

Research Project Options

1st year residents

1. Prospective evaluation of the use of the gastrograffin protocol for patients with small bowel obstruction

Background: Based on recent evidence, for patients with presumed adhesive small bowel obstruction, LHSC has recently instituted the “gastrograffin protocol”. This protocol – where gastrograffin is instilled through the NG tube and a series of x-rays are completed to determine its progression through the GI tract – is thought to be both diagnostic and therapeutic. No prospective evaluation has been undertaken in the Canadian population

Study type: Prospective cohort study (Quality Assurance)

Research question: In a Canadian academic centre, what is the success rate of the gastrograffin protocol in a) diagnosing adhesive small bowel obstruction, and b) providing definitive management patients with a presumed adhesive small bowel obstruction.

Resident role:

- Liaise with ACCESS nurse practitioners to identify all patients admitted with small bowel obstruction
- Maintain a database of all admitted patients including demographics, clinical course, and outcome data
- Work with Dr. Vogt and Laura Allen to develop and implement an analysis plan
- Presentation of findings at resident research day, submission for presentation at CAGS
- Completion of manuscript for submission to the Canadian Journal of Surgery

Anticipated meeting: CAGS

Anticipated publication: Canadian Journal of Surgery

2. A systematic review of emergency general surgery in the elderly

Background: Elderly patients presenting with emergency general surgery conditions provide unique challenges to the general surgeon, and are felt to have high rates of morbidity and mortality. With the expansion of acute care surgery services, an increasing body of literature has addressed this population, and a review of this literature is warranted to help guide decision making and inform prognosis in this population.

Study type: Systematic review

Research question: What is the current state of evidence (in the era of Acute Care Surgery Services) to guide the management and inform prognosis in elderly patients presenting with emergency general surgery conditions?

Resident role:

- Liaise with senior general surgery resident and librarian in literature search (already started)
- Systematic review registration
- Screen titles, abstracts, and full text for inclusion (in duplicate with another trainee)
- Complete data abstraction (in duplicate with another trainee)
- Work under the supervision of senior general surgery resident, Dr. Vogt, and Laura Allen in the tables and figures for the systematic review (with meta analysis if applicable)
- Presentation of findings at research day, and submission for presentation at the ACS clinical congress
- Completion of manuscript for submission to JAC S

Anticipated meeting: ACS

Anticipated publication: JACS

3. A retrospective evaluation of the use and outcomes of cholecystostomy tube placement

Background: For patients presenting with cholecystitis, there are circumstances where traditional cholecystectomy would be relatively contraindicated, and the patient would be managed instead with a cholecystostomy tube. Though common practice, there is very little literature to support this practice. It is felt that a population-based analysis of cholecystostomy tube placement is warranted (to be completed using the data holdings of the institute for clinical and evaluative sciences), however before this can be conducted, this local review must first be completed.

Study type: Retrospective case series

Research question: Amongst patients who had a cholecystostomy tube placed at LHSC, what are the: a) indications; b) timing in relation to symptom onset; c) clinical course; and d) outcomes associated with cholecystostomy tube placement

Resident role:

- Liaise with health records and the interventional radiology database to identify all patients who had a cholecystostomy tube placed during the study period
- Work collaboratively with a volunteer medical student in the abstraction of data from the medical records of included patients
- Work with Dr. Vogt, Dr. Vinden and Laura Allen to develop and implement an analysis plan

- Presentation of findings at resident research day, submission for presentation at CAGS
- Completion of manuscript for submission to The American Surgeon
- If interested, participate in the planned ICES project on this same topic, which would lead to a more robust analysis and higher impact publication

Anticipated meeting: CAGS

Anticipated publication: The American Surgeon

4. Validation of a mobile-device based visual analog scale for the assessment of pain in the trauma population

Background: Multisystem trauma patients often provide unique challenges in the evaluation of pain, including difficulty in communicating due to multiple injuries or intubation. We hypothesize that a visual analog scale (VAS) presented on a mobile device will allow for improved communication of pain scores in a manner that is as reliable as self-reported pain scores.

Study type: Prospective validation study

Research question: Is the use of a mobile-device based VAS feasible and accurate for quantifying pain in the multisystem trauma patient?

Resident role:

- In conjunction with the trauma nurse practitioner and trauma fellows, coordinate recordings of pain scores (both VAS and self-reported pain scores) with nurses in TOU and trauma ward
- Work with Dr. Vogt and Dr. Ball to develop and implement an analysis plan
- Presentation of findings at resident research day, submission for presentation at TAC
- Completion of manuscript for submission to The European Journal of Trauma
- This work is part of a larger research program, which will culminate in a randomized controlled trial evaluating the use of IV lidocaine in patients with rib fractures. If interested, the resident may choose to continue on with this research program and play a role in future studies.

Anticipated meeting: TAC

Anticipated publication: The European Journal of Trauma

5. Prediction via imaging and EUS for operative pancreatic cystic lesions

Study type: Retrospective cohort study

Research question: What imaging and endoscopic ultrasound features are suggestive of the need for and successful completion of resection of cystic lesions of the pancreas?

Resident role:

- Participate in REB submission process
- Use the pancreatic database and liaise with health records to identify all patients who had a pancreatic cystic lesion identified during the study period
- Abstraction of additional data from the medical records of included patients
- Work with Dr. Leslie to develop and implement an analysis plan
- Presentation of findings at resident research day, submission for presentation at CAGS
- Completion of manuscript for submission

6. Outcomes associated with microscopically positive margins after pancreatic resection

Study type: Retrospective cohort study

Research question: What are the outcomes of patients who undergo surgical resection for pancreatic neoplasms with microscopically positive margins?

Resident role:

- Participate in REB submission process
- Use the pancreatic database and liaise with health records and pathology to identify all patients who had a pancreatic cystic lesion identified during the study period
- Abstraction of additional data from the medical records of included patients
- Work with Dr. Leslie and a representative from the pathology department to develop and implement an analysis plan
- Presentation of findings at resident research day, submission for presentation at CAGS
- Completion of manuscript for submission

7. Outcomes after incisional hernia repair: How much does technique matter?

Study type: Retrospective cohort study

Research question: Do the intermediate-term outcomes differ after incisional hernia repair with synthetic mesh vs. biologic mesh vs. tissue repair

Resident role:

- Participate in REB submission process
- Liaise with health records and the OR database to identify all patients who had an incisional hernia repair during the study period
- Abstraction of additional data from the medical records of included patients
- Work with Drs. Leslie, Parry, and Leeper to develop and implement an analysis plan
- Presentation of findings at resident research day, submission for presentation at CAGS
- Completion of manuscript for submission