Learning Objectives for Undergraduate Rotations in General Surgery
Year 3 Clerkship

GI Bleeding
- Identify the clinical presentation and features of upper and lower gastrointestinal (GI) tract bleeding and perform a history and physical examination demonstrating this knowledge.
- Describe the principles and technique of assessing intravascular volume status and adequacy of fluid resuscitation.
- Outline the appropriate clinical, laboratory, endoscopic and imaging (CT, angiography, red blood cell scan) investigations in a case of GI bleeding to help delineate its cause and site.
- Describe the pathologic conditions which may be associated with upper G.I. bleeding and the standard surgical management of these conditions.
- Describe the pathologic conditions which may be associated with lower G.I. bleeding and the standard surgical management options of these conditions.

Hernia
- Describe the pathologic hernia-related anatomy of the anterior abdominal wall and inguinal/femoral regions.
- Demonstrate physical examination skills that can help detect and differentiate abdominal wall hernias - specifically indirect and direct inguinal hernias, femoral hernias, incisional hernias and umbilical hernias.
- Define the terms ‘reducible’, ‘incarceration’ and ‘strangulation’ and their clinical significance.
- Denote the usual risk factors, age and gender prevalence of indirect and direct inguinal hernias, femoral hernias, incisional hernias and umbilical hernias.
- Describe the basic techniques of direct and indirect inguinal hernia repairs and demonstrate a knowledge of the attendant risks.

Acute Abdomen
- Propose a differential diagnosis for a patient presenting with bilious vomiting and abdominal distension, including the most common causes of large and small bowel obstruction.
- Demonstrate a systemic approach to abdominal radiograph (AXR) interpretation and recognize the following findings: portal venous gas, small bowel obstruction, large bowel obstruction, toxic megacolon, free air and colonic thickening (“thumbprinting”).
- Describe a plan for investigation and management of a patient with a bowel obstruction, including non-operative management, and indications for emergent surgery.
- Define peritonitis and list the usual physical findings.
- Develop a differential diagnosis and outline a plan of appropriate investigation and management for a 40-year-old female who presents with acute generalized peritonitis.

Hepato-pancreatico-biliary (HPB)
- Identify the common causes of obstructive jaundice.
- Develop a differential diagnosis and outline a plan of appropriate investigation and management for a 60-year-old male who presents with jaundice.
- Describe the standard laboratory, imaging (ultrasound, CT, MRI) and endoscopic investigations used to help determine the underlying diagnosis in cases of suspected obstructive jaundice.
Describe medical, endoscopic and surgical management of obstructive jaundice and biliary calculus disease.

Discuss important surgical risks for consideration in patients presenting with biliary calculi and/or obstructive jaundice.

Describe the typical clinical presentation and subsequent workup of a patient with suspected pancreatic malignancy.

Describe pain management options for patients diagnosed with pancreatic cancer, including celiac plexus block.

Breast

Describe the basic anatomy of the breast lymphatic drainage.

Propose a differential diagnosis for a breast mass, including benign and malignant conditions.

Describe the workup and management plan of common benign breast conditions including mastitis, nipple discharge, gynecomastia and breast abscess.

Summarize current breast screening guidelines (available on BCCA website) for average risk and high-risk women.

Summarize the role of radiologists in screening, investigation, and diagnosis of breast disease, including the BI-RADS classification (do not memorize BI-RADS).

Describe the risk factors for breast cancer.

Describe the “triple assessment” of a breast mass, including clinical exam, imaging, and biopsy.

Describe how the TNM Staging of breast cancer impacts treatment options.

Discuss different surgical options for managing a breast lesion, including breast-conserving (lumpectomy), mastectomy, sentinel node biopsy, and axillary node dissection.

Discuss the relevance of Estrogen Receptor/Progesterone Receptor/Her 2 Neu Status in the setting of breast cancer.

Describe, using breast disease as an example, the importance of interprofessional teams in cancer care and describe how the surgeon contributes to this team.

Colo-recto-anal

Describe the adenoma - carcinoma sequence in colon cancer.

Differentiate between different types of polyps and the associated cancer risk.

Describe risk factors and the clinical presentation of colon cancer.

Review screening guidelines for average risk patients - refer to BCCA website.

Review TNM Staging (do not memorize) and discuss implications on management of colorectal cancer.

Describe the surgical management of colon cancer based on blood supply and denote 3 different types of stomas using standard surgical nomenclature (i.e. right hemicolectomy, loop ileostomy, etc.)

Describe palliative surgical options for colon cancer.

Differentiate the features of hereditary colon cancer syndromes (FAP, HNPCC) and implications on cancer screening and management.

Differentiate in at least 2 ways Crohn's colitis and ulcerative colitis.

Differentiate internal hemorrhoids, external hemorrhoids, anal fissure, peri-anal abscess and fistula-in-ano.