

## RESIDENTS' RESEARCH DAY

May 15, 2014 | Paetzold Health Education Centre | VGH



### VISITING PROFESSOR John Cosgrove MD, FACS

Senior Attending Surgeon – Eastern Long Island Hospital, Southampton Hospital, NY  
Past Professor , Chairman & Program Director – Bronx Lebanon Hospital Center (Albert Einstein College of Medicine) 2007-2013



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THE UNIVERSITY OF BRITISH COLUMBIA

General Surgery | Pediatric Surgery  
Thoracic Surgery | Vascular Surgery



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May 9, 2013 | Paetzold Health Education Centre | VGH

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Senior Attending Surgeon – Eastern Long Island Hospital & Southampton Hospital, NY  
Past Professor, Chairman & Program Director – Bronx Lebanon Hospital Center (Albert Einstein College of Medicine) 2007-2013  
Associate Examiner – American Board of Surgery  
Governor – American College of Surgeons (term starting November 2014)

Dr. John M. Cosgrove, Eastern Long Island Hospital's first full-time surgeon, has made the Island his full-time residence, and the change is just what the doctor ordered.

John is a Jersey kid originally, brought up in Englewood and Demarest. He met his wife Patricia when they were both med students at New York Medical College.

Their vacation home their full-time residence after he accepted the position of general surgeon at ELIH. Previously he had served as chairman of Surgery and Residency Program director for Bronx Lebanon Hospital Center, Albert Einstein College of Medicine.

With his new position at ELIH the majority of John's time is spent with his patients. He is on call every other night for post-op care, which he notes takes more time than the actual surgery. His primary goal is to build up general surgery at ELIH, but also return to the day-to-day direct patient care part of his practice.

In a certain way, because this area is primarily rural, John notes he has become a country surgeon who attends to all aspects of his patients' medical care from beginning to end.

Before, in his academic practice, there was extensive back up, with many surgical residents and staff who did a lot of work, such as consultations, keeping an eye on ordering prescriptions, everything in fact, including personally seeing patients when they have a bit of a temperature. At Albert Einstein, he was only called in for more serious turns of events. "Here I'm the first line," John said.

With the new position, he was faced with a professional question that took some working out. Never doubting his role as a surgeon, the other responsibilities in some ways were harder work for him and, initially, he wondered if he was up for it.

"I think the answer is 'yes,'" John said. "I really enjoy this and it's bringing out something in me that I'm the first line and the second line and the third line. Although we have other people we can call on, there are only two surgeons at ELIH. You really feel your impact on the community. You feel needed."

As satisfying as it has always been to come to the Island, now as a full-time resident John added that he feels renewed. "I feel like I've had a rebirth," he said.

*(Article adapted from the Shelter Island Reporter Times Review by Rebeca Schiler, April 2013)*

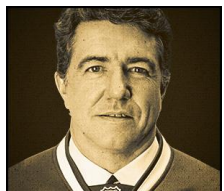
## JUDGES



### **O.M. Neely Panton, MB, BS, FRCS, FACS**

Clinical Professor, Department of Surgery, University of British Columbia  
Head, Division of General Surgery, University of British Columbia & Vancouver General Hospital

Dr. Neely Panton completed Medical School at the University of the West Indies receiving the MB BS degrees in 1977. He entered the University of British Columbia General Surgical Residency Program in 1979 completing Resident training in 1984. He became a Fellow of the Royal College of Physicians and Surgeons of Canada in November 1983. Dr. Panton practiced as a community surgeon from 1984-1999 & joined the staff at the UBC Hospital in 1999. He developed an early interest in Laparoscopic Surgery performing diagnostic laparoscopy on entering practice. He trained with Dr. Eddy Joe Reddick in the United States in 1990 introducing laparoscopic cholecystectomy & appendectomy into his practice in the spring of 1991. In the fall of 1991 he trained with the late Dr. Carl Zucker, Dr. Robert Bailey, Dr. Mark Talamini & Dr. John Corbin Jr in the USA & introduced laparoscopic inguinal herniorrhaphy, Nissen fundoplication, colectomy & bile duct exploration in his practice in 1991. He collaborated with Dr. John MacFarlane in the early 90's to develop laparoscopic splenectomy at St. Paul's Hospital in Vancouver, BC, Canada. He & Dr. Richard Finley collaborated to introduce the techniques of Nissen & partial fundoplication in the early 90's in Vancouver & Delta, BC. Over the past twenty years he has preceptored surgeons in Canada & Internationally in the field of Laparoscopic Surgery. In 2000 he & Dr. Mark Meloche introduced laparoscopic adrenalectomy at the UBC Hospital. Dr. Panton is a Minimally Invasive Surgeon and is Head of the UBC Division of General Surgery.



### **Andrew McFadden, MD, FRCS**

Clinical Assistant Professor, Department of Surgery, University of British Columbia  
Active Staff, Vancouver General Hospital

Dr. Andrew McFadden is a Clinical Associate Professor in the UBC Department of Surgery. He completed his medical education and surgical residency at the University of Saskatchewan. He completed a fellowship in general surgical oncology at The Medical College of Virginia as an R.S. McLaughlin Fellow. Dr. McFadden is President of the Canadian Society of Surgical Oncology and President-elect of the Canadian Association of University Surgeons.

## 2012 RESIDENTS' RESEARCH DAY WINNERS



Congratulations to last year's winners!

### Best Research Presentation – Clinical 1<sup>st</sup> Prize

Dr. Lisa Aird                      Interim Results of a Prospective Double Blinded, Randomized Controlled Trial Comparing Electrocautery vs. Scalpel for Skin Incisions: Is There a Difference in Cosmetic Outcome?

### Best Research Presentation – Clinical 2<sup>nd</sup> Prize

Dr. Nori Bradley                Assessment of Communication Gaps During Transfer of Major Trauma Patients to a Level I Trauma Centre

### Best Research Presentation – Basic Science

Dr. Siham Zerhouni            Analysis of Human Appendiceal Peritoneal Carcinomatosis Infected with a Panel of Oncolytic Viruses

### Best Research Proposal

Dr. Gurb Johal                    The MATRIX / Dashboard App: A New Strategy for Measuring Performance in Surgical Training

## ACCREDITATION



### UBC CPD ACCREDITATION (PENDING)

**(PENDING)** This event is an Accredited Group Learning Activity eligible for up to **5.25** Section 1 credits as defined by the Maintenance of Certification program of the Royal College of Physicians and Surgeons of Canada. This program has been reviewed and approved by UBC Division of Continuing Professional Development.

## MORNING SESSION

Moderator | Dr. Yarrow McConnell

0730-0800		Breakfast and Registration	
0800-0805	Dr. Adam Meneghetti	Welcome and Introduction of Judges	
0805-0810	Dr. Neely Panton	Welcome and Introduction of Visiting Professor, Dr. John Cosgrove	

### Resident Presentations

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0810-0825	Dr. Tiffany Chan	Pathway-based Application of Apache 4 Scoring in Surgical Abdominal Sepsis	8
0830-0845	Dr. Carla Pajak	Predicting Crumpling During CT Imaging	10
0850-0905	Dr. Stephanie Chartier-Plante	Improving Length of Stay After Appendectomy at SPH: A Clinical Practice Audit	11
0910-0925	Dr. Ben Matthew	A Multi-Disciplinary Approach to Treating Obesity and Obesity Related Comorbidities in Bariatric Surgery Patients: Results After One Year	12
0930-0945	Dr. Zaheer Kanji	Overall Survival and Clinical Characteristics of Pancreatic Cancer in <i>BCRA</i> Mutation Carriers	13
0945-0955	<b>BREAK</b>		
0955-1010	Dr. Chris Zroback	Pediatric Trauma During the 2010 FIFA World Cup in South Africa: The Cape Town Experience	14
1015-1030	Dr. Eiman Zargarán	Real Time Electronic Injury Surveillance in an African Trauma Center	15
1035-1050	Dr. Farhana Shariff	Building Surgical Training Capacity at Soroti Regional Referral Hospital: A Learning Needs Assessment	17
1055-1110	Dr. Nazgol Seyednejad	Unplanned Admission Following Daycare Laparoscopic Cholecystectomy	18
1115-1130	Dr. Catherine Beaumier	Laparoscopic Versus Open Appendectomy: Experience and Attitudes Among Surgical Trainees	19

### Visiting Professor Lecture

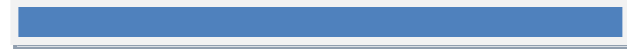
**1135-1235 Dr. John Cosgrove** **Midlife Crisis: From Chairman of Inner City Surgery Program to Country Surgeon**

**1235-1315 LUNCH**

*Kindly Sponsored by the UBC Surgical Alumni*

## AFTERNOON SESSION

Moderator | Dr. Adrienne Melck



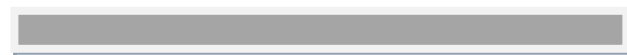
### Basic Science Presentations

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1315-1330	Dr. Lucy Marzban	Potential Clinical Approaches to Improve Long-Term Survival of Human Islet Grafts	20
1335-1350	Dr. Chris Ong	SEMA3C: A Novel Target for Treatment of Colorectal and Pancreatic Cancer	20

### Research Proposals



1355-1410	Dr. Atif Jastaniah	Comparing Single Stage with Two Stage Surgery for the Treatment of Colovesical Fistula Secondary to Diverticular Disease	21
1410-1425	Dr. Chris Zroback	Individual Feedback of Outcomes to Surgical Residents following Laparotomy Closure as a Tool for Improving Effectiveness Residency Training and Reducing Surgical Complications	22
1425-1440	Dr. Jaclyn Farquhar	Does Non-Union of Rib Fractures Contribute to Chronic Pain and Functional Limitations after Flail Chest Fixation?	23
1440-1455	Dr. Anu Ghuman	What Effect has the Implementation of a “Colorectal Closure Bundle” in Elective Colorectal Surgeries had on Surgical Site Infection Rates?	24
1455-1505	<b>BREAK</b>		
1505-1520	Dr. M. Sohrab Khorasani	In Vivo Measurement of Flow Rates and Pressures Utilized in the Pneumatic Reduction of Pediatric Intussusception	25
1520-1535	Dr. Cecily Jonker	Does a Radiologically Detected Low Rectal Anastomotic Leak Prior to Ileostomy Reversal Affect Functional Outcomes	26
1535-1550	Dr. Shahrzad Joharifard	ACCESS: The Design of a Novel Tablet-Based Consultation, Elective Admission, and Patient Rounding List “App” for General Surgical Services at Vancouver General Hospital	27
1550-1605	Dr. Victoria Cheung	Resident Attrition from Surgical Specialties in Canada <u>or</u> Timing and Outcomes of Decortication for Empyema at VGH	28
1605-1620	Dr. Kristin DeGirolamo	Case Series: Do Patients’ Symptoms Improve After Hepatic Resection for Focal Nodular Hyperplasia?	29

## RESIDENTS’ RESEARCH DAY & GRADUATING RESIDENTS’ DINNER

Royal Vancouver Yacht Club | 3811 Point Grey Road | Vancouver, BC V6R 1B3

Reception 18:00 | Dinner 19:00

## ABSTRACTS

### 4 PATHWAY-BASED APPLICATION OF APACHE 4 SCORING IN SURGICAL ABDOMINAL SEPSIS

#### AUTHORS

Chan, Tiffany MD, Bleszynski, Michael S, MD, Buczkowski, Andrzej K, MD

#### AFFILIATION

UBC Division of General Surgery

#### BACKGROUND

Surgical abdominal sepsis (SABS) represents a special subset of the ICU population as their clinical trajectory is modulated by source control procedures. Patients with severe sepsis/septic shock requiring urgent source control (SC) surgery may take one of several routes before entering the operating room or the ICU. As APACHE4 is a one-time calculation of predicted mortality based on the first 24 hours of ICU admission irrespective of a patient's pre- or post-op status, the PMR may not be a true reflection of the patient's prognosis. Pathway mapping and APACHE 4 calculations in a SABS cohort can shed insight into how critically ill SABS patients are managed in a tertiary care system.

#### METHODS

Retrospective chart review of 691 cases of adult (>18) patients admitted between 2006-2010 to a single tertiary care hospital's combined medical and surgical ICU with a diagnosis of abdominal sepsis or open abdomen. Patients were screened for inclusion using the 2012 ACCP/SCCM criteria of severe sepsis and septic shock plus known or suspected abdominal source requiring laparotomy for source control (SC). Patients less than 18 years of age, laparoscopy without conversion to open, trauma laparotomies, abdominal sepsis without SC and cases deemed non-survivable during or immediately after initial SC laparotomy were excluded. Patients were identified to proceed through one of four pathways based on the timing of SC in relation to ICU admission. (Pathway 1: <24hr from SC to ICU admit, 2: SC after admission to ICU for >4hr and <24hr, 3: SC >24hr after ICU admit, 4: >24 hr from SC to ICU admission). Predicted mortality rates (PMR) based on APACHE 4 was calculated using the Cerner online calculator and compared to observed mortality (OM) rates for each pathway.

#### RESULTS

211 patients fulfilled inclusion criteria. Overall mortality was 28.4% (n=60) with a mean PMR of 54.7%. Most common etiologies of SABS were large bowel perforation (15.6%), small bowel perforation (14.7%), bowel ischemia (14.7%), and anastomotic leak (14.2%).



Pathways:

1. n=143, mean age 65.2, OM/PMR 24.5%/41.1%, ICU LOS 10.7 days
2. n=24, mean age 59.3, OM/PMR 37.5%/70%, ICU LOS 12.6 days
3. n=36, mean age 56.6, OM/PMR 33.3%/43.3%, ICU LOS 25.8 days
4. n=8, mean age 57.6, OM/PMR 50%/46.4%, ICU LOS 9.6 days

**CONCLUSIONS**

A lower actual mortality rate was observed compared to the PMR in Pathways 1, 2, and 3. Since the APACHE4 PMR in this cohort is primarily reflective of post-operative status, the timing of such calculations in relation to source control procedures must be taken into consideration when attempting to utilize APACHE4 predictive scoring in this population.

## PREDICTING CRUMPING DURING CT IMAGING

### AUTHORS

**Carla Pajak, MD;** Brodie Nolan, MD; Charles de Mestral MD, PhD; Amanda McFarlan RN; Rimma Zakirova MD, PhD; Jennifer Bridge MHS; Avery Nathens MD, PhD, MPH

### BACKGROUND

CT scans provide critical information to guide the management of trauma patients. Clinical deterioration while obtaining CT imaging occurs not infrequently and remains difficult to predict. Our objectives were to identify factors predictive of a patient crumping during CT and to evaluate whether there was any relationship to adverse outcomes.

### METHODS

Data from a level 1 trauma centre registry were used to identify all adult patients who underwent a CT scan following evaluation in the trauma bay over 2009-2011. Registry data were supplemented with chart abstraction. A CT related crump was defined as cardiac arrest, hypotension, bradycardia, need for intubation or reduced consciousness while obtaining a CT. Logistic regression was used to identify predictors of crumping and to characterize the strength of association between CT crump and in-hospital mortality.

### RESULTS

We identified 547 trauma patients who had a CT. Of these, 48 (9%) crumped during their scans. Older age, initial GCSm  $\leq 4$ , and initial base deficit  $\leq -6$  were associated with crumping ( $p < 0.05$ ). After adjusting for age and motor GCS, base deficit  $\leq -6$  remained predictive of crumping (OR 2.36, 95% CI 1.01-5.53). Furthermore, when controlling for age, injury severity score, GCSm in the trauma bay and mechanism, crumping during CT was associated with increased in-hospital mortality (OR 3.52, 1.61-7.70).

### CONCLUSIONS

A base deficit  $\leq -6$  may be useful in identifying those at increased risk of crumping while undergoing CT. Crumping during CT scanning is associated with increased in-hospital mortality.

## IMPROVING LENGTH OF STAY AFTER APPENDECTOMY AT SPH: A CLINICAL PRACTICE AUDIT

### AUTHORS

Chartier-Plante, S. Karimuddin, A.

### OBJECTIVE

To review the current evidence regarding same day discharge after open or laparoscopic appendectomy in adult population and determine its safety and appropriateness. To determine what is the current situation at SPH with respect to LOS after open and laparoscopic appendectomies and which patients could have been eligible for early discharge.

### METHOD

Current literature in English language on early discharge after laparoscopic or open appendectomy was reviewed. Eligible reports were located using a systematic search from Ovid MEDLINE (1985-2013), PubMed (1966 to 2013) and Google. Subsequent search in reference list of articles was also performed.

All appendectomy admissions from 2011 to 2013 at SPH were reviewed. Length of stay, post op length of stay, ASA class and complication/comorbidities and readmission were assessed.

### RESULTS

28 articles were found to include in the literature review, which includes 1 literature review, 1 RCT and 26 observational studies retrospective or prospective.

14 studies include adult population only and 4 studies include adult and pediatric population. Between 35-100% of patient were discharged within 24 hours. The rate of complication and readmission varies between 0 and 13%. The rate of unexpected visit to emergency ranges between 0-6%. There is no mortality reported from early discharge.

502 appendectomies (391 MIS, 111 open) were performed at SPH between 2011 and 2013. 73.1% of patient would have met early discharge criteria. Only 38.2% of patients were effectively discharge after a post operative length of stay of less than 24 hours.

### CONCLUSION

Same day discharge appears safe for laparoscopic appendectomies. Data are sparse for open appendectomies. A higher percentage of patients could potentially be discharge earlier following appendectomy if a discharge an early discharge pathway was implemented at SPH.

## **A MULTI-DISCIPLINARY APPROACH TO TREATING OBESITY AND OBESITY RELATED COMORBIDITIES IN BARIATRIC SURGERY PATIENTS: RESULTS AFTER ONE YEAR.**

### **AUTHORS**

**Matthew, Benjamin MHSc, MD**

Flesher, Mary RD RN BSN MA

Sampath, Sharadh MD

Nguyen, Nam MD

Alizadeh-Pasdar, Nooshin RD PhD

Barclay, Karen OT

### **OBJECTIVE/BACKGROUND**

The objective of this study is to observe and report outcomes related to patients who have undergone laparoscopic bariatric surgery, and have received care from a multidisciplinary team in regard to their pre-, and post-operative health and wellbeing.

### **METHODS**

Patients were observed prospectively from baseline (pre-operative) and throughout a one-year follow-up period post-operatively. Outcomes investigated included weight loss (overall, BMI, excess weight loss), treatment for type-2 diabetes, treatment for hypertension, and quality of life. Results were stratified and compared, based on type of surgery received.

### **RESULTS**

Mean overall weight loss was 43.0 kg, and mean excess weight loss was 74.2% for all patients regardless of type of surgery received. 24 of 35 patients with type-2 diabetes were able to completely remove treatment after one year, and only one 1 of 35 diabetic patients did not improve their diabetes treatment after one year. 22 of 44 hypertensive patients were able to remove all hypertensive treatments, and a further 5 patients were able to reduce hypertensive treatment. Testing using the IWQOL-Lite questionnaire showed post-operative improvement in patient quality of life.

### **CONCLUSIONS**

Patients who received laparoscopic bariatric surgery and multidisciplinary pre-, and post-operative care had improved results after one-year follow-up, when compared to other similar studies. Further follow-up is required to fully ascertain the long-term benefits of receiving bariatric surgery and multidisciplinary care in regard to weight loss, co-morbidity improvement, and quality of life.

## OVERALL SURVIVAL AND CLINICAL CHARACTERISTICS OF PANCREATIC CANCER IN *BRCA* MUTATION CARRIERS

\*Talia Golan<sup>1,2</sup>, \*Zaheer S. Kanji<sup>3,4,11</sup>, Ron Epelbaum<sup>5,6</sup>, Nicholas Devaud<sup>3,4</sup>, Efrat Dagan<sup>7,8</sup>, Spring Holter<sup>3,4</sup>, Dan Aderka<sup>1,2</sup>, Shani Paluch-Shimon<sup>1,2</sup>, Bella Kaufman<sup>1,2</sup>, Ruth Gershoni-Baruch<sup>6,9</sup>, David Hedley<sup>3</sup>, Malcolm J. Moore<sup>3</sup>, Eitan Friedman<sup>2,10</sup>, Steven Gallinger<sup>3,4</sup>

The Oncology Institute the Chaim Sheba Medical center Tel- Hashomer Israel <sup>1</sup>; the Sackler School of Medicine, Tel Aviv University, Tel –Aviv, Israel <sup>2</sup>; Department of Surgery, University Health Network, Toronto, ON <sup>3</sup>; Samuel Lunenfeld Research Institute of Mount Sinai Hospital, Toronto, ON <sup>4</sup>; Department of Oncology, Rambam Health Care Campus <sup>5</sup>; Technion, Faculty of Medicine, Haifa, Israel <sup>6</sup>; Faculty of Social Welfare and Health Sciences, University of Haifa <sup>7</sup>; Inst of Human Genetics, Rambam HealthCare Campus <sup>8</sup>; Inst of Human Genetics, Rambam Health Care Campus <sup>9</sup>; The Susanne Levy Gertner Oncogenetics Unit Chaim Sheba Medical center, Israel <sup>10</sup>; Department of Surgery, University of British Columbia, Vancouver, BC <sup>11</sup>

\*Authors equal contribution

### BACKGROUND

The *BRCA1/2* proteins are involved in regulation of cellular proliferation by DNA damage repair via homologous recombination. Therefore, *BRCA1/2* mutation carriers with pancreatic cancer may have distinct biologic outcomes.

### METHODS

Patients with *BRCA1/2* -associated pancreatic ductal adenocarcinoma (PDAC) diagnosed between January 1994-December 2012 were identified from databases at three participating institutions. Clinical data were collected. Disease-free survival (DFS) and overall survival (OS) were analyzed.

### RESULTS

71 patients with PDAC and *BRCA1* (n=21), *BRCA2* (n=49) or both (n=1) mutations were identified. Mean age at diagnosis was 60.3 years (range 33-83), 81.7% (n=58) had any family history of malignancy. 30% (n=21) underwent primary resection. Of 71 participants, 12 received experimental therapy; one patient had missing data, these 13 cases were excluded from OS analysis. Median OS for 58 patients was 14 months (95% CI 10-23 months). Median OS for patients with stage I/II disease has not been reached with 52% still alive at 60 months. Median OS for stage III/IV was 12 months (95% CI 6-15). Superior OS was observed for patients with stage III/IV treated with platinum versus those treated with non-platinum chemotherapies (22 vs. 9 months; p=0.039).

### CONCLUSIONS

Superior OS was observed for advanced-disease *BRCA* associated PDAC with platinum exposure.

## PAEDIATRIC TRAUMA DURING THE 2010 FIFA WORLD CUP IN SOUTH AFRICA: THE CAPE TOWN EXPERIENCE

### AUTHORS

Zroback, Chris<sup>1,2</sup>, MD, and Levin, David<sup>1,3</sup>, MD (equal contributors), Manlhoit, Cedric<sup>5</sup>, BSc, Alexander, Angus<sup>4,6</sup>, MBChB FCS, Van As, Sebastian<sup>6</sup>, MBChB FCS PhD, Azzie, Georges<sup>1,4</sup>, MD FRCSC

<sup>1</sup>Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada

<sup>2</sup>Division of General Surgery, Department of Surgery, University of British Columbia, Vancouver, BC, Canada

<sup>3</sup>Department of Anesthesia, University of Toronto, Toronto, ON, Canada

<sup>4</sup>Department of General and Thoracic Surgery, The Hospital for Sick Children, Toronto, Ontario, Canada

<sup>5</sup>Labatt Family Heart Centre, The Hospital for Sick Children, Toronto, Ontario, Canada

<sup>6</sup>Trauma Unit, Red Cross War Memorial Children's Hospital, Cape Town, South Africa

<sup>7</sup>Child Accident Prevention Foundation of Southern Africa, Cape Town, South Africa

### BACKGROUND

The Federation Internationale de Football Association (FIFA) World Cup in South Africa from June 11 - July 11, 2010 provided the opportunity to examine how a mass gathering sporting event impacts trauma and mortality in the paediatric ( $\leq 18$  years) population.

### METHODS

We investigated Cape Town's three largest public trauma centres (including the only dedicated paediatric hospital in sub-Saharan Africa), three private hospital groups, and the two city mortuaries. We compared changes during the World Cup with the two weeks before and after the event, and equivalent periods from 2007-2009.

### RESULTS

51294 patient visits (Control=41,208, World Cup=10,086) and 931 deaths (Control=801, World Cup=130) were included. During the World Cup, there was a significant reduction in the number of daily trauma cases from 6.5 to 4.5 per 100,000 ( $p < 0.0001$ ), representing a relative decrease of 31% when compared with the previous year and the two weeks before and after the event. When games occurred in Cape Town, we observed a relative reduction in non-trauma related visits in the 5 hours surrounding matches ( $p = 0.002$ ), followed by a trend toward increasing trauma related visits ( $p = 0.06$ ).

### CONCLUSIONS

Mass gathering sporting events may lead to a decrease in paediatric trauma. Furthermore, a local game may influence patient and/or parental behaviour, leading to fewer non-trauma related hospital visits. These results may have significant public health implications, and could assist in planning resource allocation for subsequent mass gathering events.

## REAL TIME ELECTRONIC INJURY SURVEILLANCE IN AN AFRICAN TRAUMA CENTER

Zargaran, Eiman<sup>1</sup> MD, MHSc; Nicol, Andrew<sup>2</sup> MD, PhD; Navsavia, Pradeep<sup>2</sup> MD, PhD; Schuurman, Nadine<sup>3</sup> PhD; Hameed, Morad<sup>1</sup> MD, MPH

1. Department of Surgery, University of British Columbia 2. Department of Surgery, University of Cape Town 3. Department of Geography, Simon Fraser University.

### INTRODUCTION

Injury surveillance, an essential aspect of modern trauma systems, has been difficult to sustain in low resource countries because of cost and complexity. In response, the electronic Trauma Health Record (eTHR), designed for front-line clinicians for documentation of trauma patients, and with the ability to wirelessly upload research and policy relevant data to a real-time trauma registry was created. We hypothesized this novel injury surveillance tool could successfully be implemented in a high-volume, low-resource, African trauma center to replace existing means of paper-based injury surveillance with minimal workflow hindrance while simultaneously creating a more complete real-time trauma registry.

### METHODS

Clinician generated eTHR admission records, operative notes, and discharge summaries completed on iPads was used as the data capture tool to create a real-time electronic trauma registry at Groote Schuur Hospital (GSH), Cape Town's Level I trauma center. eTHR's database was used for immediate evaluation of the demographics, mechanisms, and predictors of injury. Pre and post implementation analysis of eTHR was conducted to compare field completion rates of paper versus electronic surveillance tools. Relevant fields to injury epidemiology were investigated. Admission records, operative notes, and discharge summaries from both the paper and electronic methods were collected for analysis. Mean time to completion of the paper notes were compared to those generated by eTHR.

### RESULTS

Over 2000 trauma presentations were documented and analyzed in real-time by the new, clinically integrated electronic injury surveillance system. There was a predictable predominance of young males and violent mechanisms of injury. Spatial analyses demonstrated clusters of injuries originating mainly from vulnerable and low-income neighborhoods. eTHR's comprehensive self-populating trauma registry was found to be statistically more superior than its paper predecessor. Fields relevant to injury surveillance had higher completion rates on eTHR compared to paper records. No statistically or clinically significant difference was noted in the times to the completion of the paper or electronic forms.

## **CONCLUSION**

This prospective cohort study has shown that eTHR has been successfully implemented at GSH. The tremendous volume of trauma seen at this center, combined with the limited resources available for trauma registry creation has been overcome through integration of surveillance into clinical work flow, generating thousands of records on consecutive patients, with real-time comprehensive electronic data analysis. Our findings suggest the elimination of costly and time-consuming process of data acquisition through chart reviews and manual database populating allowed by emerging health technologies may be the future of global injury surveillance.



# BUILDING SURGICAL TRAINING CAPACITY AT SOROTI REGIONAL REFERRAL HOSPITAL: A LEARNING NEEDS ASSESSMENT

**Shariff, Farhana MDCM (1);** Langer, Monica MD, FRCSC (2); Blair, Geoffrey MD, FRCSC(3)

(1) Division of General Surgery, Department of Surgery, University of British Columbia

(2) Department of Pediatric Surgery, Maine Medical Center

(3) Division of Pediatric Surgery, Department of Surgery, University of British Columbia

## BACKGROUND

Surgical diseases are currently a major cause of morbidity and mortality in low and middle-income countries (LMIC). Currently, African countries bear 25% of the global burden of surgical disease, and yet, possess only 2% of the global surgical workforce. Lack of access to surgical care in Sub-Saharan Africa is compounded by a limited number of anaesthesia-trained care providers. As surgical training programs slowly expand to fill a need, the creation of additional training centers will be imperative. Before medical training can be extended to more peripheral sites, a better assessment of individual site need and capacity is required.

## METHODS

A qualitative study consisting of semi-structured interviews with General Surgeons and administrators at Soroti Regional Referral Hospital (SRRH) was performed. Questions were designed to explore themes relating to the current status of surgical and anesthetic training at SRRH, and attitudes towards/barriers to the creation of a stable peripheral surgical training site for Ugandan residents. In addition, the Tool for Situational Analysis to Assess Emergency and Essential Surgical Care as developed by the WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC) was employed to clarify current surgical and anesthetic capabilities/access.

## RESULTS

Currently interns from Makerere University rotate at SRRH. There are no resident trainees. Barriers to development of a residency training site include a lack of MD trained anesthesiologists, scarce educational resources, absence of video conferencing capacity, and limited operating room capabilities. Visiting surgical camps not only help to decrease patient load on the system, but also contribute to the continuing education of consultant surgeons and interns.

## CONCLUSIONS

At present, SRRH does not have the capacity to train residents on a regular basis. This knowledge of current resources and barriers can be used to target future funding allocation from both University and governmental institutions. Informing visiting medical teams of these needs will also facilitate improved educational interventions and collaborative strategies to further address training needs.

## UNPLANNED ADMISSION FOLLOWING DAYCARE LAPAROSCOPIC CHOLECYSTECTOMY

**Dr. N. Seyednejad MD**, Dr. M. Goecke , MD, FRSPC, and Dr. David E. Konkin, MD, FRCSC FACS

University of British Columbia, Department of General Surgery

Fraser Health, Department of Surgery

### BACKGROUND

Laparoscopic cholecystectomy is the standard of care for symptomatic cholelithiasis. Many institutions have developed the practice of day care laparoscopic cholecystectomies. However, there is a low rate of adverse complications, which result in unplanned admissions following this procedure. The objective of this study was to recognize the factors that are associated with an increase in unplanned admissions in order to better identify the cohort of patients suitable for daycare laparoscopic cholecystectomies. In addition, we identified the time interval over which most unplanned admission occur.

### METHODOLOGY

A multicentred, case-controlled study design was performed using retrospective charts. Data was collected from January 1, 2009 to December 31, 2011 on consecutive patients undergoing planned laparoscopic cholecystectomy in three hospitals. Patient demographics, surgical details, and postoperative details were obtained and analyzed.

### RESULTS

Over this time period, 1256 daycare laparoscopic cholecystectomies were performed. One-hundred and twenty-one (9.6%) required unplanned admission the day of surgery. Forty-three (3.4%) were admitted within one month of surgery. The median time from surgical procedure to unplanned admission was 218 minutes +/- 143. Compared to case-controls, the unplanned admitted patients were older (54.6 years vs 45.1 years,  $p < 0.005$ ), and had ASA III scores after anesthesia assessment (24.0% vs 3.0%,  $p < 0.005$ ). The comorbid conditions that resulted in unplanned admissions included patients with hypertension (40.5% vs 25.7%, OR 1.97), diabetes (18.2% vs 4.3%, OR 4.96), and chronic pain (76.0% vs 48.6%, OR 3.36).

### CONCLUSIONS

Daycare cholecystectomy for symptomatic cholelithiasis has been adopted by many centers and has been beneficial for both patients and health care institutions. While many patients can be successfully managed with daycare surgery, a standard observation time following surgery needs to be established to assess the need for unplanned admissions and allow for early intervention when adverse complications occur. We found that patients with increased age, higher ASA scores, hypertension, diabetes and chronic pain were at an increased risk of unplanned admissions following laparoscopic cholecystectomies. These factors should be taken into account when assessing a patients' appropriateness for daycare surgery.

# LAPAROSCOPIC VERSUS OPEN APPENDECTOMY: EXPERIENCE AND ATTITUDES AMONG SURGICAL TRAINEES

## AUTHORS

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## BACKGROUND

Several studies have examined attending surgeon preference for laparoscopic appendectomy (LA) and open appendectomy (OA). To date, no studies have focused on the experiences of surgical trainees in this context. There may be important implications related to surgical trainee experiences and attitudes regarding the two procedures from an educational and hospital resource utilization perspective. Thus, the objectives of this study are to describe, among Canadian surgical trainees: (1) current practices for the treatment of appendectomy and (2) knowledge, attitude, and preference towards LA and OA.

## METHODS

A national, multi-center, electronic-based survey was distributed to all surgical trainees across Canadian general surgery programs. Residents were asked about their experience, knowledge, and attitudes regarding the two treatment modalities. Statistical analysis was performed using Chi-Square test, Fischer's exact test and logistic regression.

## RESULTS

A total of 155 residents (40%) representing every program in Canada replied back. Within the last 12 months, residents have performed a mean of 24.1 LA versus 1.7 OA. Misconception of the literature exists with regards to possible benefits of LA versus OA. Residents are more confident performing LA (72.9%) than OA (31.4%). Less than a third of residents are confident performing an OA or a conversion through a McBurney incision. No residents will prefer OA to LA in their future practice. Residents' preference is strongly influenced by the idea that LA is superior to OA and more beneficial to patients, and is also guided by experience.

## CONCLUSIONS

Fewer surgical residents are being exposed to OA than LA. Residents coming out of surgical training will have preference for LA versus OA because of confidence, which is partly guided by experience.

## POTENTIAL CLINICAL APPROACHES TO IMPROVE LONG-TERM SURVIVAL OF HUMAN ISLET GRAFTS

### AUTHOR

Lucy Marzban, DMLS PhD

### ABSTRACT

In the past decade, human islet transplantation has provided a feasible approach for treatment of type 1 diabetes. It is however currently limited by low number of pancreatic donors and significant islet loss (mainly insulin producing beta cells) during both pre-transplant culture period and post-transplantation. We use human pancreatic tissue, transgenic mouse models, and various cellular/molecular techniques to: 1. identify non-immune cell death signaling pathways that mediate beta cell destruction in clinical islet transplantation; 2. investigate the potential link between non-immune and immune-mediated beta cell death in islet grafts; and 3. find new approaches to enhance survival and function of beta cells in islet grafts by blocking the key mediators in cell death pathways. Through these studies, we hope to find potential clinical approaches to improve long-term survival of human islet grafts in patients with type 1 diabetes.

## POSTER SESSION | RESEARCH PROPOSALS



**TITLE**                    **COMPARING SINGLE STAGE WITH TWO STAGE SURGERY FOR THE TREATMENT OF COLOVESICAL FISTULA SECONDARY TO DIVERTICULAR DISEASE**

**AUTHOR**                **Dr. Atif Jastaniah**

**SEPERVISOR/PI**    **Dr. Ahmer Karimuddin**

**PURPOSE**            **Creating diverticular disease database which required surgical treatment, and comparing different surgical approaches for treatment of colovesical fistula, rate of complication and patient characteristics.**

**TITLE** INDIVIDUAL FEEDBACK OF OUTCOMES TO SURGICAL RESIDENTS FOLLOWING LAPAROTOMY CLOSURE AS A TOOL FOR IMPROVING EFFECTIVENESS OF RESIDENCY TRAINING AND REDUCING SURGICAL COMPLICATIONS.

**AUTHORS** Chris Zroback, Tracy Scott

**SEPERVISOR/PI** Tracy Scott

**PURPOSE** This study involves two phases: Firstly, to determine the rate of dehiscence and incisional herniation following midline laparotomy done by surgical residents in the ACS service. Secondly, to assess the effectiveness of providing personal outcomes feedback to residents for improved surgical training and reduced postoperative complications.

**HYPOTHESIS** Facilitating awareness of postoperative complications during surgical residency training is an effective strategy to promote self-assessment and results in improved surgical outcomes.

**BACKGROUND** To optimize the efficiency of operative education, residents need to understand their strengths and weaknesses. At present the majority of feedback regarding learned skills comes from supervisor observation of technique with little basis on quality measures such as surgical outcomes. Often residents have transitioned to new rotations before complications resulting from their participation occur. No study has looked at the feasibility or effectiveness of communicating outcomes with residents to increase awareness of weaknesses and allow for directed improvement.

Fascia dehiscence and incisional hernias following laparotomy are frequent complications of abdominal surgery. These complications are often attributed to patient factors, but also can result from faults in surgical technique. The closure of the fascia is a task delegated to general surgical residents early on in their training with varying amounts of supervision. Without knowledge of the rate of complications ascribed to residents at specific levels of training this allotment of supervision is correspondingly uninformed. Additionally, surgeons are being increasingly pressured to monitor their outcomes to ensure competence and it would be beneficial to establish this value during residency training.

By monitoring surgical databases for operations performed with the indication of dehiscence or abdominal incisional hernia on patients who underwent a previous midline laparotomy, residents involved in the initial operation could be given feedback of these incidents. Should our hypotheses prove correct, this feedback will increase awareness, promote self-assessment and lead to faster learning and decreased complication rates for surgical trainees. Having an awareness of complication rates for trainees at different levels of residency may also be used as a guide for provision of supervision and teaching by faculty.

**METHOD** Phase 1 of this study is a retrospective database review for residents from the UBC general surgery program. Intraoperative records from VGH will be reviewed between 2009-2014 to identify residents on the Acute Care Surgery (ACS) service involved in cases requiring midline laparotomy. This database will also be use to identify any of these patients who subsequently returned to the OR emergently for dehiscence. Further, the BC surgical patient registry will be used to identify if any of these patients presented to OR's throughout the province at a later date for abdominal incisional hernia repair. This data will be compiled to determine how often ACS residents are involved in midline laparotomies that lead to dehiscence or incisional hernias requiring repair in each of their first three years of training.

Phase 2 will be a prospective cohort study of an equivalent group of residents monitoring for similar events. Beginning in their first year of training, however, these residents will be notified monthly of incidents of dehiscence or incisional hernia repair within the preceding month. The historical figures and trends from phase 1 will be compared against aggregated prospectively collected data to look for improvement in complication rates for the cohort beyond those who received standard feedback in the past. This aggregate data will then be available to the program for guiding surgical training.

**TITLE** DOES NON-UNION OF RIB FRACTURES CONTRIBUTE TO CHRONIC PAIN AND FUNCTIONAL LIMITATIONS AFTER FLAIL CHEST FIXATION?

**AUTHORS** Jaclyn Farquhar, Morad Hameed

**SUPERVISOR/PI** Morad Hameed

**PURPOSE** To determine if non-union of rib fractures after surgical fixation contributes significantly to chronic pain and functional disability.

**HYPOTHESIS** Non-union of rib fractures after open reduction and internal fixation is a significant contributor to the long-term pain and functional limitations that patients experience after flail chest fixation.

**BACKGROUND** The standard of care for management of flail chest is non-operative. Recent research however, including three randomized-controlled trials and a meta-analysis, advocates for surgical repair owing to significant improvements in short- and long-term outcomes. The short-term benefits include decreased hospital and ICU length of stay, days on a ventilator, pneumonia risk and mortality rates, while long-term benefits were seen in degree of chest tightness, chest pain, dyspnea on effort, and the ability to return to work. As such, it is likely that we will see an increase in the use of surgical prostheses for rib fixation in the near future. What has not yet been evaluated, however, is if there is appropriate bone regeneration occurring at the fracture site, leading to normal bone reunion. Given the dynamic nature of ribs, immobilization of the fracture site in order to allow healing as in internal fixation of other bones is impossible. This creates an increased risk for hardware loosening and non-union of the ribs. It is well known in the orthopedic literature that non-union of fractures is causes significant pain.

**METHOD** There is a randomized controlled trial investigating the benefits and consequences of rib fracture fixation ongoing at Vancouver General Hospital as part of a multi-center study. It is possible that investigations for the proposed study could be incorporated into the RCT's planned follow-up sessions with little extra work, and potentially at all sites involved in the RCT. As it takes bone at least 6-8 weeks to form a calcified callous, and even longer if the patient has systemic factors delaying healthy recovery (smoking, diabetes, infection, malnutrition), that would be too soon to start investigating bone regeneration. By 6 months post-injury, good bone healing, with re-calcification of the fracture site and ongoing remodeling should be well underway. A validated pain questionnaire, such as the McGill Pain Questionnaire, and functional outcomes questionnaire, such as the Rand SF-36, could be administered to all patients at a return visit to the trauma clinic, and a 6-month follow-up CT scan could be performed at the same time to document bone regeneration. Statistical analysis using a Chi-square test, or Fisher Exact test, could be employed to determine if relationships existed between fracture non-union, the persistence of thoracic cage pain, and poor functional outcomes.

**TITLE** WHAT EFFECT HAS THE IMPLEMENTATION OF A “COLORECTAL CLOSURE BUNDLE” IN ELECTIVE COLORECTAL SURGERIES HAD ON SURGICAL SITE INFECTION RATES?

**AUTHORS** Amandeep (Anu) Ghuman & Terry Phang

**SUPERVISOR/PI** Terry Phang

**BACKGROUND** Surgical site infections (SSIs) remain to be a major post operative complication following colorectal surgery. The reported SSI rates in the literature range between 5-25% for colorectal surgeries. Numerous SSI risk factors, modifiable and non modifiable, have been identified. Practices such as pre operative antibiotics, hair clipping, antiseptic skin preparation and maintaining normothermia and glycemic control perioperative have become standard practice of care, however SSIs remain high in colorectal surgeries. Implementing “care bundles” to reduce the rate of SSIs have been tested and shown to be successful; however there is minimal research in trying to isolate operative techniques that may help reduce SSIs.

Our centre implemented a “Colorectal Closure Bundle” which includes gown and glove change, re-draping, wound lavage and new set of closure instruments in all colorectal surgeries prior to wound closure in January 2014. The objective of this study is to test the impact of this intervention on our surgical site infection rates in our elective colorectal cases.

**PATIENTS** Elective colorectal resections with primary anastomosis. We will identify these patients by using our Enhanced Recovery After Surgery (ERAS) patient database, which began in December 2012. All patients will have followed a standardized pre, peri and post operative pathway which includes bowel preparation, hair clipping in the OR, chlorhexidine skin preparation, antibiotics and maintenance of normothermia and glycemic control and starting January 2014 the pathway includes the “Colorectal Closure Bundle”. Patients with stoma creation and pre operative chemo/radiation will be excluded from this study.

**METHOD** Single centre retrospective chart review pre and post intervention. Based on a literature review of SSIs in colorectal cases, we assume our SSI rate to be 25% and hypothesize to reduce our rates by 50% to 12.5% with our closure bundle. Using a power formula for comparing two binomial proportions, we estimate a sample size of approximately 152 patients will be required in each group to show significance. Our pre intervention group will include all patients in the ERAS database from December 2012 to December 2013. Our post intervention group will include ERAS patients from January 2014 onwards.

Our primary outcome measure will be to compare the rates of SSIs as defined by the CDC during a 30 day post operative period in our two groups.



**TITLE** IN VIVO MEASUREMENT OF FLOW RATES AND PRESSURES UTILIZED IN THE PNEUMATIC REDUCTION OF PEDIATRIC INTUSSUSCEPTION

**AUTHORS** Mohammadali Khorasani, James J. Murphy, Douglas Jamieson, Dylan Stephanian, Carl Reilly.

**SUPERVISOR** James Murphy

**AFFILIATIONS** Division of Pediatric Surgery, British Columbia Children's Hospital, Department of Surgery, University of British Columbia  
Division of Pediatric Radiology, British Columbia Children's Hospital, Department of Radiology, University of British Columbia  
Division of Materials Engineering, Department of Engineering, University of British Columbia

**SUMMARY** Currently there is a variety of devices used for the pneumatic reduction of pediatric intussusception. Most of these devices do not adequately monitor or record the pressures employed during the procedure. Flow rate is rarely if ever measured. Inappropriately high flow rates or pressures can lead to bowel perforation and acute abdominal compartment syndrome. We have designed a device that measures and records the pressures and flow rates used by the radiologists at BC Children's Hospital during pneumatic reduction of intussusception in children. We are also in the process of attempting to correlate the pressure and flow measurements with the fluoroscopic images obtained during the procedure. The goal of this project is to collect and analyze the range of values for the pressure and flow rate utilized during the reduction of intussusception at our institution. To date there is no published literature reporting these values. The long-term goal of the project is to design and build a safer and user-friendly intussusception reduction device.

**TITLE** DOES A RADIOLOGICALLY DETECTED LOW RECTAL ANASTOMOTIC LEAK PRIOR TO ILEOSTOMY REVERSAL AFFECT FUNCTIONAL OUTCOMES

**AUTHORS** Cecily Jonker, Carl Brown

**SUPERVISOR/PI** Carl Brown

**PURPOSE** To determine the impact of radiologic anastomotic leak on the functional outcomes in patients who have undergone low anterior resection.

**HYPOTHESIS** Patients who have a low rectal anastomosis and fecal diversion who subsequently have a radiologically detected anastomotic leak prior to ileostomy closure have worse functional outcomes

**BACKGROUND** Anastomotic leaks are a serious complication after rectal resection. Recent data from well-designed RCTs suggest fecal diversion reduces the incidence of anastomotic leak after low anterior resection (LAR). At St. Paul's Hospital (SPH), prior to reversal of a diverting ostomy, all patients are investigated with a water-soluble contrast enema to check for sub-clinical anastomotic leaks. Most patients with small, contained leaks will still undergo successful closure ileostomy, but the impact of these radiologic leaks on short and long term outcome is uncertain.

**METHOD** Between April 2006 to April 2014, data for all patients treated surgically for colorectal cancer (CRC) at SPH has been collected and managed in the SPH-CRC database. Using this database, we will identify all patients treated with low anterior resection and intra-operative diversion between 2006 and 2012. For this study, our inclusion criteria will include: age >18 years, curative intent resection, investigation with water-soluble contrast enema prior to stoma closure, stoma closure surgery at least one year prior to survey and alive without cancer recurrence at the time of the study. All of the included patients charts will be reviewed to ascertain whether there was a radiologically detected anastomotic leak (AL) on routine water-soluble contrast enema prior to stoma reversal. All patients will be mailed validated functional questionnaires including the Fecal Incontinence Quality of Life (FIQL) and the Memorial Sloan-Kettering Cancer Center Bowel Function Instrument (MSKCC BFI) using standard mail survey techniques. Functional outcomes in the study group (AL) will be compared to patients in whom the anastomosis was intact (AI) and multivariate analysis will be used to control for gender, age, height of anastomosis and reconstruction technique.

**TITLE** ACCESS: THE DESIGN OF A NOVEL TABLET-BASED CONSULTATION, ELECTIVE ADMISSION, AND PATIENT ROUNDING LIST “APP” FOR GENERAL SURGICAL SERVICES AT VANCOUVER GENERAL HOSPITAL

**AUTHORS** Shahrzad Joharifard MD, Gurbal Johal MD, Benjamin Matthew MD MHSC, Seyed Morad Hameed MD MPH FRCS FACS

**AFFILIATIONS** Division of General Surgery, Department of Surgery, University of British Columbia

**BACKGROUND** General surgical services at Vancouver General Hospital (VGH) are high volume with rapid patient turnover. The Acute Care Surgery (ACS) service, more specifically, provides round-the-clock consultation services to a large number of often acutely ill patients in both the emergency department and on inpatient wards. Care of ACS patients is frequently handed over to other clinicians to facilitate timely operative intervention, while overnight, two residents are tasked with performing all general surgery consultations as well as providing comprehensive care to between 80-100 surgical inpatients, frequently with minimal handover about their clinical course. General surgical services at VGH predominantly use inefficient paper-based systems to document consultations, facilitate handover, and maintain patient rounding lists. With these realities in mind, we sought to design an efficient and user-friendly tablet-based app in order to streamline consultation and admission documentation, facilitate transfer of patient care, and optimize patient rounding list management, while simultaneously creating an electronic ACS patient registry.

**METHOD** We partnered with a health technology firm, InputHealth, to design a tablet-based app called ACCESS. The app has three parts: (1) a dashboard that hosts the patient rounding list system, (2) a consult intake form, and (3) an elective admission intake form, essentially an abbreviated version of the consult intake form. The consult intake form is comprised of the following sections: identification, HPI, past history, medications and allergies, physical exam, imaging, labs, assessment, and review. Key data inputted into the consult and elective admission intake forms auto-populates the appropriate patient rounding list, which can then be updated by users on a real-time basis.

**RESULTS** Design input was solicited from junior and senior general surgical residents as well as two staff consultants. An iterative design process was utilized to improve the app as it was developed, which led to a number of key changes. For example, the app initially contained many free text fields, but the design team soon found that dropdown and checkbox fields better ensured standardization of data. Validated sources were identified for each field: the chief complaint field was populated from the Canadian Emergency Department Information System (CEDIS) Presenting Complaint List, the medical history field was populated from the 2010 Global Burden of Disease Study’s list of 291 diseases, and the surgical history field was populated from the procedures listed in James Hoballah’s text, *Operative Dictations in General and Vascular Surgery*.

**CONCLUSIONS** Our team successfully created a comprehensive tablet-based consultation, admission, and list management app. The next phase of our project will involve usability testing involving medical students, junior and senior residents, and staff consultants. User feedback will be used to make final changes to ACCESS, which will subsequently be rolled out on the ACS and elective general surgical services. The adoption of ACCESS will build an electronic ACS patient registry, which will allow surgeons and researchers to characterize the ACS patient cohort for the first time since the inception of the service at VGH. These linkages should provide unprecedented insights into the determinants of outcomes for emergency general surgical conditions, and will undoubtedly help to improve the quality of operative and peri-operative care for this complex group of surgical patients.

**TITLE** RESIDENT ATTRITION FROM SURGICAL SPECIALTIES IN CANADA

**AUTHOR** Dr. Victoria Cheung

**SUPERVISOR/PI:** Dr. Tracy Scott

**BACKGROUND** Resident attrition from surgical specialties, general surgery in particular, has been found to be close to 20% in the US. The purpose of this study is to examine if the rates of voluntary attrition are similar in Canada, and to identify factors that contribute to the decision to transfer from surgical specialties by surveying program directors and residents.

**TITLE** TIMING AND OUTCOMES OF DECORTICATION FOR EMPYEMA AT VGH

**AUTHOR** Dr. Victoria Cheung

**SUPERVISOR/PI** TBD

**BACKGROUND** Empyema is related to high morbidity and mortality, with prolonged hospital stay and mortality up to 20%. The incidence of empyema has been rising in Canada over the past two decades. The objective of this study is to review the current surgical management of empyemas at VGH, the timing and type of surgical intervention and the outcomes of these patients. From the results, the goal is to characterize cases requiring invasive interventions and the current burden of this disease locally.

**TITLE** CASE SERIES: DO PATIENTS' SYMPTOMS IMPROVE AFTER HEPATIC RESECTION FOR FOCAL NODULAR HYPERPLASIA?

**AUTHORS** Dr. Kristin DeGirolamo BSc MD, Dr. Stephen Chung MD, PhD, FRCSC, Professor of Surgery UBC

**BACKGROUND** Focal Nodular Hyperplasia (FNH) is benign condition usually discovered on imaging for other indications, and often requires no treatment.<sup>1</sup> However, some patients do initially present with vague abdominal symptoms, and are found to have FNH on imaging and subsequently are offered treatment in the form of a hepatic resection. There is currently some data to show that resection improves symptoms and we wanted to see if this evidence applies to the VGH patient population.<sup>2, 3</sup>

**HYPOTHESIS** Hepatic resection of symptomatic FNH patients improves symptoms.

**METHODS** We conducted a chart review of the last 7 years of patients who underwent hepatic resection for symptomatic FNH. We then used Fischer's Exact Test to analyze if those who still had ongoing pain were related to a pre-operative diagnosis of an abdominal pain syndrome such as IBS, PCOS, Endometriosis, GERD, Fibromyalgia or Reflex Sympathetic Dystrophy.

**RESULTS** Our chart review included a total of 18 patients, 9 of which still had abdominal pain at follow up. Of these 9, 5 had a previous diagnosis of an abdominal pain syndrome and 4 did not. Of the 9 asymptomatic patients, zero had pain at follow up. The p value for this data is 0.023 indicating a statistically significant relationship between pain syndromes and ongoing postoperative pain.

**CONCLUSIONS** Hepatic Resection for symptomatic FNH patients improves symptoms in those without pre-existing pain syndromes. For those patients with pre-existing pain syndromes, surgery may not improve their abdominal pain.

**REFERENCES**

1. Choi B, Nguyen M. The diagnosis and management of benign hepatic tumors. *Journal of Clinical Gastroenterology* 2005 May/June; 39(5): 401-12.
2. Kammula U, Buell J, Labow D, Rosen S, Millis J and Posner M. Surgical management of benign tumors of the liver. *International Journal of Gastrointestinal Cancer* 2001 30(3): 141-6.
3. Terkivatan T, de Wilt J, de Man R, van Rijn R, Zondervan P, Tilanus H and Ijzermans J. Indications and long-term outcome of treatment for benign hepatic tumors. *Archives of Surgery* 2001 Sept; 136:1033-8.

