion:** Frailty increases mortality, morbidity, and imposes a greater financial burden on the health system in patients undergoing surgery for rectal prolapse. Insights from this study underscore

the need for preoperative assessment and development of strategies to address frailty, thereby optimizing patients before rectal prolapse surgery.

32

A Picture is Worth a Thousand Words: Graphic Narrative to Supplement Consent for Low Anterior Resection. *Elizabeth Clement, Jinny Choi, Anu Ghuman, Manoj Raval, Ahmer Karimuddin, Terry Phang, Carl Brown.* From the University of British Columbia.

Background: Patients with rectal cancer require complex, quality-of-life altering treatments, and there is evidence that their information needs are not routinely met. It is imperative that information provided to patients is comprehensible regardless of health literacy. This study utilizes a graphic narrative – or comic – to supplement consent for low anterior resection. **Methods:** In this single centre, randomized feasibility trial, 40 English-speaking patients age 18+ undergoing elective low anterior resection for rectal cancer will be recruited. Spielberger state-trait anxiety index and demographic details are collected before 1:1 randomized. All patients receive standard information booklets; those randomized to the comic arm also receive the comic. Anxiety index and patient satisfaction scores are collected in preop holding and at the time of discharge. Patient satisfaction and exposure-based questionnaires are performed at routine 6-week follow-ups. **Results:** Planned interim analysis of 13 patients includes 5 patients who have completed the control arm and 8 patients have completed the comic arm. Baseline (pre-randomization) anxiety scores were 61.6 +/- 9.2 and 78.5+/-20.1 for control and comic arms, respectively. Preoperatively, patients in both arms demonstrated higher levels of anxiety (increase by 1.2 and 1.4 points, respectively), and at discharge, showed decreased scores (1.6 and 2.4 points, respectively). In preop holding, 100% of patients in the comic arm and 60% in the control arm said that the quality of information they received preop was good or excellent. 75% of patients in the comic arm strongly agreed they could visualize steps of their surgical journey while only 40% in the control arm said the same. **Conclusions**: Using a graphic narrative to supplement consent for low anterior resection demonstrates trends toward reduced anxiety at the time of discharge. Standardized questionnaires suggest improved patient satisfaction and preparedness for surgery. In all, this modality may have utility in improving patient understanding and expectations.

33

Improving Surgical Conditioning In A Cohort Of Canadian Rectal Surgeons: A National Survey And Coaching Strategy. *Jessica Shanahan, Haven Roy, Sandra Webber, Farhana Shariff, Ramzi Helewa, David Hochman, Jason Park, Garrett Johnson, Eric Hyun*. From the University of Manitoba (Shanahan, Webber, Shariff, Helewa, Hochman, Johnson, Eric Hyun); University of Saskatchewan (Roy); University of British Columbia (Park).

Background: Rectal surgeons report high rates of work-related pain and injury, impacting their clinical and recreational activities as well as job satisfaction. This is more pronounced in high-volume practitioners. The optimal strategies for pain relief and risk reduction are unclear. **Methods:** An internet-based survey was previously used to establish baseline physical conditioning and comfort levels amongst colorectal surgeons and surgical oncologists specialising in rectal surgery in Canada. A

multimedia coaching program involving independent resistance training exercises and intra-operative stretching instructions was then distributed to all study respondents. A follow-up survey was administered via email to measure participation and impacts on musculoskeletal pain. **Results:** Twenty-seven participants (median age 40) completed the follow-up survey. More than half of respondents (59.3%) reported they performed none of the recommended resistance training exercises while about half (48.1%) performed none of the intra-operative stretching. Of those who exercised (n=14), 5 routinely completed at least half of the outlined resistance training exercises and 9 exercised at least once per week; while 11 routinely performed at least half of the intra-operative stretches and 10 performed them at least once per week. The most common reasons for non-compliance were lack of time for exercises (n=10) and forgetting (n=12). Of exercising 14 respondents, 3 and 4 experienced fewer aches and pains while performing open and minimally invasive rectal surgeries, respectively. Improvement in severity, time to onset, and duration of muscle or joint pain were equally affected. Instructions provided via video were considered more helpful than a PDF "cheat sheet." There were no injuries reported as a result of the exercise program. **Conclusion:** Targeted exercises and intra-operative stretching techniques may be effective at reducing musculoskeletal pain in rectal surgeons, but compliance is poor. Further studies are required to understand and reduce barriers.

34

Follow-up Treatment Comparison After Transanal Endoscopic Microsurgery for Rectal Adenocarcinoma With High-Risk Features. *Charles-Antoine Vigneault, Sébastien Drolet, Janyssa Charbonneau, François Letarte, François Rouleau-Fournier, Laurence Bernier, Alexandre Bouchard.* From CHU de Québec - Université Laval (Vigneault, Drolet, Charbonneau, Letarte, Rouleau-Fournier, Bernier, Bouchard); Colorectal Surgery department, CHU de Québec Université Laval, pavillon HSFA (Drolet, Letarte, Rouleau-Fournier, Bouchard); Radio-oncology department, CHU de Québec Université Laval, pavillon HDQ (Bernier).

Background: Transanal Endoscopic Microsurgery (TEM) can be curative for very-early rectal adenocarcinoma. Final pathology report may reveal upstaged lesions or T1 with high-risk features. Such tumors are associated with up to 20% of lymph node metastases, and therefore, total mesorectal excision (TME) is recommended. The place of adjuvant radiotherapy (RAD) alone remains unclear, but can be preferred in the clinical setting, for comorbid patients. This study aimed to compare oncological outcomes of TME vs. RAD vs. observation (OBS) following TEM in high-risk rectal cancers. **Methods:** This is a retrospective study conducted in a single high-volume colorectal surgery center, reviewing all cases of very-early rectal cancer treated by TEM, between 2011-2021. **Results:** A total of 164 patients were included: 76 had undergone TME, 29 had received RAD, and 59 had been observed without treatment. Unsurprisingly, patients from RAD and OBS groups were significantly older (67vs.74 vs.78 years old, $p<0.0001$) and had larger proportions of ASA score 3 (11%vs.28%vs.29%, $p=0.02$). T stage varied among the three groups, with more T2 among RAD patients (83% vs. 41% OBS vs. 46% TME, $p=0.0006$). Over 30% of patients who underwent TME showed nodal disease on specimen, and 24% had residual rectal tumor. Overall survival (OS) Kaplan-Meier curves were similar for RAD and TME, with clear benefit over observation. Recurrence-

free survival (RFS) curves tended to demonstrate benefit of surgery. The superior trend in radiotherapy's RFS over observation seemed to disappear after 2 years. However, these trends could not be statistically appreciated, at the exception of surgery's obvious advantage over observation. **Conclusion:** High-risk rectal cancers demonstrated high rate of nodal disease. TME surgery appeared most superior, both for OS and RFS. Comparisons with radiotherapy were likely underpowered, but it may help reduce the risk of early recurrence following TEM, compared to observation. Definitive benefit could not be demonstrated.

35

Characterizing the COVID-19 Related Backlog of Scheduled Colectomies for Diverticulitis and Resultant Implications on Emergency Interventions: A Population-based Analysis. *Teagan Telesnicki, Therese Stukel, Anthony de Buck van Overstraeten, Andrew Wilton, Charles de Mestral, David Gomez.* From the Department of Surgery, University of Toronto (Telesnicki); Institute of Health Policy, Management and Evaluation, University of Toronto (Telesnicki, Stukel, Overstraeten, de Mestral, Gomez); ICES (Stukel, Wilton, de Mestral, Gomez); Division of General Surgery, Mount Sinai Hospital (Overstraeten); Division of Vascular Surgery, St. Michael's Hospital, Unity Health (de Mestral); Division of General Surgery, St. Michael's Hospital, Unity Health (Gomez).

Background: Single-center studies suggest the COVID-19 pandemic has resulted in a decline in scheduled surgery for diverticulitis and increased severity of disease on emergency presentation. Population-based data extending beyond the initial months of the pandemic is required to characterize the true magnitude of the diverticulitis scheduled surgical backlog and resultant implications to emergency management. **Methods:** This population-based repeated cross-sectional study utilized linked administrative data to identify all adult patients (≥18 years) who presented to any emergency department (ED) or underwent scheduled surgery for a primary diagnosis of colonic diverticulitis in Ontario, Canada between Mar. 1, 2020 – Aug. 31, 2022 (COVID-19 period). Observed population-rates of scheduled colectomies for diverticulitis, ED presentations, hospital admissions, urgent surgery and the composite of urgent surgery, percutaneous drain, or 30-day all-cause mortality were reported. Poisson generalized estimating equation models were used to model the pre-COVID-19 three-year baseline trends and predict expected COVID-19 trends had the pandemic not occurred. Relative change between the COVID-19 period observed population-rates and expected population-rates were expressed as an adjusted relative rate (aRR). **Results:** Throughout the COVID-19 period, observed population-rates of scheduled colectomies for diverticulitis decreased by 19% (aRR 0.81, 95% CI 0.67-0.99) compared to expected based on pre-pandemic trends, equating to 211 fewer surgeries. ED presentations decreased by 8% (aRR 0.92 95% CI 0.90-0.94), and hospital admissions decreased by 15% (aRR 0.85 95% CI 0.83-0.88) compared to expected, based on pre-COVID-19 trends. There was no sustained difference between the observed and expected population-rates of urgent surgery for diverticulitis (aRR 1.06 95% CI 0.88-1.28) or the composite outcome (aRR 1.05 95% CI 0.96-1.15). **Conclusion:** The COVID-19 period was associated with a substantial backlog of scheduled colectomies for diverticulitis. There was no sustained difference in observed and expected population-rates of urgent surgery across the COVID-19 period.

36

Post-Operative Outcomes after Transanal Total Mesorectal Excision for Mid-to-Low Rectal Cancers. Madeline Dimakos, Fady Saleh. From the Toronto Metropolitan University, William Osler Health System.

Background: Colorectal cancer is a leading cause of death in Canadians. Popularity of a recently developed surgical technique for mid-to-low colorectal cancer resection called transanal total mesorectal excision (TaTME) is growing. This method uses a transanal approach which provides better distal margin control, especially in patients who are obese, have a narrow pelvis, and are male. This study aims to provide more Canadian data on this procedure to highlight complications rates and the learning curve. **Methods:** Data were taken retrospectively from patients who underwent a TaTME at William Osler Health System between January 2018 and July 2023. Baseline statistics were performed, and oncologic outcomes as well as complications were compiled including anastomotic leak rate, stricture rate, and overall postoperative morbidity. The learning curve through operative time was also examined. **Results:** A total of 84 patients were included in the analysis. The average age of patients was 61, 73% were male and 27% were female. Neoadjuvant radiation was used in 68% of cases and 79% of patients had post-operative stomas. Positive circumferential and distal resection margins were present in 3.6% and 0% of cases, respectively. There was a complete and near complete mesorectum in 93% of cases. The stricture rate was 13.1% and the anastomotic leak rate was 16.7%. The average length of hospital stay was 6 days and the average operative time was 256 minutes. **Conclusion:** In general, TaTME is safe and feasible in a community setting and is comparable to the published literature. Comparative data against other techniques such as open and laparoscopic surgery are needed to solidify TaTME's role as a rectal cancer resection technique.

37

Colorectal Cancer Surgery Outcomes in Rural Newfoundland and Labrador: A Retrospective Chart Review. *Lauren Law, Matthew Downer, Sherif Shalaby, Rohin Dhar, Lauren Smithson.* From the Memorial University of Newfoundland (Law, Downer); Labrador-Grenfell Health (Shalaby, Shar, Smithson).

Background: Rural regions in Canada face challenges in reporting surgical outcomes for colorectal cancer (CRC) due to limited data availability. Factors such as unequal access to preventative care and diagnostic services, increased time to presentation, and higher prevalence of risk factors such as smoking and diabetes, may impact rural surgical outcomes. To address this gap, we completed a retrospective chart review of CRC patients who were surgically managed in a rural Newfoundland and Labrador (NL) hospital from 2018-2023. **Methods:** A retrospective chart review was conducted using electronic patient records of CRC patients who underwent surgery at a local hospital in St. Anthony, NL (population: ~2,200). Data extracted included patient demographics, comorbidities, surgical procedures, tumor pathology, and postoperative outcomes. The primary outcome was 30-day all-cause mortality, with secondary outcomes including length of stay, anastomosis leaks, and surgical site infections (SSI) within 30 days of surgery. **Results:** Of 46 patients with CRC (mean/SD age=68.1/10.1; 24/50% female; 27/50% previous/current smokers), the most common comorbidities were hypertension (48.1%) and type II diabetes (18.5%). There were 25 right hemicolectomies (54.3%), 9

sigmoidectomies (19.6%), 7 left hemicolectomies (15.2%), 3 transverse colectomies (6.5%), and 2 anterior resections (4.3%). The majority of tumours were grade II invasive adenocarcinoma (36/78.2%), and 18 (39%) had evidence of metastasis on pathology. The median length of stay was 9 days (IQR 6-14). One patient died (2.2%), 5 had an anastomosis leak (10.9%), and 10 were diagnosed with a SSI (21.7%) within 30-days. **Conclusion:** Findings suggest surgical outcomes were similar to large volume urban centres in Canada. This study will serve as a basis for improving future CRC surgery outcomes at this rural site. Furthermore, there is a need for more comprehensive data collection in the management of rural CRC surgeries to improve understanding of surgical outcomes in rural Canada.

38

Outcomes of Same-Day Discharge Following Stoma Reversal Surgery: A Prospective Comparative Study of Preoperative Bowel Stimulation versus No Stimulation. *Janyssa Charbonneau, François Letarte, Tiffany Paradie, Lawrence Lee, Jérémi Bédard-Ginchereau, Thomas Couture, Sébastien Drolet, Philippe Bouchard, François Rouleau-Fournier, Alexandre Bouchard, Barry Stein, Patrick Charlebois.* From Université Laval (Charbonneau, Letarte, Bédard-Ginchereau, Couture, Drolet, Bouchard, Rouleau-Fournier, Bouchard); McGill University (Paradie, Lee, Stein, Charlebois).

Background: Same-day discharge following ileostomy closure has been shown to be safe and effective. With 32% reported rates, ileus is one of the main causes for delayed hospital discharge. Few studies have suggested preoperative bowel stimulation to potentially reduce postoperative ileus. Its impact on the feasibility of same-day discharge is unknown. This study aimed to investigate the role of preoperative bowel stimulation on same-day discharge and to evaluate its impact on readmissions and postoperative complications, including ileus. **Methods**: This prospective cohort study compared patients undergoing stoma reversal at two referral colorectal centres, from 2020 to 2023, with (STIM) and without (CONTROL) preoperative bowel stimulation. Preoperative bowel stimulation consisted of daily irrigations of a nutritional formula through stoma's efferent limb, 7 days before surgery. All patients were set to have same-day discharge surgery. Early postoperative follow-up was ensured remotely, through phone calls by trained nurse or a dedicated mobile app. **Results**: A total of 115 patients participated in this study, with 51 in the STIM group and 64 in the CONTROL group. The STIM cohort was older (mean age 62 vs 54, $p< 0.01$). Operative time was longer in the CONTROL group (mean 75 min vs 46 min, $p<0.001$). Same-day discharge success rates (STIM 92% vs CONTROL 82%, $p=0.14$) and 30-day emergency department visits (18% vs 28%, $p=0.11$) were similar. Readmission rates were significantly higher among CONTROL (6% vs 17%, $p=0.05$). There was no difference in rates of ileus (4% vs 6%, $p=0.57$). The Comprehensive Complication Index was also found to be significantly higher in the CONTROL group (2.4 vs 18, $p< 0.01$). **Conclusion**: Preoperative bowel stimulation prior to stoma reversal surgery does not seem to impact successful same-day discharge's rate. It was associated with reduced readmissions and postoperative complications overall, but not ileus specifically. This may be limited by underpowering.

39

Early Removal of Foley Catheter After Pelvic Surgery. A Retrospective Study. From the Eric Hempel, Mantaj Brar. From the University of Toronto.

Background: Historical practice after pelvic surgery has been to maintain an indwelling foley for around 3 days post-operatively. This is done out of concern for acute post-operative urinary retention. There is evidence that ERAS can be utilized in pelvic surgery, but the optimal timing of foley catheter removal has not yet been established. **Methods**: The purpose of this study is to determine the impact of an early foley catheter removal protocol. There may be a benefit in decreasing catheter associated urinary tract infection (CAUTI). It is uncertain whether there is an associated increase in post-OP urinary retention (POUR) with early foley removal. Our hypothesis is that protocoled early removal including the use of tamsulosin would significantly decrease the frequency of CAUTI without a significant increase in POUR. **Methods:** We performed a retrospective review of a total of 120 pelvic surgery cases. The pre-intervention period was from October 2019 to March 2020. The post-intervention period was from January 2021 to August 2021. The COVID pandemic interrupted elective pelvic surgery significantly. This provided an opportunity to take the time with implementation and education of the foley removal protocol. Exclusion criteria were concomitant urologic procedure and any procedure where the TME plane was not entered. 60 consecutive cases were reviewed in both groups. Data collected were: sex, length of stay, catheter removal day, in/out catheterization, indwelling catheter reinsertion, use of tamsulosin, urinary tract infection (UTI), surgical procedure, and diagnosis. **Results:** There was a significant reduction in CAUTI rate (10% pre vs 1.7% post). There was a relative increase in urinary retention (8.3% pre vs 11.7% post) requiring either in/out or indwelling catheterization. There was good uptake of the protocol. The proportion of catheters removed on POD1 increased from 25% to 52%. Catheter Utilization rate decreased from 0.38 down to 0.28.

40

Adenoma and Advanced Adenoma Detection Rate are Elevated in Adults Younger than 50 in an Out-of-Hospital Colonoscopy Clinic in Ontario, Canada. *Irtaza Tahir, Wesley Stephen.* From McMaster University (Tahir, Stephen); Burlington Endoscopy and Specialist Center (Stephen).

Background: Colorectal cancer represents 12% of all cancer deaths in Canada. Canadian guidelines recommend initiating screening at the age of 50 for average risk individuals. However, early onset colorectal cancer in adults younger than 50 is increasing (up to 10% of cancers diagnosed annually), suggesting that screening thresholds should be revised. This can be better informed with contemporaneous information about the detection rate and colonic distribution of polyps, including in out-of-hospital endoscopy clinics where an increasing proportion of colonoscopies occur. **Methods:** A retrospective cross-sectional review of colonoscopies was completed in patients aged 18-49 in a community endoscopy clinic by a single practitioner between July 20th, 2021, and July 20th, 2023. Demographics, distribution, and polyp features were documented. Adenoma detection rate (ADR) and advanced adenoma detection rate (AADR) was calculated. Chi-square analysis and ANOVA were used to test for differences between age brackets and the distribution of polyps. **Results:** Of 385 colonoscopies, the ADR was 15.6% and AADR 8.6%. Non-advanced and advanced adenomatous polyps

were equally distributed throughout the colon (p=0.0879). The highest ADR and AADR was in the 35–39 age group (23.6% and 14.6% respectively). **Conclusion:** Adenomas are common in the population under 50. Overall, this is a comparable ADR but double the AADR identified in other studies. The rates in the 35-39 age group are comparable to those expected in patients older than 50. This would support revising the screening age to patients younger than 50. Given the equal distribution of polyps between the proximal and distal colon and rectum, flexible sigmoidoscopy may be insufficient as a first line screening tool in this age group. This study reflects colonoscopies by in a single clinic that excluded severely comorbid patients. Further studies are required to better understand the ADR and AADR in the 35–39-year-old age group.

42

Surgical Audit of Elective Colorectal Surgery Outcomes Prior to the Introduction of an ERAS Protocol: A Single Center Review. *Danielle LeBlanc, David Pace.* From the Memorial University of Newfoundland.

Background: Enhanced recovery after surgery (ERAS) protocols have been shown to decrease length of hospital stay (LOS) and morbidity following colorectal surgery without increasing readmission rates. Our centre did not have a standardized ERAS protocol in place for elective colorectal surgery prior to 2022. As part of a quality improvement initiative, we aimed to investigate whether our outcomes using "traditional" perioperative care differed significantly from ERAS-driven colorectal outcomes reported in the literature. **Methods:** Retrospective, single-centre review of 184 patients who underwent elective colorectal surgery between 2020-2022. Information included patient demographics, a comorbidity index, indication for surgery, operative approach, LOS, postoperative complications, and readmission rates within 30 days of surgery. Statistical analysis was completed using SPSS version 29.0.0 software, including multiple linear regression. **Results:** Our cohort included 79 females and 109 males with a mean age of 64.3 years and mean BMI of 29.7. The population was comorbid with 47% having an ASA between 3 and 5. The most common indication for surgery was malignancy (62.5%), and laparotomy was the most common operative approach (66.3%). Mean time to advancement to a regular diet was 4.2 days, and median LOS was 6 days (1-256). Rate of postoperative ileus was 26.6% and the major complication rate (Clavien-Dindo grade III-V) was 8.7%. There was one operative mortality. The readmission rate within 30 days was 8.7%. Variables independently associated with shorter LOS included time to advancement to a regular diet (p=0.044) and laparoscopic approach (p=0.48). These variables lost their statistical significance in the multiple linear regression model used to predict LOS. **Conclusion:** Our findings demonstrate longer hospital stays compared to the ERAS literature. Implementing simple measures such as feeding and mobilizing patients early and performing more cases laparoscopically will likely improve LOS and other patient-centered outcomes. These outcomes support the implementation of an ERAS protocol.

43

Intrabdominal Bleeding after Doppler Guided Hemorrhoidal Artery Ligation With Recto-Anal Repair. *Zainab Alhumoud, Turki Alshammari.* From the King Fahad Hospital in Alhufouf, Eastern Province (Alhumoud); King Fahad Specialist Hospital in Dammam (Alhumoud, Alshammari).

Background: Doppler-guided hemorrhoidal artery ligation with recto-anal repair (DGHAL-RAR) is a minimally invasive techniques used to treat hemorrhoidal disease. Reports of complications following this procedure are very rare in the literature, however, herein we report a case of serious intrabdominal bleeding following DGHAL-RAR without rectal bleeding. **Methods:** A 35-year-old male presented with acute abdominal pain associated with distension and signs of an acute abdomen that had developed following an elective doppler-guided hemorrhoidal artery ligation with recto-anal repair (DGHAL-RAR) procedure for third- degree hemorrhoids two days previously. The procedure had been performed without any intraoperative complications. An initial proctoscopy examination showed no evidence of active bleeding. Laboratory investigation revealed a very low level of hemoglobin. A computerized tomography scan (CT) of the abdomen and pelvis revealed peritoneal fluid collection extending into the pelvis, and a thickening of the rectal wall without extravasation of the contrast medium. **Results:** The patient's clinical condition indicated the need for an emergency laparoscopic exploratory procedure with high suspicion of intrabdominal hemorrhage. A huge hematoma was found occupying the rectovesical pouch, with a seromuscular tear on the anterior rectal wall without evidence of active bleeding or bowel perforation. Hematoma evacuation and primary repair of the rectal layer tear were performed without bowel resection. **Conclusion:** The reported case shows that diagnosis of intrabdominal hemorrhage following DGHAL-RAR is challenging, and multimodal investigations and high clinical awareness is needed. This case is the first such case to be reported as intraperitoneal hematoma following the DGHAL-RAR technique managed without bowel resection or stoma diversion. Awareness of this serious complication after this surgical technique for hemorrhoidal disease is vital to guide subsequent investigations and prevent inappropriate treatment or unnecessary surgical interventions.

CSF/Video – 06

Intracorporeal Anvil Placement During Robotic Left Sided Colonic Resections With Stapled Circular Anastmosis. *Ruxandra-Maria Bogdan, Sunil Patel, Hugh MacDonald, Ameer Farooq.* From the Division of General Surgery, Department of Surgery, Queen's University, Kingston Health Sciences Centre.

Background: Robotic intracorporeal anvil placement allows for the surgeon to perform a circular stapled anastomosis without any need to undock to robot. Arm 4 is the left-most port site, then arms 1, 2, and 3 in order from patient left to patient right. When there is no synchronous procedure being performed, the Anvil can be introduced via an Alexis wound protector with a cap, that doubles as the site of robotic arm 3, and the extraction site. **Methods**: A small right lower quadrant muscle splitting incision is done at the beginning of the operation at the expected extraction site. A small Alexis wound protector is placed and capped. This capped extraction site functions as a robotic 12mm working port for the procedure. A small colotomy proximal to the intended transection margin functions as the exteriorization site for the anvil, with a generous colotomy made in the distal colon. Placing the anvil on the colon prior to creating the larger colotomy can confirm adequate distance between the specimen staple line and the circular staple lines in this side-to-end anastomosis. The Anvil is introduced via the small Alexis wound protector. A 20cm suture, differing based on

surgeon preference, is used to create a purse string suture around the anvil's shaft. Three bites are generally enough to tighten the small colotomy and secure the anvil. Following placement of the anvil, the linear stapler is introduced, and the specimen is finally transected proximally. The spike of the circular staple, introduced transrectally, is introduced into the shaft of the anvil, and a stapled circular anastomosis is created in the usual fashion.

YouTube Video Link: https://youtu.be/cwSTO5_Kt-Y

CSF/Video – 07

TEM Excision of Eroded Sacral Mesh: A Video Vignette. Olivia Hershorn, *Amandeep Ghuman, Ahmer Karimuddin, Carl Brown, Manoj Raval, Elizabeth Clement, Terry Phang*. From the University of British Columbia.

Background: We present a 77-year-old-female with a past surgical history of uterine prolapse managed with hysterectomy and sacrocolpopexy with mesh in 1999. She underwent sigmoid resection due to diverticular stricture in 2021. Primary colorectal anastomosis was performed with diverting loop ileostomy which was reversed. She now presents with several month history of partial rectal outlet obstruction. Her symptoms included worsening constipation, urgency, straining and thin stools. Colonoscopy revealed erosion of the mesh at the rectosigmoid anastomosis with a patent anastomosis and complete colonoscopy to the ileocecal valve. Abdominal imaging revealed no specific pathology. **Methods:** Transanal endoscopic microsurgery (TEM) was performed to remove the intraluminal mesh. The Wolf rigid platform was secured and pneumorectum was achieved. The intraluminal mesh was visualized at approximately 15 cm from the anal verge prolapsing distally. This was grasped and excised using scissors. All visible mesh was removed. There was good hemostasis and patency of the anastomosis. There was no extraluminal free perforation. **Results:** The patient underwent an uncomplicated TEM-assisted excision of eroded intraluminal mesh. She was discharged the same day. At 3 months, the patient has recovered well with no postoperative complications. She has no further obstructive symptoms and is passing regular bowel movements. **Conclusion:** Transanal techniques may provide surgeons with novel approaches to visualize and safely remove intraluminal rectal foreign materials that can be added to our armamentarium.

YouTube Video Link: https://youtu.be/YeM-4MBNHAw

CSF/Video - 16

Surgical Technique: Same Day Discharge after Right Hemicolectomy. *Simran Parmar, Sharadh Sampath*. From the University of Calgary (Parmar). From the University of British Columbia (Sampath).

Background: Laparoscopic right hemicolectomy is a commonly performed procedure. There is no standardized technique and many variations in technical details have been reported. We present the case of a 68-year-old male with an advanced adenoma at the hepatic flexure. This was a recurrent polyp and not amenable to endoscopic resection. **Methods:** The patient was pre-selected for potential same day discharge. He underwent a laparoscopic right hemicolectomy using inframedial to lateral approach. Patient had a stapled intracorporeal anastomosis with laparoscopically sewn common enterotomy. Laparoscopic transabdominal plane regional blocks infiltrated with local anesthetic and

dexamethasone. The patient had 5 mm trocars with one 10mm suprapubic trocar that was later extended into a pfannenstiel incision during specimen extraction. **Results:** Patient was discharged on the day of his surgery from the recovery unit. Post operatively day 1 to 3 he was followed up over the phone. He had a return of bowel function on post operative day 2. He recovered well from surgery and was seen in the clinic 4 weeks post operatively. Final pathology demonstrated adenocarcinoma with clear margin, 0 of 21 lymph nodes involved. **Conclusion:** Same day discharge after right hemicolectomy is safe and feasible through safe and strategic surgical techniques, proper patient education and good communication between patient and the care team.

YouTube Video Link: https://youtu.be/Ee7VEzlLmvQ

CANADIAN SOCIETY OF SURGICAL ONCOLOGY

12

Descriptive and Content Analysis of Breast Cancer Vlogs on YouTube. *Nina Morena, Elly Htite, Yitzchok Ahisar, Victoria Hayman, Carrie Rentschler, Ari Meguerditchian.* From McGill University (Morena, Htite, Hayman, Rentschler, Meguerditchian); University of British Columbia (Ahisar); St Mary's Research Centre (Meguerditchian).

Background: Many women with breast cancer (BC) document their cancer experiences in YouTube vlogs. These may have the potential to serve as peer-to-peer support and provide community. This study provides a descriptive and content analysis of vlogs by women with BC. **Methods:** YouTube was searched in incognito mode in 11/2023 using the search terms "breast cancer vlog." A maximum of 10 videos/creator were included based on viewership and date created. Video characteristics collected included: title, length, number of views, likes, comments, and playlist inclusion. Videos were assessed for sponsorship, presence of explanation and discussion on BC, type of content, and themes. **Results:** 90 vlogs by 13 creators were included, all originating from personal accounts. Mean video length, number of views, and number of comments were 21.4 minutes (SD 9.1), 266,780 (SD 534,465), and 1485 (SD 3422), respectively. 38.9% included hashtags. 12.2% included paid sponsorships. Most common filming location was at home (96.7%), followed by the hospital (31.1%). 56.7% included visuals of treatment as well as physical findings. Creators addressed motivation for vlogging in 48.9%; the two most common reasons were wanting to build a community and helping others in a similar situation. In 46.7%, creators explicitly expressed emotion. Most common themes were treatment (85.6%), mental health (81.1%), side effects (72.2%), appearance (63.3%), and family relationships (36.7%). Patient-directed advice was offered in 60.0%, mostly on treatment-related issues. In 56.7%, creators provided explicit treatment definitions. Chemotherapy was discussed in 70.0%; surgery in 57.8%, primarily mastectomy; radiation in 30.0%; general side effects in 71.1%. 24.4% were about a new diagnosis. **Conclusions**: Vlogs by women with BC receive significant levels of engagement. The dedication to building community demonstrated by vlog creators, and the personal nature of their storytelling, advice, and suggestions, may make these vlogs a potential resource for peer-to-peer support.

13

A Prospective Pilot Study Comparing Visual Perception of Parathyroid Perfusion versus Indocyanine Green Fluorescence Angiography Relative to Surgeon Experience. *Nebojsa Oravec, Emily Harris, Adrian Harvey, Janice Pasieka, Caitlin Yeo.* From the University of Calgary.

Background: This study assessed concordance rates between surgeon perception of parathyroid viability and indocyanine green (ICG) fluorescence angiography relative to surgeon experience, and whether the use of ICG resulted in change to surgical management. **Methods:** Patients of two endocrine surgeons undergoing total thyroidectomy or thyroid lobectomy were recruited. Surgeon A had fewer years of surgical experience than surgeon B. Intraoperatively, perception of parathyroid viability was documented immediately following thyroid resection. Next, ICG was injected intravenously and subjective fluorescence intensity was documented. In cases of discordant assessment of parathyroid perfusion before and after ICG administration, subsequent intervention was at the surgeon's discretion (i.e., reimplantation). Total thyroidectomy patients were monitored for evidence of hypoparathyroidism at six hours and three weeks postoperatively. **Results:** Eighteen patients were included and comprised 40 observations of parathyroid perfusion, 21 by surgeon A and 19 by surgeon B. The most common indications for surgery were papillary thyroid cancer (44.4%), multinodular goiter (27.8%) and follicular neoplasm (27.8%). Most patients underwent total thyroidectomy (66.7%). The overall concordance rate was 77.5%; 71.4% for surgeon A versus 84.2% for surgeon B (c^2=0.9346, p=0.437). Of the nine discordant observations, five resulted in changes to surgical management (surgeon A: n=4/6, 55.5%; surgeon B: n=1/3, 33.3%; c^2=0.9000, p=0.532). Surgeon A reported subjective improvement in parathyroid manipulation and assessment after conclusion of the pilot study due to improved understanding of parathyroid perfusion using ICG. No patients developed hypoparathyroidism. ICG assessment required less than 10 minutes per case and there were no adverse events. **Conclusion:** ICG can be a useful adjunct in the assessment of parathyroid perfusion and a useful learning tool for trainees and junior faculty. Future research will involve larger sample sizes to determine statistical significance in concordance rates and the incidence of discordance causing changes to management of the parathyroid relative to surgical experience.

14

Breast Cancer Wait Times at William Osler and the Impact of COVID-19 Abstract. *Riya Parikh, Priya Chopra.* Queen's University (Parikh); William Osler Health System (Chopra).

Background: The COVID-19 pandemic exacerbated healthcare access in Ontario, causing patients to face prolonged delays for investigations and treatment including surgery and chemotherapy. This study aimed to assess the impact of the pandemic on the average wait times for surgery, chemotherapy, and breast support clinic (BSC) appointments after biopsy in breast cancer patients before, during and towards the end of the height of the pandemic at our institution. **Methods:** A retrospective chart review was conducted encompassing 704 patients from January to October of 2019, 2020 and 2021. Data was collected using the hospital records and included the following: dates of biopsy, BSC appointment, start and end of chemotherapy, and surgery timing. Wait times between chemotherapy and surgery were also examined along with

secondary variables including surgery type and performance of immediate reconstruction. Single-factor ANOVA tests and t-tests were done using RStudio to determine any significant differences in the wait times across the three years. **Results:** Wait times from biopsy to BSC significantly increased from 10 to 11.7 days from 2019 to 2020 ($p = 0.00021$) then significantly reduced back to 10 days in 2021 ($p = 0.00675$). Average wait times from BSC to surgery declined from 26 to 19 days between 2019 and 2020 and then significantly increased in 2021 to 25 days ($p = 0.03165$). Interestingly, the percentage of patients receiving neo-adjuvant chemotherapy doubled from 16% to 34% across the 3 years of the study. **Conclusion:** In this study, the COVID-19 pandemic was associated with a statistically significant increase in wait times for clinic appointments. Wait times for surgeries were shorter during the peak pandemic in 2020 while the time to initiation of chemotherapy also shortened by about 10 days. This suggests that hospital interventions ensured patients maintained timely access to breast cancer care in spite of significant pandemic pressures.

15

Exploring Genetic Literacy in Surgeons Who Manage Patients with Cancer: A National Survey of Knowledge, Perceptions, Attitudes, and Barriers. *Linda Fei, Sandra Messiha, Zuhaib Mir, Rachelle Dinchong, Alison Rusnak, Nicholas Cofie, Nancy Dalgarno, Rona Cheifetz, Shaila Merchant*. From Queen's University (Fei, Messiha, Cofie, Dalgarno, Merchant); Dalhousie University (Mir); Kingston Health Sciences Centre (Dinchong); CHEO (Rusnak); BC Cancer (Cheifetz).

Background: The rapid evolution of genetic testing and availability of information has necessitated increased surgeon participation in genetics-related tasks such as risk assessment, counselling, and testing. We previously demonstrated in a scoping review that despite frequently engaging in such tasks, surgeons report low confidence and lack formal genetics training. The objective of this study was to characterize the knowledge, perceptions, attitudes, and barriers to genetic literacy among Canadian surgeons who manage patients with a hereditary predisposition to or confirmed cancer. **Methods:** A web-based survey of 28 questions was developed and distributed to surgeons across Canada from May-December 2023 through relevant surgical societies. Quantitative and narrative data from the survey were analyzed descriptively (e.g., frequencies, percentages) and thematically. **Results:** Fifty-seven participants from eight provinces were included (response rate: 10%). Just over half of the surgeons were male (29/54, 54%), most commonly in the first ten years of independent practice (32/54, 59%) and completed fellowship training (41/52, 79%), most commonly Surgical Oncology (16/40, 40%) and Colorectal Surgery (9/40, 23%). While many surgeons (28/45, 62%) reported performing risk assessment, only 16% (7/45) reported counselling and 29% (13/45) reported ordering genetic testing. Most surgeons (38/44, 86%) did not participate in mainstreaming initiatives. Surgeons reported low confidence in ordering testing, and interpreting and discussing implications of testing results. The majority (35/39, 90%) of respondents expressed a desire for improvement in their knowledge and confidence in hereditary cancer genetics. Approval and funding for testing, referral process to genetic counsellor/medical geneticist, and availability and timeliness of genetics clinics were commonly reported as

extreme barriers to providing care. **Conclusion:** This study demonstrates that practicing surgeons in Canada participate in many genetics-related tasks, but report low confidence and face significant barriers to genetic literacy. There is a need and desire for interventions targeting surgeon genetic literacy in Canada.

16

Safety and Effectiveness of Perioperative Use of Tranexamic Acid in Surgical Oncology Patients: a Systematic Review. *Basheer Elsolh, Miranda Haslam, Sanjay Reddy.* From Fox Chase Cancer Center (Elsolh, Reddy); Temple University Health System (Haslam).

Background: Patients with cancer undergoing surgery are at increased risk of perioperative bleeding and blood transfusion, as well as venous thromboembolsm (VTE). Tranexamic acid (TXA, brand name Cyklokapron or Lysteda) is a cost-effective anti-fibrinolytic agent previously shown to reduce the need for blood transfusion in trauma and surgical patients. Few studies have evaluated the safety and effectiveness of this agent surgical oncology patients. This systematic review aims to examine available literature on the effects of TXA in the perioperative management of cancer patients. **Methods:** A comprehensive literature search of MEDLINE, EMBASE, and Web of Science databases through February 2024 was performed with Medical Subject headings (MeSH) terms including, but not limited to, “tranexamic acid” and “cancer.” All surgical specialties were included. Review papers, case reports, and trauma/non-cancer studies were excluded. Outcomes of interest include perioperative blood loss, postoperative transfusion rates, and postoperative VTE. **Results:** Three hundred eighty-three individual studies were identified, of which 31 (13 randomized control trials, 18 retrospective observational studies) met all inclusion and eligibility criteria. This included a total of 5,898 individual patients, of which 2,518 had perioperative TXA administered. TXA was associated with significant reductions in perioperative blood loss and transfusion rates in 19 (61.3%) included studies, and no significant difference in postoperative VTE in 18 (58.1%) studies. **Conclusion:** Use of TXA in surgical oncology patients is associated with decreased rates of perioperative blood loss and blood transfusion, and is not associated with increased VTE rates. Further work is in progress to pool amalgamated data.

17

Virtual Consultations for Breast Cancer Patients in Ontario and Wait Times to Surgical Assessment: A Population-Based Study. *Gary Ko, Matthew Castelo, Amanda Roberts, Qing Li, Ning Liu, Toni Zhong, Eitan Amir, Anne Koch, Andrea Covelli, Vivianne Freitas, Antoine Eskander, Tulin Cil*. From the Princess Margaret Cancer Centre, University Health Network, Toronto, Canada (Ko, Castelo, Zhong, Amir, Koch, Freitas, Cil); Odette Cancer Centre, Sunnybrook Health Sciences Centre (Roberts, Eskander); IC/ES (Li, Liu); Sinai Health System - Mount Sinai Hospital (Covelli).

Background: The COVID-19 pandemic required a rapid shift in the delivery of care, with many surgeons providing consultations virtually. Ongoing virtual care may provide a more timely initial assessment and reduce patient travelling time and expense. However, breast cancer (BC) patients require careful physical examination and virtual care may limit this evaluation. We aimed to describe BC patients who received initial

virtual consultations and determine time from diagnosis to first visit compared to those seen in person. **Methods:** This was a population-based cohort study using health administrative data in Ontario. We identified patients >18 years diagnosed with breast cancer between March, 2020 and September, 2022. The date of initial consultation with a surgeon was identified. Using an algorithm based on billing code data, consultations were classified into either an in-person or a virtual visit. Differences between these groups were compared and the time from diagnosis to consultation was calculated. **Results:** We identified 25,411 BC patients diagnosed during the study period, of whom 2,111 (9.1%) had an initial virtual surgical consultation. The greatest proportion of virtual consultations was in April 2020 (19.8%) and decreased thereafter. Compared to those seen in person, patients seen virtually were less materially deprived (25.8% lowest quintile of deprivation vs. 21.3%; $p < 0.001$). The wait time from date of diagnosis to surgical consultation was significantly lower for patients seen virtually compared to those seen in person (mean 3.8 days ± 35.7 vs 11.9 days ± 24.7; $p < 0.001$). However, virtual patients had a greater number of subsequent visits during the first year of cancer care (median 4 IQR 3-6 vs. median 3 IQR 2-5; $p < 0.001$). **Conclusion:** BC patients who undergo an initial virtual surgical consultation since 2020 have shorter times to assessment and are less materially deprived. However, they undergo more subsequent visits.

19

Navigating Uncertainty: A National Survey on Surgeon and Patient Decision-Making with CRS and HIPEC for Colorectal Cancer Peritoneal Metastases in Canada. *Julian Wang, Gregory Sigler, Leena Moshref, Celine Dainhi, Rebecca Lau, Brittany Dingley.* From the University of Ottawa (Wang, Sigler, Dainhi, Lau, Dingley); University of Manitoba (Moshref).

Background: Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) is a highly specialized procedure performed in eight centers across Canada for peritoneal surface malignancies. The treatment decision process for CRS and HIPEC is complex and multifactorial. We report the results of a survey administered to surgeons who perform CRS and HIPEC in Canada to gain perspectives on how these decisions are made with patients. **Methods**: A survey was disseminated to surgeons across Canada who perform CRS and HIPEC for colorectal cancer peritoneal metastases. The survey investigated practice patterns, the roles of clinicians and patients in decision-making, and the incorporation of support systems. **Results**: A total of 14/24 (54%) of surgeons responded. Patients' preferences were deemed important by 11/14 (79%) of the surgeons. Respondents noted patients experienced challenges when deciding on CRS and HIPEC due to information overload (7/14, 50%) and the magnitude of the surgery (11/14, 79%). As part of the treatment decision making process, 10/14 (71%) surgeons reported patients were unsure of what to do. To aid in decision making, 11/14 (79%) of surgeons provided booklets/pamphlets and 5/14 (36%) used websites for patient information. Half of respondents 8/14 (57%) reported that patients would benefit from additional support in making decisions regarding CRS and HIPEC. **Conclusion**: The results of our survey underscore the importance of patient preferences in the treatment decision-making process for surgeons performing CRS and HIPEC in Canada. The sources of information provided to patients and decision-making methodologies vary.

Decision making is becoming increasingly complex as new evidence emerges, such as the recent publication of PRODIGE-7 casting uncertainty on the benefit of the addition of HIPEC to CRS. There may be justification for the further development of standardized support tools across the country to aid in this process.

20

Compassion Fatigue in Surgical Oncologists: A Scoping Review. *Mariah Moti, Catherine Sarre, Janice Linton, Farhana Shariff.* From the University of Manitoba (Moti, Linton, Shariff); University of Toronto (Sarre).

Background: The practice of clinical oncology includes diverse and complex clinical, interpersonal and ethical challenges that can lead to physical and/or emotional distress, including burnout (BO), compassion fatigue (CF), secondary traumatic stress (STS) or moral distress (MDS), which potentially impacts patient care and provider well-being. Surgical oncology in particular presents additional stressors and challenges, yet little is known about CF, STS, and MDS in this population, and the greater body of literature in oncology is heterogenous. The aim of this paper is to review current literature regarding CF, MDS, and STS in clinical oncologists, with a focus on the evidence in practicing surgical oncologists. **Methods:** Searches of OVID Medline and Embase databases were performed, as well as relevant bibliographies to identify articles related to CF, STS and MDS in clinical and surgical oncologists. Descriptive analysis was completed on relevant articles to address common definitions, themes, and potential aggravating/protective factors. **Results:** 619 articles were retrieved, of which 196 underwent data extraction. Of these, 48 articles were related to CF, MDS, or STS in oncologists and 5 included surgical oncologists. There was no data specific to surgical oncologists. Definitions of the terms were inconsistent across the literature. Potential contributing factors for CF/STS/MDS are related to the work environment, time pressures, and poor communication skills. In contrast, self-care, supportive colleagues/supervisors, and experience appear to be protective. **Conclusions**: This study highlights a need for standardized definitions to accurately capture and explore each of these phenomena. Further qualitative research is needed to provide insight into the challenges faced by surgical oncologists and ways in which systems may work to support them.

21

Evaluating Patients with Colorectal Cancer Peritoneal Metastases for Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy: A National Survey of Canadian Surgical Oncologists' Practice Patterns in 2023. *Gregory Sigler, Julian Wang, Rebecca Lau, Leena Moshref, Celine Dainhi, Megan Delisle, Brittany Dingley.* From the University of Wisconsin (Sigler); University of Ottawa (Sigler, Wang, Lau, Dainhi, Dingley); University of Manitoba (Moshref, Delisle).

Background: Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) is a highly centralized procedure offered in eight centers across Canada for peritoneal surface malignancies. PRODIGE 7 is a randomized, phase 3 trial which raises important questions regarding the addition of HIPEC to curative intent CRS. Given the complexity of decision-making in management of patients with colorectal cancer peritoneal metastases, there is opportunity for significant variability

in practice patterns. We sought to evaluate differences in decision-making for this patient population in Canada. **Methods:** We created and piloted a survey to collect information on real-world clinical practice related to colorectal cancer peritoneal metastases managed with CRS and HIPEC. We invited surgeons who perform CRS and HIPEC in Canada to complete an electronic survey using a non-probabilistic convenience sampling strategy. **Results:** Response rate was 54% (14/24); all respondents received fellowship training in CRS and HIPEC and performed this procedure at their institution. Most surgeons (9/14) perform CRS without HIPEC. The majority (13/14) use Mitomycin-C as perfusate for HIPEC, and most reported (8/14) the results of PRODIGE 7 have influenced their choice of perfusate. Among 9 surgeons who employ CRS without HIPEC, 8 reported doing so more frequently due to these results. Factors rated very important in evaluating whether patients would benefit from CRS and HIPEC include: completeness of cytoreduction (14/14), peritoneal cancer index (13/14), grade/histology of tumour (11/14), and response to systemic therapy (10/14), among others. Patients are felt to be less likely to benefit if: incomplete cytoreduction anticipated (14/14), metastatic retroperitoneal lymphadenopathy (13/14), unresectable primary tumour (13/14), extra-peritoneal metastases (12/14), and poor performance status (12/14), among others. **Conclusion:** CRS and HIPEC is a highly specialized procedure that involves complex decision making. The publication of PRODIGE 7 has affected practice patterns in Canada. Improved understanding of regional differences may strengthen consistency in patient care and optimize patient outcomes.

22

Patient Decision Aid for Extended Duration Thromboprophylaxis for Major Abdominopelvic Cancer Surgery: Usability Study. *Victoria Ivankovic, Abdelrahman Noureldin, Mariam Alsobaei, Mary Farnand, Celine Dainhi, Rebecca C. Auer, Sameer Apte, Marc Carrier, Megan Delisle.* From the University of Ottawa (Ivankovic); The University of Ottawa (Noureldin); The University of Manitoba (Alsobaei, Dainhi, Delisle); The Ottawa Hospital (Farnand); The Ottawa Hospital Research Institute (Auer, Apte, Carrier).

Background: Clinical guidelines recommend patients receive 30 days extended-duration venous thromboembolism (VTE) prophylaxis following major abdominal surgery for cancer. There is equipoise regarding this recommendation amongst providers and patients. We developed a patient decision aid (PtDA) for abdominopelvic cancer surgery patients considering extended VTE prophylaxis. It was accepted by patients and clinicians and enhanced decision-making quality. The design of the PtDA made it difficult to integrate into clinical practice. The objective of this study was to evaluate and improve the usability of the PtDA in the perioperative setting. **Methods:** We used an iterative process guided by a user-centered design framework. Patients scheduled for major abdominopelvic cancer surgery at two academic tertiary care centers were recruited. Usability was evaluated using the Post Study System Usability Questionnaire (PSSUQ). The PSSUQ is a validated 16-item Likert questionnaire that measures usability using three subdomains: usefulness, quality of information, and quality of design. Score range from 1 (high usability) to 7 (low usability). Patients completed the PSSUQ after using the PtDA. Sample size was 10-20 participants according to data-saturation principles. Analysis was iterative, with PtDA

revisions made every three participants. **Results:** A total of 28 patients were recruited, Fourteen consented for the study. Nine completed the PSSUQ. Overall, the PtDA was deemed to be usable, with an overall median score of 2.53 (1.00 – 5.00) on the PSSUQ. The usefulness subdomain median score was 2.67 (1.00 – 5.00). The median quality of information subdomain score was 2.40 (1.00 – 5.00). The median quality of design score was 2.50 (2.00 – 4.00). **Conclusion:** Our risk-stratified PtDA was found to be usable by patients. Iterative improvements enhanced its usability, guiding the final version. Additional research is required to identify provider-related implementation barriers of PtDA in the perioperative setting, and assess clinical outcomes with its use in routine practice.

23

The Feasibility of Radiofrequency Ablation for Small Thyroid Cancers: An Interim Case Report. *Emily Saso, Jesse Pasternak.* From the University Health Network (Saso, Pastenak); University of Toronto (Saso).

Background: Radiofrequency ablation (RFA) has emerged as a minimally invasive treatment for small papillary thyroid carcinoma (PTC). Since the drastic de-escalation of PTC treatment from thyroidectomy to active surveillance in 2015, patients and physicians have been seeking a middle-ground alternative. A 2-year prospective case-series clinical trial at Toronto General Hospital, Canada, investigates RFA feasibility in small (≤2 cm) low-risk thyroid cancers. This case presents interim insights to RFA in PTC, covering procedural details, immediate outcomes, and follow-up data. **Methods**: A 30-year-old XX female presented with a 1.89 cm PTC for RFA intervention. Ultrasound imaging, and local anesthesia using 1% lidocaine and 0.25% bupivacaine (50/50 % v:v) was administered prior to intervention. Moving-shot technique was employed using a 5mm electrode tip to deliver RFA therapy under ultrasound guidance. 6-month follow up was completed mirroring post-surgical thyroid cancer management, including ultrasound i maging and biochemical thyroid function tests. Complications were continuously mon itored. **Results**: The intervention was well tolerated and lasted 5 minutes and 6 seconds, delivering 2176 J total (10W). No peri-procedural or immediate complications were reported. 6-month biochemical and ultrasound assessments revealed euthyroid maintenance with a PTC volume reduction of 97%. A biopsy 1-year post-RFA is anticipated with 6–9-month quality-of-life reports, including: Decision Regret Scale, Fear of Progression Questionnaire–Short Form, Hospital Anxiety and Depression Scale, MD Anderson Symptom Inventory for thyroid cancer, and Body Image Scale. **Conclusion**: This interim case presentation highlights the initial feasibility and promising early outcomes of RFA for small PTC nodules (≤2 cm) within the ongoing prospective case-series clinical trial. The successful reduction in nodule size and stability observed post-RFA, indicate the potential efficacy of RFA as a minimally invasive treatment option for selected patients with small PTC. Further data collection and analysis are ongoing to assess the long-term efficacy and safety of RFA in this patient population.

24

Mastectomy and Immediate Breast Reconstruction for Breast Cancer: Population-Level Trends in Ontario. *Ekaterina Kouzmina, Lena Nguyen, Amanda Robert.* From the University of Toronto

(Kouzmin); ICES (Nguyen); Sunnybrook Health Sciences Centre (Roberts).

Background: Receipt of immediate breast reconstruction (IBR) after mastectomy is a surgical quality indicator in Ontario. Mastectomy with flat aesthetic closure is an alternative to mastectomy with IBR. Given the increased promotion and awareness of IBR and flat aesthetic closure for patients with breast cancer, the objective of this study was to describe trends of mastectomy with or without IBR between 2012 and 2020. **Methods:** A population-based retrospective cohort study was completed of women 18 years old or older, diagnosed with unilateral non-metastatic invasive breast cancer between April 2012-January 2020 in Ontario, Canada. Patients undergoing surgery (Sx) or neoadjuvant chemotherapy (NAC) as first treatment were included. Initial surgery, mastectomy +/- reconstruction or lumpectomy, were grouped using healthcare codes billed by general and plastic surgeons. Temporal trends by surgery and by receptor subtype were evaluated using Cochran-Armitage tests. **Results:** A total of 55,803 patients were included. Overall, 89.2% underwent Sx, while 10.8% had NAC followed by surgery. 67.9% underwent a lumpectomy, 28.5% of patients underwent a mastectomy, while 3.6% underwent mastectomy with IBR. Between 2012-2020, there was a significant increase in proportion of lumpectomies performed from 65.0% to 70.7% ($p < 0.01$). Meanwhile simple mastectomy trends decreased from 32.6% to 24.7% ($p < 0.01$). IBR rates increased from 2.4% to 4.6% ($p < 0.01$). Similar trends were seen within each treatment group as lumpectomy rates increased by 4.3% in Sx and by 25.7% in NAC groups ($p < 0.01$), simple mastectomies decreased by 6.6% and by 25.2% respectively ($p < 0.01$), while IBR increased by 2.4% and 0.5% respectively ($p <0.01$, $p = 0.06$). **Conclusion:** IBR rates have significantly increased over time in Ontario. Despite this increase, the majority of patients undergoing mastectomy do not undergo IBR, highlighting the importance of flat aesthetic closure techniques for mastectomies.

CSF/Video - 01

Laparoscopic Resection of Proximal Gastric Gastrointestinal Stromal Tumor. *Erika Schmitz, Trevor Hamilton*. From the University of British Columbia.

Background: We present the case of a healthy 49-year-old female with melena and symptomatic anemia. A large ulcerated submucosal mass was seen endoscopically along the proximal lesser curvature of the stomach. Pathology obtained by EUS-guided biopsy reported a gastrointestinal stromal tumor (GIST). Given proximity of to the esophaogastric junction, 11 months of neo-adjuvant imatinib was recommended with partial radiographic response. Total gastrectomy was recommended and requested a second opinion. Repeat endoscopy showed 1 cm distance from the tumor and the esophagogastric junction. Endoscopically assisted laparoscopic wedge resection was indicated and recommended. Intra-operatively, the lesser mesentery was cleared off the stomach with care to avoid injury to named vessels, and the vagus nerve. An exophytic component was encountered, giving the tumor a dumbbell shape. Gastrotomy was performed under endoscpic guidance. Circumferential full thickness resection was performed to encompass both the endophytic and exophytic tumor components. The gastrotomy was closed using multiple firings of the linear laparoscopic stapler. They recovered well post-operatively and were discharged on post-operative day 2. Final pathology reported a GIST with low mitotic risk, with 8 mm negative margins. They completed 3

years of adjuvant imatinib. Functional outcomes were excellent. **Methods:** A video recording of the case presentation and laparoscopic proximal wedge resection of the stomach was performed. **Results:** The video highlights the technique for dissecting the lesser omentum off the stomach. It will also highlight the utility of combined endoscopy in order to obtain adequate gross margins on both exophytic and endophytic tumor components, which is present in up to 10% of gastric GISTs. **Conclusion:** Endoscopically-assisted laparoscopic wedge resection of proximal GIST is preferable to total gastrectomy. This does require careful dissection of the lesser omentum with care to avoid injury to underlying vessels and vagus nerve. It is associated with excellent post=operative and functional outcomes.

YouTube Video Link: https://youtu.be/tsyQ-1txHZU

CSF/Video - 02

Laparoscopic Retroperitoneal Lymph Node Dissection for Recurrent Rectal Cancer (VIDEO). *Phillip Williams, Peter Stotland*. From the University of Toronto (Williams, Stotland). From the North York General Hospital (Stotland).

Background: This video demonstrates a laparoscopic retroperitoneal lymph node dissection for recurrent rectal cancer. The patient was an otherwise healthy 57-year-old male who was diagnosed with rectal cancer and underwent total neoadjuvant treatment with chemotherapy and chemoradiation. **Methods:** He had a complete clinical response and elected to follow a "watch and wait" protocol. Subsequent surveillance CT scans demonstrated isolated left para-aortic retroperitoneal lymphadenopathy. This was biopsied and found to be adenocarcinoma, consistent with a colorectal source. He had no evidence of recurrence of his primary tumour and no evidence of additional metastatic disease. A discussion at muti-disciplinary tumour boards was held and given the lack of further chemotherapeutic options, it was recommended he be considered for surgical resection of the lymphadenopathy. He consented to this treatment. **Results:** Following his operation, he was discharged on post-operative day 3 and did not experience any complications. **Conclusion:** The post-operative pathology demonstrated 7/10 lymph positive for malignancy. Subsequent CT imaging has demonstrated no evidence of further lymphadenopathy.

YouTube Video Link: https://youtu.be/gHRL2lDvXS8

CANADIAN HEPATO-PANCREATO-BILIARY ASSOCIATION

07

Endoscopic Management of Concomitant Malignant Biliary and Gastric Outlet Obstruction: A Case Report. *Intekhab Hossain, Hannah Jardine, Bradley Evans.* From the Memorial University.

Background: Concomitant biliary and gastric outlet obstruction can present in the setting of advanced peri-pancreatic cancer. Advances in endoscopic therapy have allowed for less morbid methods of alleviating both sites of obstruction compared to traditional surgical management. Treatment of these concomitant conditions is necessary to improve quality of life as well as facilitate chemotherapy administration. **Methods**: We present the case of a 53 year old male patient, with locally advanced and metastatic pancreatic head adenocarcinoma. The patient initially presented with painless jaundice and plastic biliary stent was successfully placed via endoscopic retrograde cholangiopancreatography

(ERCP). Palliative chemotherapy was subsequently initiated. Fourteen months later the patient re-presented to hospital with increasing bilirubin and vomiting. ERCP was attempted but stenosis in the first portion of the duodenum could not be traversed. Duodenal stenting was considered but this presented a unique scenario as there was high risk of 'caging in' the plastic biliary stent. We managed this scenario using through the scope balloon dilatation and subsequent duodenal stent placement in the endoscopy unit with a therapeutic gastroscope. This allowed stent placement precisely proximal to the plastic biliary stent. We then allowed 48 hours for duodenal stent expansion to facilitate ERCP. Successful biliary stent exchange using fluoroscopy was then performed and uncovered metal biliary stent was placed. **Results**: The patient tolerated oral intake with relief of jaundice by post-procedure day 2 and palliative chemotherapy was initiated post-procedure day 12. **Conclusion**: We describe safe and effective management of Mutignani Type 1 bilioduodenal stricture which developed after initial biliary plastic stenting. Endoscopic dilation and duodenal stent placement followed by trans-duodenal stent ERCP was successful in this case. We favor this approach to be superior to surgical management in this case as there was minimal delay in resolution of symptoms and return to chemotherapy.

08

Laparoscopic versus Open Hepatic Resection in Patients ≥ 75 years old: A NSQIP Analysis Evaluating 2,674 Patients. *Kevin Verhoeff, Juan Glinka, Douglas Quan, Anton Skaro, Ephraim Tang.* From the University of Alberta (Verhoeff); From the London Health Sciences Center (Glinka, Quan, Skaro, Tang).

Background: Previous studies report promising outcomes with minimally invasive (MIS) hepatectomy in elderly patients but remain limited by small size. This study aims to comparatively evaluate the demographics and outcomes of geriatric patients undergoing MIS and open hepatectomy. **Methods:** The 2016-2021 NSQIP database was evaluated comparing patients ≥ 75 undergoing MIS versus open hepatectomy. Patient selection and outcomes were compared using bivariate analysis with multivariable modelling (MVR) evaluating factors associated with serious complications and mortality. Propensity score matched (PSM) analysis further evaluated serious complications, mortality, length of stay (LOS), Clavien Dindo Classification (CDC), and Comprehensive Complication Index (CCI) for cohorts. **Results:** We evaluated 2,674 patients with 681 (25.5%) receiving MIS hepatectomy. MIS approaches were used more for partial lobectomy (85.9% vs. 61.7%; p<0.001), and required fewer biliary reconstructions (1.6% vs. 10.6%; p<0.001). Patients were similar with regards to sex, BMI, and other comorbidities. Unadjusted analysis demonstrated that MIS approaches had fewer serious complications (8.8% vs 18.7%; p<0.001). However, after controlling for cohort differences the MIS approach was not associated with reduced likelihood of serious complications (OR 0.77; p=0.219) or mortality (OR 1.19; p=0.623; Table 1). PSM analysis further supported no difference in serious complications (p=0.403) or mortality (p=0.446). However, following PSM a significant reduction in LOS (-1.99 days; p<0.001), CDC (-0.26 points; p=0.016) and CCI (-2.79 points; p=0.022) was demonstrated with MIS approaches. **Conclusions**: This is the largest study comparing MIS and open hepatectomy in elderly patients. Results temper previously reported outcomes but support reduced LOS and complications with MIS approaches.

09

Impact of Auto-Islet Transplantation on 30-day Post-operative Outcomes in Patients Undergoing Total Pancreatectomy: A NSQIP Retrospective Cohort Analysis of 1,101 Patients. *Armin Rouhi, Kevin Verhoeff, Blaire Anderson, Khaled Dajani, David Bigam, A.M James Shapiro*. From the Department of Surgery, University of Alberta.

Background: Total pancreatectomy (TP) offers a surgical option for recurrent and refractory pancreatitis, yet confers substantial long-term morbidity associated with resultant brittle diabetes. While total pancreatectomy with islet auto-transplantation (TPAIT) offers an intuitive solution, data evaluating its safety have been limited to single-center studies. The aim of this study is to evaluate whether the addition of auto-islet transplantation to TP confers additional post-operative morbidity. **Methods:** This is a retrospective cohort study of prospectively collected cases from the National Surgical Quality Improvement Program (NSQIP) database. Cases of TP with or without auto-islet transplantation from 2016 – 2021 were included. Baseline demographics, and a comprehensive list of 30-day postoperative outcomes were evaluated. Multivariable logistic regression models were constructed to evaluate the impact of each factor on 30-day complications. **Results:** A total of 1,101 cases were included with 171 (15.5%) patients undergoing TPAIT. TPAIT patients were younger (39.5 $\pm$14.1 vs. 61.8 $\pm$ 13.0; p <0.0001), and less likely to be ASA class 4 or higher (1.2% vs. 9.0%; p = 0.009). TPAIT patients had lower incidences of diabetes (19.9% vs. 45.7%; p <0.0001) and hypertension (24.6% vs. 52.0%; p <0.0001) at baseline. TPAIT cohort had longer operative times (544.9 minutes vs. 399.8 minutes; p <0.0001), longer length of stay (12.2 days vs. 10.5 days, p = 0.001). The overall serious complication rate was higher in the TP cohort. (55.3% vs. 45.0%; p = 0.013). After adjusting for demographic differences between cohorts using multivariable logistic regression models, auto-islet transplantation was not found to be associated with serious complications (OR 0.66; p = 0.064) compared to TP alone. **Conclusion:** The results from this study suggest that TPAIT does not appear to be associated with increased 30-day morbidity, and should be considered in patients to mitigate the long-term morbidity associated with diabetes mellitus post TP.

10

Laparoscopic versus Robotic Pancreaticoduodenectomy: A NSQIP Analysis Comparing Trends in Patient Selection and Outcomes over 5-Years. *Kevin Verhoeff, Juan Glinka, Douglas Quan, Ephraim Tang, Anton Skaro.* From the University of Alberta (Verhoeff); London Health Sciences Center (Glinka, Quan, Tang, Skaro).

Background: Comparison of laparoscopic (LPD) and robotic (RPD) pancreaticoduodenectomy over time remains limited. This study aims to compare LPD and RPD and to describe the demographics and outcomes of patients undergoing MIS pancreaticoduodenectomy over 5-years. **Methods:** The ACS-NSQIP (2016-2021) database was used to evaluate patients undergoing MIS pancreaticoduodenectomy comparing LPD versus RPD. Patient characteristics, and outcomes were compared and multivariable modelling evaluated factors associated with serious complications, and mortality. MIS approach, demographics, and outcomes were assessed yearly to evaluate trends over time. **Results:** We evaluated 1,707 patients

with 1,148 (67.3%) receiving RPD. Cohorts were similar with regards to demographic factors, however, patients undergoing RPD were less likely to be partially dependent (0.5% vs. 1.6%; p=0.024), and more likely to receive neoadjuvant therapy (26.8% vs. 21.7%; p=0.023).Bivariate analysis demonstrated similar operative duration (444.1 vs 429.9 minutes; p=0.074), but shorter LOS (8.5 vs. 9.8 days; p<0.001), and higher readmission rate (21.5% vs. 15.6%; p=0.004) with RPD. Additionally, RPD required transfusion less often (10.5% vs. 21.7%; p<0.001). Multivariable analysis demonstrated that LPD was not independently associated with serious complications (OR 1.27 p=0.094) or mortality (OR 0.82, p=0.611). Analysis of trends from 2016 to 2021 demonstrated similar patient selection and outcomes but a significant increase in MIS pancreaticoduodenectomy (281 to 428), primarily driven by an increase in RPD. **Conclusions**: Comparing LPD and RPD there is no difference in serious complications or mortality. MIS pancreaticoduodenectomy has increased over the last 5 years but volumes remain small with similar demographics and outcomes over time.

11

Laparoscopic Pancreaticoduodenectomy: Defining the Learning Curve. *Evelyn Waugh, Juan Glinka, Chris Zhang, Crystal Engelage, Ken Leslie, Anton Skaro, Ephraim Tang.* From the Western University.

Background: Widespread uptake of laparoscopic pancreaticoduodenectomy (LPD)may be limited by the high technical demand of the procedure. This study describes a single-centre's initial experience and the learning curve associated with LPD. **Methods:** Institutional data were collected prospectively from sequential cases between 2019 – 2023. Outcomes included length of stay (LOS), 30-day severe complications, 30-day readmission, 30-day reoperation, 30-day mortality and clinically relevant postoperative pancreatic fistula (CR-POPF). Analysis after the initial 58 cases was conducted and subsequently quality improvement strategies were implemented including covering the dissected vasculature with a round ligament patch, external pancreatic stenting and postoperative hydrocortisone. CUSUM (cumulative sum) analysis was performed to identify trends in outcomes as a function of case number. **Results:** 96 patients underwent LPD during the study period. 58 underwent LPD prior to review of cases and 38 were conducted after initial analysis and implementation of quality improvement strategies. Median LOS was 7 days (IQR 5 – 12). CR-POPF was 19.8%. 30-day severe complications was 33.3%. 30-day readmission was 20.8%, 30-day reoperation was 8.3% and 30-day mortality was 4.2%. Rate vascular complications was 8.3%. There was improvement between the initial 58 cases and subsequent 38 cases in rates CR-POPF (20.7% vs. 18.4%), 30-day severe complications (34.5% vs. 31.6%), 30-day readmission (24.1% vs. 15.8%), 30-day reoperation (10.3% vs. 5.3%) and 30-day mortality (5.2% vs. 2.6%). Stability in these outcomes occurs at approximately case 50. **Conclusions**: These results support the presence of a steep technical learning curve associated with LPD with initial increase in rates of negative outcomes. By case 50, there is evidence of plateau in rates of perioperative outcomes suggesting that proficiency in this technique is achieved by approximately the 50th case. Utilization of LPD must be undertaken with scrutiny as there may be a trend towards worse perioperative outcomes in early implementation of this approach.

12

Evaluating the Impact of a Deceased Donor Workshop on Participant's Skills and Confidence. *Prachikumari Patel, Taylor M Coe, Ahmer Irfan, Shilpa Balaji, Nadia Rukavina, Hala Muaddi, Steve Paraskevas, Markus Selzner, Chaya Shwaartz.* From the Abdominal Transplant and HPB Surgical Oncology, Department of Surgery, University of Toronto (Patel, Coe, Irfan, Selzner, Shwaarts); HPB Oncology research program, University Health Network (Patel, Balaji, Rukavina, Shwaartz); Department of Surgery, Mayo Clinic (Muaddi); Department of Surgery, McGill University (Paraskevas).

Background: With an increasing prevalence of deceased organ procurement surgery in addressing the rising need for donor organs, it is crucial to ensure optimal organ recovery for successful transplantation. It necessitates meticulous dissection and surgical expertise from transplant surgeons, including fellows who are often the most senior surgeons. However, there are limited formal training opportunities, and no standardized curriculum exists in North America to teach this procedure to fellows. To address this, we developed a deceased donor workshop and evaluated its effect on participants' confidence, proficiency, and knowledge. **Methods**: Thirteen abdominal transplant fellows, five general surgery residents, one attending surgeon and one first-assist nurse attended the workshop. The content of the workshop was developed by international leaders in transplant surgery and conducted over two days with combination of didactics and hands-on experience with a cadaver lab. Pre-and post-survey responses were compared using the Wilcoxon test. **Results**: Nineteen responses were included in the analysis after removing incomplete responses. Participants' confidence in conducting deceased donor organ recovery increased significantly after the course (33.3% to 60%, p-value <0.001), as their confidence in performing the back table operation (33.3% to 70%, p-value <0.001). Their confidence improved most in donor pancreas recovery (32.4% to 56.4%, p-value <0.001). Eighty-four percent of participants reported gaining new technical knowledge, and 79% expressed feeling safer about performing procedures in the clinical setting. **Conclusion**: The deceased donor workshop significantly enhanced participants' confidence and skills in organ retrieval procedures, filling a crucial training gap. Its potential to supplement institutional training paradigms and standardize organ recovery practices across North America is evident. Future research would explore the long-term impacts and scalability of such workshops.

13

Post-Operative Morbidity and Mortality of Cholecystectomy in Patients with Cirrhosis: A Systematic Review and Meta-Analysis. *Vanessa Wiseman, Jonah Moore, Sandra McKeown, Isis Lunsky, Jennifer Flemming, Sulaiman Nanji, Sean Bennett*. From Queen's University.

Background: Patients with cirrhosis are at increased risk of gallstone disease compared to patients without cirrhosis. Cirrhosis is also considered to be associated with increased surgical risks. The objective of this study was to assess the surgical literature to better quantify the risk of common post-operative complications in patients with cirrhosis undergoing cholecystectomy in the laparoscopic era. **Methods:** A systematic review was conducted according to PRISMA guidelines. Inclusion criteria included papers published since 1990, with at least 25 patients with cirrhosis undergoing cholecystectomy.

Outcomes of interest were post-operative liver decompensation, bile leak, surgical site infection, transfusions and death. **Results:** A total of 40 papers were included after abstract screening and full text review. This included 22 149 patients, 55% were female, with mean ages ranging from 42 to 63 years. 88.7% of cholecystectomies were laparoscopic. Patients stratified using Child Pugh were: A 71.2%, B 26% and C 2.8%. Post-operative decompensation of cirrhosis occurred in 6.5% (3.8-9.2, 95% CI) of patients, surgical site infections in 3.3% (1.7-4.8), bile leak in 1.8% (0.7-2.9), and post-operative transfusions in 3.1% (1.6-4.5). Post-operative mortality was 1.5% (1-2.1). Studies that stratified mortality by Child Pugh were as follows: A 1.2% (2/164 total patients), B 1.2% (1/79 patients) and C 80% (4/5). **Conclusion:** Laparoscopic cholecystectomy is generally safe in patients with Child-Pugh A or B cirrhosis, with slightly higher complication rates compared to the general population. Cholecystectomy in patients with Child-Pugh C cirrhosis is associated with a high mortality rate, and likely should be avoided if possible.

14

Impact of Negative Pressure Wound Therapy on Outcomes following Pancreaticoduodenectomy, A NSQIP Analysis of 14,044 Patients. *Sukhdeep Jatana, Kevin Verhoeff, A. M. James Shapiro, David Bigam, Blaire Anderson, Khaled Dajani, Jeremy Peabody.* From the University of Alberta.

Background: Despite ongoing improvements in pancreaticoduodenectomy technique, the procedure is hindered by high rates of morbidity, including high rates of surgical site infection (SSI). Efforts to reduce SSI include the use of negative pressure wound therapy (NPWT) but studies and meta-analyses have met with conflicting results. We aimed to provide an up-to-date large-scale cohort study to assess the impact of NPWT on SSIs. **Methods:** Utilizing the National Surgical Quality Improvement Program database, we included patients undergoing a pancreaticoduodenectomy between 2017 and 2021 and divided patients into NPWT and non-NPWT cohorts. For comparing baseline characteristics and complication rate between cohorts, bivariate analysis was used. Multivariate logistic regression analysis was performed to assess the independent effect of NPWT on 30-day serious complication, 30-day mortality and development of deep or superficial SSI. **Results:** Of 14,044 included patients, 1,689 (12.0%) patients had a prophylactic NPWT device while 12,355 (88.0%) did not. Patients were more likely to have NPWT if they were higher ASA class, had diabetes, were dialysis-dependent, or had a hard pancreas, but were less likely if they were a smoker, had steroid use, or had a bleeding disorder. Most complications occurred similarly between the two cohorts, including superficial and deep SSI, but NPWT patients had a longer length of stay (10.4d vs 9.5d, $p<0.001$) and higher organ space SSI (22.6% vs 17.4%, $p<0.001$). After adjusting for demographic differences, there was no association between NPWT and 30-day serious complication (aOR1.01, p=0.927), SSI (aOR1.00, p=0.979), or death (aOR1.48, p=0.053). **Conclusion:** NPWT is used infrequently and is not significantly associated with improved outcomes on univariate or multivariate analysis for superficial and deep surgical site infection. Considering this and other studies showing limited benefit of NPWT in all-comers, studies guiding its use in high risk or specific populations may be helpful.

15

Impact of Hypoalbuminemia on Outcomes Following Hepatic Resection: A NSQIP Retrospective Cohort Analysis of 26,394 Patients. *Dunavan Morris-Janzen, Sukhdeep Jatana, Kevin Verhoeff, James Shapiro, David Bigam, Khaled Dajani, Blaire Anderson.* From the Department of Surgery, University of Alberta.

Background: Efforts to preoperatively risk stratify and optimize patients before liver resection allow for improvement in postoperative outcomes, with hypoalbuminemia being increasingly researched as a surrogate for nutrition, overall health and functional status. Given the lack of studies of this important factor in this population, this study aims to determine the impact of hypoalbuminemia on outcomes following liver resection using a large multi-centre database. **Methods:** The American College of Surgeons-National Surgical Quality Improvement Program (2017-2021) database was used to extract patients who underwent hepatic resection, comparing those with hypoalbuminemia (<3.0 g/L) to those with normal albumin. Baseline characteristics and 30-day postoperative complications were compared between the two cohorts. Multivariable modelling evaluated factors including hypoalbuminemia to characterize their independent effect on serious complications and mortality. **Results:** We evaluated 26,394 patients who underwent liver resection with 1,347 (5.1%) having preoperative hypoalbuminemia. Patients with hypoalbuminemia were older (62.3 vs 59.8; p<0.001) and were significantly more likely to be ASA class 4 or higher (13% vs. 6.5%; p<0.001). Patients with hypoalbuminemia had significantly more complications such as increased length of stay, readmission, re-operation, sepsis, surgical site infection, bile leak and transfusion need. After controlling for demographics and comorbidities, hypoalbuminemia remained a significant independent predictor associated with 30-day serious complications (OR 2.93 [CI 95% 2.36-3.65, p<0.001]) and mortality (OR 2.15 [CI 95% 1.38-3.36, p=0.001]). **Conclusion:** In this large, retrospective database analysis, preoperative hypoalbuminemia was significantly associated with 30-day morbidity and mortality following hepatic resection. Preoperative albumin may serve as a useful marker for risk stratification and optimization. Future studies should consider the risk mitigation impact of pre-habilitation in these patients and mechanisms to improve outcomes in this high-risk cohort.

16

The Impact of Liver Parenchymal Quality and Liver Remnant Volume on The Risk Assessment of ACS NSQIP Morbidity and Mortality After Major Liver Resections. *Lujain Attar, Abdulrahman Alabduljabbar, Victoria Linehan, Christopher Lightfoot, Boris Gala-Lopez.* From Dalhousie.

Background: The National Surgical Quality Improvement Program (NSQIP) surgical risk calculator is a validated tool and one of the most popular in clinical settings. However, when used for major hepatic resections, it lacks the analysis of the impact of the estimated future liver remnant volume (FLRV) and its liver parenchymal quality (LPQ), and their influence on postoperative complications after a major liver resection. Objectives: This study aims to evaluate the predicting capabilities of the NSQIP calculator regarding post-hepatectomy complications and mortality when FLRV and PQ are abnormal. **Methods:** This retrospective chart review includes all major hepatectomies. The preoperative surgical risk was estimated with the NSQIP calculator, and observed postoperative complications were registered

and compared to the predicted risk. Their respective FLRV and LPQ were also collected. A multivariate regression model was created to assess the risk differences and the impact of FLRV and LPQ on the predictive capabilities of the NSQIP calculator among these patients. **Results:** From 138 included participants, 68 had normal LPQ and 70 patients had abnormal LPQ. Patient in the abnormal LPQ group had a significantly higher BMI ($p<0.01$). In terms of complications, the abnormal LPQ group had a higher rate of infection ($p<0.01$) and greater number of severe complications according to the Clavien-Dindo classification ($p=0.04$). There were no differences in 30-day mortality. The multivariate analysis revealed that the NSQIP calculator was better at predicting complications in patients with abnormal LPQ (AUC=0.72, $p<0.01$) when compared to those with a normal LPQ (AUC=0.54, $p=0.65$). **Conclusion:** The liver parenchymal quality and the future liver remnant volume are crucial element when estimating the risk of post-hepatectomy morbidity and mortality. There variables are not accounted or validated in the current NSQIP calculator and should be taken into consideration when assessing a patient for a major liver resection.

17

Comparison of Minimally Invasive Versus Open Pancreaticoduodenectomy in Obese Patients, a NSQIP Analysis. *Natalie Gugala, Sukhdeep Jatana, Kevin Verhoeff, David Bigam, Blaire Anderson, Khaled Dajani, James Shapiro.* From the University of Alberta.

Background: Minimally invasive surgery (MIS) is often advocated for in obese patients as a safer alternative. There has been increasing interest in MIS pancreatoduodenectomy, however, limited evidence exists in patients with obesity. As such, this study aims to compare the postoperative outcomes of MIS versus open pancreaticoduodenectomy in patients with a body mass index (BMI) ≥ 35. **Methods:** The National Surgical Quality Improvement Program database was used to compare the outcomes for patients who underwent a pancreatoduodenectomy between 2017-2021. Patients with BMI ≥ 35 were included and divided into open and MIS cohorts. Baseline characteristics and outcomes were compared using a bivariate analysis, whereas factors associated with 30-day serious complications and mortality were identified using multivariate logistic regression. A propensity matching analysis was also completed. **Results:** In this study, 1859 patients were included, with 1785 undergoing open and 74 undergoing MIS pancreatoduodenectomy. Only patients with congestive heart failure were more likely to undergo MIS. Open surgery was associated with decreased operative time (392min vs. 474min, $p<0.001$) Multivariate analysis revealed similar likelihood of serious complications (odds ratio [OR] 1.11; $p=0.760$) and mortality (OR 2.54; $p=0.176$) for patients undergoing MIS compared to open pancreaticoduodenectomy. Propensity matched analysis further supported these results MIS procedures having longer operative duration (+86.6 minutes; $p<0.001$), but with similar rates of serious complications, comprehensive complication index, and mortality. **Conclusion:** For patients with BMI ≥ 35, MIS pancreatoduodenectomy does not significantly decrease the 30-day serious complication or mortality rate. Results should be contextualized in the setting of experience and ongoing studies will be required to better characterize populations who may benefit from MIS approaches in the future.

18

Impact of Soft Pancreas on Pancreaticoduodenectomy Outcomes and Development of the Preoperative Soft Pancreas Risk Score (PSPRS). *Zofia Czarnecka, Kevin Verhoeff, David Bigam, Khaled Dajani, James Shapiro, Blaire Anderson.* From the University of Alberta.

Background: In pancreatic surgeries, such as pancreaticoduodenectomy, a soft pancreas is associated with increased post-operative complications notably pancreatic fistulas (POPF) or leaks. Pancreatic texture is typically determined by manual palpation intraoperatively and hard to predict from imaging alone. To date, few studies have evaluated whether preoperative patient characteristics are associated with a soft pancreas. We conducted a retrospective cohort study to assess post operative outcomes of patients with soft pancreas as well as preoperative features that predicted a soft pancreas. **Methods:** Data was collected from the 2016-2021 American College of Surgeons National Surgical Quality Improvement database. We included 17706 patients who underwent pancreaticoduodenectomy between 2016 and 2021 in Canada or the United States. Patients were divided into two cohorts based on pancreatic texture (9686 hard, 8020 soft). Multivariable modelling evaluated the independent effect of factors on complications and mortality. Another model evaluated predictors of a soft pancreas. We then generated a calculator (PSPRS) to predict pancreatic texture using preoperative factors. **Results:** Patients with a soft pancreas had significantly higher rates of postoperative complications, particularly at least a two times higher rate of POPF, deep organ space infection, and septic shock. The primary predictor for a soft pancreas was increased BMI. Contrastingly, smoking, diabetes, preoperative biliary stenting, and neoadjuvant therapy reduced the likelihood of a soft pancreas. A PSPRS ≥ 4 categorized >23% of patients with 87.9% specificity preoperatively with a hard pancreas. **Conclusion:** A soft pancreas was independently associated with serious complications. Using our models, we generated a clinical predictive tool to predict pancreatic texture based on preoperative patient factors. We hope this will serve as a pre-operative counselling and decision-making tool for clinicians and patients.

19

Liver Transplantation from MAiD Organ Donors in British Columbia: A Retrospective Review of Outcomes. *Noor AlNasrallah, Stephanie Chartier-Plante, Michael Bleszynski, Peter Kim, Saumya Jayakumar, Vladimir Marquez Azalgara, Rahnuma Sara, Daljeet Chahal, Eric Yoshida, Megan Chen, Do Hee Kim, Maja Segedi).* From UBC (AlNasrallah, Chartier-Plante, Bleszynski, Kim, Marquez Azalgara, Sara, Chahal, Yoshida, Chen, Kim, Segedi); UofA (Jayakumar).

Background: In 2016, medical assistance in dying (MAiD) has officially been legalised in Canada as an option for end-of-life care. With that, organ donation after MAiD was also established, with limited, but rising number of cases done across Canada. The first liver transplant from a MAiD donor in BC was in 2020. This study aims to review outcomes of liver transplant in recipients of MAiD donors with regards to complications, patient and graft survival. While organ donation after MAiD is a common practice in Europe, it remains new in North America with limited available data. **Methods:** A retrospective review of available data from BC Transplant registry of all recipients of liver transplant from MAiD donors in BC from 2020 to 2022

was conducted, and descriptive statistics were produced. **Results:** Our study included 8 cases of liver transplant from donors after MAiD. The indication for MAiD in most cases was amyotrophic lateral sclerosis (ALS) and a median donor warm ischemia time of 23.5 minutes. The 1-year graft survival as well as patient survival in our cohort is 100%. Early allograft dysfunction accounted for 37.5% (3/8), which was managed conservatively and resolved before discharge without significant clinical outcomes. There was one case of anastomotic biliary stricture at 3 months post-operatively, which was managed with ERCP and biliary dilation, and one case of acute cellular rejection at 1 year post-operatively, which resolved with conservative management. Median length of hospital stay was 10.5 days. **Conclusions**: While data regarding outcomes of liver transplant from donors following MAiD is limited in North America, the results are promising. Utilization of MAiD organ donation can expand the liver donor pool and alleviate the burden by decreasing transplant wait times. A multicenter study will be conducted to assess outcomes from a larger number of liver transplants from MAiD donors.

20

Oncologic Outcomes in Laparoscopic Pancreaticoduodenectomy in a Tertiary Hepatobiliary Centre. *Stephanie Skanes, Chris Zhang, Sydney Brandt, Evelyn Waugh, Anton Skaro, Ephraim Tang, Juan Glinka, Ken Leslie.* From the Western University.

Background: Minimally invasive pancreaticoduodenectomy has become increasingly popular in recent years with one approach being laparoscopic pancreaticoduodenectomy (LPD). LPD is associated with decreased intra-operative blood loss, decreased surgical site infection and shorter length of stay. In terms of oncologic outcomes, LPD has been shown to be at least non-inferior to open pancreaticoduodenectomy (OPD) for lymph node harvest and R0 resection rate, with some studies favouring LPD. In this study, we are investigating the oncologic outcomes in our initial experience with LPD at a tertiary hepatobiliary centre. **Methods**: This is a retrospective case series of patients undergoing OPD and LPD for malignant indications from 2019-present at London Health Sciences Centre. Primary outcomes included specimen margin positivity and lymph node harvest. Secondary outcomes included any complication, severe complication (Clavien-Dindo index greater than III), recurrence and death. Data are described using descriptive statistics. **Results:** 56 LPD cases and 41 OPD cases were included. Average lymph node harvest for OPD cases was 18.6 and for LPD was 16.8. 26.8% and 21.4% of margins were positive for OPD and LPD specimens, respectively. 61.0% of OPD patients had a complication and 9.8% had severe complications, whereas 53.6% of LPD patients had a complication with 21.4% being severe. 36.6% of OPD patients had a recurrence with median time to recurrence of 7.7 months, whereas 21.4% of LPD patients recurred with a median time of 6.4 months. In the open group, 17% of patients died in the follow-up period with a median time of survival of 9.2 months. In the laparoscopic group, 19.6% of patients died with median survival of 7.2 months. **Conclusion**: This study shows that in our initial experience with LPD, rates of margin positivity, lymph node harvest, recurrence and survival are comparable to OPD.

21

The Use of Pancreatic Enzyme Replacement Therapy During Chemotherapy for

Pancreatic Cancer: A Retrospective Cross-Sectional Study. *Émilie Kate Landry, Amar Farkouh, Roy Hajjar, Gabriel Chan.* From the Division of General Surgery, Université de Montréal.

Background: Pancreatic adenocarcinoma (PC) is a devasting diagnosis, often presenting at an advanced stage. Pancreatic exocrine insufficiency (PEI) is commonly associated, due to Wirsung duct occlusion and after resection. PEI can be easily overlooked amidst the shock and overlapping symptoms with advanced cancer or the side effects of chemotherapy. Pancreatic enzyme replacement therapy (PERT) has proven to be beneficial during chemotherapy. The study objectives are to determine the use of PERT during chemotherapy, and possible associations with outcomes. **Methods:** A retrospective cross-sectional study was conducted at a university-affiliated hospital. All patients initiating a first-line chemotherapy regimen for PC between January 1st, 2019, and September 30th, 2023, were included and their clinical course was reviewed. **Results:** The study population included 100 PC patients with a median age of 68 years. Demographic data and clinical course are presented in Table 1. Chemotherapy was administered in neoadjuvant, adjuvant, and palliative settings for 17, 19, and 64 patients, respectively. First-line regimens included FOLFIRINOX (39%), gemcitabine alone (40%), nab-paclitaxel-gemcitabine (20%), or other (1%). Twenty-five patients had a complete oncological resection, of which five had neoadjuvant chemotherapy. Thirty-six patients received a second-line regimen and 12 received three or more regimens. PERT was prescribed in only 17% of patients with palliative chemotherapy, despite the majority (83%) having had signs of PEI (weight loss, diarrhea or obstructed Wirsung duct with dilatation). There were no significant differences associated with weight changes, number of cycles of chemotherapy, interruptions of regimen protocols, nor survival when comparing PERT status in the palliative group. No patients in the neoadjuvant group received PERT during chemotherapy. **Conclusion:** In this retrospective review of clinical practice patterns, PERT is underutilized for PC patients during palliative and neoadjuvant chemotherapy. Future prospective studies should include PERT as an adjunct to neoadjuvant chemotherapy and formally measured symptoms of PEI.

22

Outcomes Following Minimally Invasive versus Open Pancreaticoduodenectomy in the Patients ≥75 Years Old, a NSQIP Analysis. *Tyrell Wees, Nazgol Kafaei Shahbaz, Suhkdeep Jatana, Kevin Verhoeff, Ephraim Tang.* From the University of Alberta (Wees, Jatana, Verhoeff); London Health Sciences Center (Shahbaz, Tang).

Background: Outcomes following minimally invasive (MIS) compared to open pancreaticoduodenectomy continue to be investigated, with some proponents for MIS techniques suggesting that it may offer benefits to specific patient cohorts such as the elderly. We aim to evaluate early outcomes following open and MIS pancreaticoduodenectomy in patients ≥75 years old to better understand current outcomes from each approach. **Methods:** Utilizing the National Surgical Quality Improvement Program (NSQIP) database, we analyzed all patients who underwent pancreaticoduodenectomy over the age of 75 between 2017-2021. Patients were considered to have undergone either an open or MIS (laparoscopic or robotic) surgery depending on initial operative approach. Baseline characteristics were analyzed using

bivariate analysis. Multivariate logistic regression was preformed to assess independent effect of minimally invasive surgery on 30-day serious complications and 30-day mortality. **Results:** Of 4,343 included patients, 356 (8.2%) were included in the MIS cohort. Patients were more likely to be MIS if they had a lower ASA class and non-invasive disease (≤T2). Minimally invasive approaches were associated with longer operative times (425 vs 353 minutes, p<0.001) and higher reoperation rate (7.6%vs 4.9%, p=0.031). Multivariate analysis demonstrated that MIS approach was associated with increased 30-day serious complications (aOR1.36, p=0.03). Other factors that increased likelihood include increasing age and BMI, male sex, preoperative sepsis and no neoadjuvant therapy. MIS approach was not associated with increased 30-day mortality. **Conclusion:** Uptake of MIS approaches to pancreaticoduodenectomy in elderly patients remains limited compared to open approaches. Early experiences suggest longer operative times and a potentially increased risk of complications. Current results are representative of an early experience and future studies should examine the impact of patient selection differences, technique modifications, and center expertise/volume on outcomes from MIS pancreaticoduodenectomy for elderly patients.

23

Impact of Wound Protectors on Complications Following Pancreaticoduodenectomy: A NSQIP Analysis of 20,960 Patients. *Tyrell Wees, Suhkdeep Jatana, Kevin Verhoeff, A.M. James Shapiro, David Bigam, Khaled Dajani, Blaire Anderson.* From the University of Alberta.

Background: The use of wound protectors has been shown to decrease wound infections in other surgical procedures, yet data for their use during pancreaticoduodenectomy has remained heterogenous. We aim to provide the largest study evaluating wound protector use during pancreaticoduodenectomy to determine their effect on surgical site infections as well as serious complications. **Methods:** Utilizing the National Surgical Quality Improvement Program database, we analyzed all patients undergoing pancreaticoduodenectomy between 2017-2021 and included those with information regarding wound protector (WP) use. Patients were divided into WP or no WP (NWP) cohorts. Baseline demographics and complications were compared using bivariate analysis. Multivariate logistic regression was performed to identify the individual effect of WP use on 30-day serious complications, mortality, and incisional surgical site infection (SSI). **Results:** Of 20,960 included pancreaticoduodenectomy patients, 6,167 (29.4%) used a WP. WP were more commonly used in lower American Society of Anesthesiologist's classes and patients with chronic obstructive pulmonary disease, congestive heart failure, softer pancreas textures, and preoperative weight loss. On unadjusted bivariate analysis, WP use was associated with increase operative time but decrease hospital stay, superficial and deep surgical SSI, intra-abdominal abscess, wound disruption, pancreatic fistula, sepsis, reoperation, and serious complication. Following adjustment for demographic differences using multivariate analysis, WP was independently associated with a lower likelihood of 30-day serious complication (aOR 0.83,p<0.001) and 30-day SSI (aOR 0.62,p<0.001). **Conclusion:** WP use during pancreaticoduodenectomy is associated with decreased number of numerous complications of bivariate analysis as well as 30-day serious complication and SSI on

multivariate analysis. Increase uptake of WP should be encouraged. Future prospective randomized studies are required to better characterize outcomes but current data suggests that WP use may be beneficial. Evaluation of barriers and costs to WP use may also assist in better evaluating the utility of these devices.

CSF/Video - 12

Laparoscopic Porto-Caval Lymphadenectomy for Metastatic Colon Cancer. *Zuhaib Mir, Elisabeth Savonitto, Stephanie Hiebert*. From Dalhousie University.

Background: We are presenting the case of patient in their 70s who was referred to us with a T3N1M1 cecal cancer. They underwent a laparoscopic right hemicolectomy, followed by laparoscopic segment 5/6 resection for a 2.2cm metastasis within the liver. After this, the patient completed adjuvant chemotherapy and entered into routine surveillance. The final pathology demonstrated a moderately-differentiated grade 2 invasive mucinous adenocarcinoma, with intact mismatch repair genes, small vessel lymphovascular invasion, and KRAS mutation. **Methods:** During ongoing surveillance, the patient was noted to have an elevated CEA level 16 months after the completion of their treatments. Work-up with cross-sectional imaging demonstrated a new soft tissue abnormality in the porto-caval region, which was only mildly enhancing on PET scan. No other metastatic disease was visualized. Following discussion at multi-disciplinary cancer conference, the consensus recommendation was to resect the solitary metastasis. **Results:** We offered the patient a laparoscopic approach due to their prior minimally-invasive operations. Portal and retro-portal dissection was carried out with a combination of blunt dissection, as well as the use of electrosurgical instruments. Partial kocherization of the duodenum facilitated the dissection from the right side of the porta-hepatis and allowed identification of the vena cava. Excision of the common hepatic artery lymph node and identification of the gastro-duodenal artery takeoff were important steps in avoiding injury to portal structures. The metastatic lesion was safely resected. **Conclusions**: There were no peri-operative complications and the patient was discharged home on the third post-operative day. At their follow-up visit, there were no delayed complications noted. The final pathology showed metastatic mucinous adenocarcinoma. Minimally-invasive approaches may be considered for complex hepatobiliary and pancreatic resections with appropriate planning and patient selection.

YouTube Video Link: https://youtu.be/0EfYB2-EaA8

CSF/Video - 13

Laparoscopic Transcholedochal Choledochoscopy for Common Bile Duct Exploration and Cholecystectomy: A Video Presentation (Video). *Xin Yu Yang, Mikaël Soucisse, David Badrudin*. From the Université de Montréal (Yang, Soucisse, Badrudin). [2]Département de chirurgie générale, Hôpital Maisonneuve-Rosemont (Soucisse, Badrudin).

Background: The development of endoscopic retrograde cholangiopancreatography (ERCP) has made preoperative endoscopic extraction the preferred method for managing biliary stone diseases. However, upper digestive tract reconstruction surgeries after gastrectomy often limit endoscopic access to the biliary tree. **Methods:** A 57-year-old female who previously underwent a distal gastrectomy with Billroth II reconstruction

for gastric adenocarcinoma, presented with intractable choledocholithiasis by ERCP despite the Rendezvous technique. After discussion between the surgical endoscopist and the hepatobiliary surgeon, the consensus was to perform a laparoscopic transcholedochal choledochoscopy for common bile duct stone retraction and cholecystectomy. In the meanwhile, a percutaneous transhepatic drainage was performed for biliary decompression. **Results:** Here we present a video of the procedure. This video demonstrates the successful completion of the laparoscopic transcholedochal choledochoscopy, extraction of common duct stones and cholecystectomy with no complications. The patient did well postoperatively with no recurrent symptoms at the 6-month follow-up. **Conclusion:** Laparoscopic choledochotomy and the utilization of choledochoscopy for common bile duct exploration is a safe and effective alternative in managing endoscopically challenging biliary stone disease. It is especially beneficial for patients with altered upper gastrointestinal anatomy and has the advantage of being a single-stage procedure.

YouTube Video Link: https://youtu.be/somo8S9GZ34

CSF/Video - 18

Successful Magnetic Recanalization Resolves Anastomotic Stenosis in Post-Liver Transplant Patient: a Three-Year Follow-Up (Video). *Eliahu Bekhor, Eran Shlomovitz*. From the University Health Network (Bekhor, Shlomovitz). From Rabin Medical Center (Bekhor).

Background: A 53-year-old female with a history of liver transplant due to end-stage liver disease secondary to alpha-1 antitrypsin deficiency. Clinical History: Post-Transplant Complication: One-month post-liver transplant, the patient was diagnosed with choledocho-jejunal anastomotic stenosis. Intervention History: Percutaneous Transhepatic Cholangiography (PTC): Inserted for initial management; Drain Manipulations: Over 10 drain manipulations were performed within the first year post-surgery; Novel Intervention: Considering persistent stenosis, the patient was offered magnetic recanalization as an innovative technique. **Methods:** Approach: Utilized a single balloon push enteroscopy to visualize the jejunal aspect of the anastomosis, while employing choledochal scope and fluoroscopy to visualize the hepatic part. Magnetic Recanalization: One part of the magnet was deployed at the hepatic aspect, and the other part at the jejunal aspect of the anastomosis. **Results:** Two weeks post-procedure, the magnets passed into the small owel and were retrieved endoscopically. Subsequent balloon dilation was performed, resulting in a patent anastomosis. Conclusions: Three years post-procedure, the patient remains free of symptoms and has not required further intervention. Her overall condition is excellent.

YouTube Video Link: https://youtu.be/6X-4BarIPUM

CANADIAN ASSOCIATION OF GENERAL SURGEONS | ACUTE CARE SURGERY & TRAUMA

10

Mild Traumatic Brain Injury: Not Always a Mild Injury. *Morgan Schellenberg, Miharu Arase, Monica D. Wong, Demetrios Demetriades.* From the LAC+USC Medical Center.

Background: Risk of mortality after trauma generally correlates with injury severity. However, some patients are at risk of death following mild traumatic brain injury (TBI). Study objective was delineation of patients who die in-hospital following mild isolated TBI in order to inform Emergency Department (ED) disposition and patient care discussions. **Methods:** In this retrospective cohort study, patients from the NTDB (2007-2018) were included if they were injured by blunt trauma and sustained mild TBI (defined as Head Abbreviated Injury Scale [AIS] score of 1 or 2 and arrival Glasgow Coma Scale [GCS] score of 13-15). Exclusions were extracranial AIS >2; transfers; and missing data. Patients were defined by in-hospital mortality: Survivors vs. Mortalities. Univariate and multivariate analyses compared demographics, clinical/injury data, and outcomes. **Results:** Overall, 932,107 patients (10% of NTDB population) met study criteria (Fig.1): 928,542 (99.6%) Survivors and 3,565 (0.4%) Mortalities. Home anticoagulation, cardiac disease, and diabetes mellitus were more common among Mortalities ($p<0.001$), although drug and alcohol intoxication on arrival were more common among Survivors (16% vs. 7%, $p<0.001$; 13% vs. 10%, $p<0.001$). Private/Commercial insurance was more common among Survivors (39% vs. 20%, $p<0.001$) while Governmental Insurance was more common among Mortalities (55% vs. 36%, $p<0.001$). Age ≥65 was most strongly associated with death (OR 26.43, $p<0.001$), followed by ED intubation (OR 10.08, $p<0.001$), admission hypotension (OR 4.55, $p<0.001$), end-stage renal disease (ESRD) (OR 3.03, $p<0.001$) and immunosuppression (OR 2.18, $p<0.001$). **Conclusion:** Survivors differed substantially from Mortalities after mild TBI in terms of comorbidities, intoxicants, and insurance status. Variables most strongly associated with in-hospital death included age ≥65, ED intubation, admission hypotension, and comorbidities (particularly ESRD and immunosuppression). Increased clinical vigilance, including a mandatory clinical observation period, for patients with these risk factors should be considered to optimize outcomes and potentially mitigate death after mild TBI.

11

Does Delaying Emergent Cholecystectomy Affect Outcomes? An Analysis of 46,931 Patients in the NSQIP Database. *Anna Mierzwa, Kevin Verhoeff, Uzair Jogiat, James Shapiro.* From the University of Alberta.

Background: Delaying emergent cholecystectomy (EC) for cholecystitis beyond 3 days after admission has been shown to increase morbidity and mortality. The impact of each day of delay has not been studied. It is unclear whether this trend holds for other diagnoses requiring EC. **Methods:** Patients undergoing urgent laparoscopic cholecystectomy for any indication in 2016-2021 were identified in the NSQIP database. Patients were grouped based on delay to surgery. Demographics, risk factors, and outcomes were extracted. Multivariate modelling identified factors associated with delayed discharge, serious complications, and mortality. Subgroup analysis of patients with cholecystitis and biliary obstruction was completed. **Results:** Overall, 46,931 patients were included. The average age was 50.0±18.2 and 63.1% were female. Most patients were ASA 2 (52.4%) or 3 (33.5%). A delay of 0-5 days was observed in 39.5%, 33.8%, 13.8%, 7.3%, 3.6%, and 2.0% of patients, respectively. Most patients had a diagnosis of cholecystitis (77.7%). Patients with longer delays were more comorbid

(ASA 3/4 31.8% at 0 days vs. 55.8% at 5 days; p<0.001), had increased operative time (75.7 minutes vs. 85.6 minutes; p<0.001), length of stay (1.4 days vs. 2.5 days; p<0.001), and serious complications (7.7% vs. 14.2%; p<0.001). Delay to surgery was an independent predictor of serious complications (OR1.46; p=0.001) and mortality (OR2.04; p=.045) after 5 day but not 1-4 day delay. Subgroup analysis of patients with cholecystitis demonstrated that even a 1-day delay was associated with serious complications (OR1.11; p=0.032). A delay of 4 (OR3.07; p=0.005) or 5 (OR3.91; p=0.003) days was associated with increased mortality. Conversely, delay to surgery had no impact on serious complications or mortality in patients with biliary obstruction. **Conclusion:** Delay to surgery of even one day increases the risk of serious complications in patients undergoing EC for cholecystitis. This effect is not seen in patients with biliary obstruction.

12

In-hospital Wait Times for Emergency General Surgery: Do Immigrants Wait Longer? *Michael Guo, Rajan Bola, Ahmer Karimuddin, Jason Sutherland.* From then Department of Surgery (Guo); Centre for Health Services and Policy Research, School of Population and Public Health, University of British Columbia (Guo, Bola, Sutherland); Faculty of Medicine, University of British Columbia (Bola); Department of Surgery, Faculty of Medicine, St. Paul's Hospital, University of British Columbia (Karimuddin).

Background: Emergency general surgery (EGS) admissions pose heightened risks and demand prompt intervention. Immigrant patients confront unique hurdles accessing EGS care, hampered by language and cultural barriers in the Emergency Department (ED). These obstacles impede effective communication, jeopardizing triage accuracy and delaying diagnosis. Despite this, data on EGS wait times for immigrants remain scant. This study aims to compare in-hospital wait times, and time of presentation to the ED for EGS among immigrants and non-immigrants in British Columbia (BC), Canada. **Methods:** This study utilized population-based longitudinal data, linking citizenship and immigration records with hospital and available ED administrative data. All EGS procedures from 2013 to 2021 were examined. In-hospital wait times were calculated for two intervals: 1) ED registration to physician assessment, and 2) assessment to hospital admission. Wait times and the proportion of "off-hour" presentations (ED registration between 1700 and 0600) were compared between immigrants and non-immigrants. **Results:** Of 77,903 EGS procedures, 14.3% involved immigrant patients. Immigrants experienced longer wait times from ED registration to initial physician assessment (92.3 vs. 83.3 minutes, p<0.01) and from assessment to admission (317.6 vs. 302.9 minutes, p<0.01) than non-immigrants. A higher proportion of immigrants presented during off-work hours (39.9% vs. 36.0%, p<0.01) and were triaged as more emergent (p<0.001). After adjusting for age, comorbidity level, triage level, socioeconomic status, and hospital, immigrants were observed to experience longer waits from registration to assessment (p<0.01) and had higher odds of presenting during off-hours (OR: 1.20, 95%CI: 1.15-1.25). **Conclusion:** Immigrants undergoing Emergency General Surgery (EGS) in BC face an average of 32.5 minutes longer wait times in the ED than non-immigrants and often seek care during off-work hours, indicating inequities in supposed fair ED wait time distributions.

14

Kicked in the Guts: A Pony's Punch and the Power of Angioembolization. *Martha Ennis, Jurgienne Umali, David Pace*. From the Memorial University of Newfoundland.

Background: Mesenteric arterial injuries following blunt abdominal trauma are rare and laparotomy is the treatment standard for active bleeding. We report the successful use of angioembolization to treat active mesenteric bleeding in a 63-year-old male who sustained blunt abdominal trauma. **Case Report:** The patient presented to the emergency department with a one-day history of diffuse abdominal pain after he was kicked by a Newfoundland pony in the abdomen. He was complaining of abdominal pain and was passing copious blood per rectum. After stabilization with IV crystalloid and packed red blood cells, CT angiography was performed which revealed active contrast extravasation from a distal branch of either the right colic or ileocolic artery. There was no evidence of bowel perforation. Interventional radiology performed super-selective embolization of a distal arterial branch supplying the ileum. The embolization was successful, the patient stabilized, and the rectal bleeding stopped. The patient was admitted to hospital and observed for 4 days. He was discharged after tolerating a regular diet and moving his bowels. Two weeks after the injury, the patient was doing well without complaint aside from mild abdominal pain with activity. **Conclusion**: There is hesitancy to routinely perform angioembolization for mesenteric bleeding after trauma because of concern with causing ischemia to the bowel wall. This case highlights the use of super-selective embolization of a bleeding mesenteric artery to mitigate the need for surgical intervention in appropriately selected patients following blunt abdominal trauma.

15

Management of a Ruptured Splenic Artery Aneurysm in a Patient with Portal Hypertension Secondary to NASH. *Holly Dempster, Philemon Leung, David Pace.* From the Memorial University of Newfoundland.

Background: Visceral artery aneurysms are uncommon with splenic artery aneurysms (SAA) being the most common of these. Rupture is a rare occurrence with a very high mortality. **Case Report**: We present the case of a 48-year-old female, with Childs A cirrhosis secondary to NASH and grade 2 esophageal varices, who presented to the emergency department of a tertiary care center with a history of several hours of abdominal pain. On arrival, she was tachycardic, hypotensive, and had a decreased level of consciousness. After stabilization, a CT scan of the abdomen identified a large left-sided retroperitoneal hematoma and an abnormal splenic artery with multiple areas of dilation in the distal artery. While pockets of hyperdense blood were noted that suggested recent hemorrhage, the site of ongoing bleeding could not be confirmed. Despite angioembolization of the proximal splenic artery, the patient required ongoing blood transfusions and was taken to the operating room urgently. A splenectomy/distal pancreatectomy with excision of the aneurysm was performed. Blood loss was significant due to bleeding from a splenic varix. Postoperatively, the patient did well aside from delirium which resolved. The final pathology report confirmed the presence of a 1.1 cm splenic artery aneurysm. **Results**: This case demonstrates a typical presentation of a ruptured SAA. The patient likely did not go into hemorrhagic shock initially because of retroperitoneal tamponade. This allowed for time diagnostic workup and angioembolization. While there are multiple risk factors for the development of SAA's,

female sex and portal hypertension were likely contributing factors in this case. **Conclusion:** Depending on a number of factors including the hemodynamic status of the patient, location of the aneurysm, and patient comorbidity, an endovascular or a surgical approach can be offered. After a failed attempt at bleeding control with angioembolization, definitive surgery was successfully performed.

16

Retrospective Review of Clinical Activity and Outcomes of a New Urgent General Surgery Clinic. *Jovana Momic, Laura Allen, Bradley Moffat, Kenneth Leslie, Richard Hilsden, Kelly Vogt.* London Health Sciences Centre.

Background: Within the current emergency surgery model, patients presenting to the Emergency Department (ED) with biliary colic, symptomatic hernias, or minor post-operative concerns are referred to the on call general surgery team for consideration of admission and operative management. The Urgent General Surgery Clinic was created to offload these cases from the ED, while creating a streamlined pathway for patients requiring urgent but not emergent assessment. This study describes the results of the initial implementation of this novel clinic. **Methods**: Patients referred to the Urgent General Surgery Clinic from its inception (November 2022), until January 31st, 2024, were prospectively identified and data retrospectively obtained from chart review. Patient demographics and comorbidities, reason for clinic visit, investigations performed prior to assessment, timing/need for surgery, and post-operative complications were extracted and descriptively analyzed. **Results:** 195 patients were assessed during the study period (108 females, 87 males; mean age 49 years, SD 17.1). Most patients were relatively healthy, with a median Charlson Comorbidity Index of 1 (IQR 0-2). The most common reason for referral was gallbladder/biliary disease (n = 87, 45%), followed by inguinal hernias (n = 22, 11 %), ventral/abdominal wall hernias (n = 13, 7%), multiple hernias (n = 2, 1%), wound concerns (n = 21, 11%), post-op complications (n = 8, 4%) and peri-anal issues (n = 4, 2%). Thirty-eight patients (19%) were referred for non-specific pain/non-surgical issues. Over half of all patients required surgery (n = 113, 58%), with 52 patients (46%) undergoing surgery on the same day as their clinic assessment. 25 patients (13%) required admission for further management or surgery. **Conclusions:** This novel Urgent General Surgery Clinic has been successful in enabling rapid access to surgical consultation and expedited time to surgery without hospital admission. Future work will focus on expanding indications for referral.

17

Older Adults Undergoing Acute Care Surgery: A Baseline Assessment and Recommendations for Improving Post-Operative Mobility. *Amanda Mac, Isabella Janušonis, Brittany Greene, Melanie Tsang, Nicola Hoffman*. From the Temerty Faculty of Medicine (Mac, Janušonis). General Surgery, St Joseph's Health Centre (Greene, Tsang, Hoffman).

Background: Early post-operative mobility is important for geriatric patients, given its role in preventing complications and functional decline. Our hospital does not have a standard protocol for ensuring mobility among patients following acute care surgery. Thus, we aim to implement a quality improvement intervention for increasing post-operative mobility among older adults undergoing acute care surgery at our centre.

This study identifies current patterns of post-operative care and characteristics of geriatric patients admitted to our acute care service, which will inform recommendations for increasing post-operative mobility. **Methods:** We conducted a retrospective baseline study to examine care practices for 82 patients (65 and older) admitted to the acute care service from March to October 2022. Outcome measures included mean ambulation time, number of days without ambulation, mean dangle time, and mean up in chair time. Independent variables included use of mobility aids prior to admission, falls in prior 2 months, whether geriatrics, physiotherapy, occupational therapy, or dietetics were consulted, day on which physiotherapy assessment took place, length of stay, and day on which independent ambulation started. **Results:** Use of mobility aids and presence of falls during 2 months prior to admission, and absence of consults to geriatrics and occupational therapy were associated with decreased mean ambulation time ($p<0.001$), mean up in chair time ($p<0.001$), and mean dangle time ($p<0.001$), and increased number of days without ambulation ($p<0.001$). Later date of stay on which independent ambulation started was weakly correlated with lower mean ambulation time ($\rho=-0.23, p=0.11$). **Conclusion:** Our baseline assessment highlighted the need for structured supports involving interdisciplinary teams to facilitate early post-operative mobility, especially for geriatric patients with prior falls and mobility aid use. Our quality improvement intervention will involve patient and staff education on mobilization strategies and provide patients with tools for measuring their progress over the course of their stay.

CANADIAN HERNIA SOCIETY

CSF/Video - 11

Early Recurrence of Hiatus Hernia and its Repair After Blunt Abdominal Trauma. *Tom Farrell, Peter Szasz, Boris Zevin.* From the Memorial University (Farrell); Queen's University (Szasz, Zevin).

Background: Early recurrences of hiatus hernias after repair are rare, and are generally attributed to technical factors like tension on the hiatal closure, or foreshortened esophagus. These early recurrences are technically challenging, and require complex decision-making related to surgical approaches. **Methods**: We present a case of a 36-year-old female with early hiatus hernia recurrence after blunt abdominal trauma. At the time of initial surgery, a tension-free hiatal closure is achieved, and a Collis gastroplasty is used for additional esophageal length. During the early post-operative period, the patient claims to sustain blunt abdominal trauma, and returns to hospital with a recurrent hiatus hernia. During the re-do laparoscopic repair, a significant liver laceration is discovered, along with a large hematoma, and we find our previous hiatus repair and Nissen fundoplication intact. Despite challenging visualization, we reduce the stomach from the mediastinum, re-do the hiatal closure, and reinforce the repair with a u-shaped mesh. **Results**: As our original hiatus repair was found intact, we believe the early recurrence of hernia in this case was not related to technical factors, but to increased intra-abdominal pressure after blunt abdominal trauma. Our laparoscopic re-do repair with mesh was successful, despite unique intraoperative challenges. **Conclusion**: In this rare case of an early hiatus hernia recurrence after blunt abdominal trauma, we demonstrate that re-do hiatus hernia repair can be achieved laparoscopically, even in particularly challenging circumstances.

YouTube Video Link: https://youtu.be/1-G7rL-4eQc

CSF/Video - 15

Surgical Technique: Laparoscopic Repair of Strangulated Obturator Hernia. *Simran Parmar, Nam Nguyen.* From the University of Calgary (Parmar); University of British Columbia (Nguyen).

Background: Obturator hernia is an uncommon presentation, most often seen in older women. There is no standardized technique and variations in technical details have been reported. We present the case of a 85-year-old female from a care home presenting with acute abdominal and left groin pain associated with vomiting and obstipation. Diagnosis of incarcerated obturator hernia, concerning for strangulation was made based on her clinical and radiological findings. **Methods**: The patient was taken emergently to the operating theater overnight. A nasogastric tube was inserted and the patient underwent awake intubation. A diagnostic laparoscopy was performed; a knuckle of small bowel was strangulated in the hernia and the serosa was tearing. The small bowel was successfully reduced and primarily suture repaired. A transabdominal preperitoneal (TAPP) repair with mesh was then performed. This was done by developing peritoneal flaps, identifying the obturator foramen and reducing the hernia sac. A prolene mesh was inserted and secured using interrupted sutures with extracorporeal knots. The peritoneal flaps incorporating the hernia sac then closed using a Stratafix suture. **Results**: Patient tolerated the procedure well. On post operative day one she was mobilizing, tolerating oral intake and pain controlled without use of narcotics. She was discharged postoperative day two with return of her bowel function. She recovered well from the surgery with no acute postoperative complications. **Conclusion**: Bowel obstruction does not necessarily preclude a laparoscopic approach for repair of a groin hernias. This case describes a unique technique for the laparoscopic repair of an obturator hernia.

YouTube Video Link: https://youtu.be/ewrcQ4GSYKM

CSF/Video – 19

Laparoscopic Enhanced-view Totally Extraperitoneal Repair of Ventral Hernia with Mesh, and Unilateral Transversus Abdominis Muscle Release. *Kyoo-Yoon Choi, Fady Saleh, Irtaza Tahir.* From McMaster University (Choi, Tahir); William Osler Health System (Saleh).

Background: Laparoscopic Enhanced-view Totally Extraperitoneal (eTEP) hernia repair is a surgical technique that integrates the advantages of extraperitoneal synthetic mesh placement with a minimally invasive approach. This method involves positioning a synthetic mesh in the retrorectus space, situated between the rectus muscle and the posterior rectus sheath. This approach ensures that the synthetic mesh remains isolated from intraabdominal organs, mitigating the risk of complications such as bowel obstruction or mesh erosion into the intraabdominal organs. Closure of the posterior sheath represents a critical aspect of eTEP hernia repair, particularly challenging in cases with sizable hernia defects. One effective strategy to facilitate posterior sheath closure involves Transversus Abdominis Muscle Release (TAR). TAR entails separating the transversalis fascia from the transversus abdominis muscle, thereby elongating the posterior sheath to enable tension-free closure. In this video presentation, we showcase a patient undergoing Laparoscopic eTEP hernia repair

with mesh and a unilateral TAR for the treatment of a ventral hernia. **Methods**: Laparoscopic eTEP hernia repair with synthetic mesh combined with a unilateral TAR was performed on a patient with a 5 cm ventral hernia. **Results**: The procedure was completed without intraoperative complications. The patient experienced an uneventful postoperative course and was discharged home on the same day. **Conclusion**: Laparoscopic eTEP hernia repair with mesh offers the advantage of extraperitoneal mesh placement, ensuring the separation of the synthetic mesh from intraabdominal organs. The incorporation of TAR into this technique facilitates tension-free closure of the posterior sheath, representing a critical step in the procedure's success.

YouTube Video Link: https://youtu.be/9QIu_0ITcA4