



General Surgery - JGH, MUHC-RVH Site

Objectives of Training

Preamble

The focus is abdominal and breast surgery. This includes benign and malignant colorectal and anal diseases, foregut surgery, solid organ surgery, hepatobiliary and pancreatic diseases, and breast disease. It also includes hernias of the abdominal wall. There is strong emphasis on fundamental and advanced laparoscopic surgery as well as colorectal surgery.

MEDICAL EXPERT

CLINICAL/KNOWLEDGE BASE – JUNIOR RESIDENT

- Through clinic, inpatient ward and outpatient experience the junior resident will develop an approach to patients presenting with common problems in digestive and endocrine surgery. The junior resident should understand the relevant anatomy and physiology; be able to perform a focused, accurate and complete history and physical exam; interpret clinical information and integrate it appropriately; organize a strategy for appropriate investigations; set management priorities; and arrive at an appropriate treatment plan for the following:

Colorectal disease: carcinoma, diverticular disease, inflammatory bowel disease, bowel obstruction, volvulus, rectal prolapse

Anal disease: haemorrhoids, anal fissure, anorectal abscess and fistula, pilonidal disease, anal condylomata, anal cancer

- Indications for surgical intervention
- Cancer staging and outcomes of treatment
- Indications for laparoscopic and open approaches
- Principles of multidisciplinary management of inflammatory bowel disease and colorectal cancer
- Perioperative management
- Discharge planning including assessing the patients' needs and follow-up decisions

Biliary Colic/Cholecystitis/Choledocholithiasis/Cholangitis/Pancreatitis

- Relevant investigations including US, CT, MRCP, EUS, cholangiogram, HIDA
- Management including endoscopic and percutaneous, and indications for surgery



Hernias: inguinal/ventral/umbilical/incisional/epigastric

- Incidence and natural history
- Anatomy and classification
- Indications for laparoscopic and open approaches
- Complications of repair
- Types of mesh

Esophagus and Stomach

- Anatomy and physiology of the GE junction
- Pathophysiology of gastro-esophageal reflux
- Classification of hiatal hernias
- Indications for surgery for reflux, paraesophageal hernia, achalasia
- Diagnosis and treatment of GIST
- Postoperative follow-up

Splenic disease

- Multidisciplinary management of immune thrombocytopenia purpura
- Indications for splenectomy
- Management of splenic cysts

BENIGN AND MALIGNANT BREAST DISEASES

- Routine breast care/ well woman, breast/ regional examination, purpose and nature of routine screening
- Recognition of “high-risk” patients and knowledge of their management
- Breast investigations including ultrasound, mammography, image-directed core needle biopsy, some understanding of breast MRI
- Indications for image-directed core needle biopsy and management of findings including atypical ductal hyperplasia, lobular neoplasia, intra-ductal carcinoma, invasive carcinoma
- Benign breast disease (BBD): recognition and management of common palpable diseases like breast cysts, fibroadenomas, “fibrocystic disease”; a basic knowledge of types of premalignant forms of BBD/ understanding of their degrees of risks/ understanding of the significance of terms “proliferative” and “atypia” in this context
- Non-invasive breast cancer: understanding of the pathology of intra-ductal cancer (DCIS), recognition of the presentation of DCIS, assessment of the extent of DCIS and knowledge of its treatment; awareness of lobular carcinoma in-situ and knowledge of the significance of its diagnosis
- Invasive breast cancer (IBC): understanding of epidemiology and risk factors for IBC, awareness of invasive ductal cancer and invasive lobular cancer and their



presentations in the screen-detected and clinically evident settings, knowledge of the staging and treatment options for IBC including the commonly performed operative procedures, recognition and understanding of management of locally advanced breast cancer and inflammatory breast cancer

TECHNICAL SKILLS – JUNIOR RESIDENT

Through intra-operative experience the junior resident will develop technical proficiency in various aspects of digestive, breast, and endocrine surgery. Depending on the complexity of the procedure the junior resident will be able to function either as a first assistant or independent surgeon. The resident should demonstrate knowledge of the operative steps, effective and safe tissue handling, and knowledge of instruments and sutures. The junior resident should demonstrate proficiency in fundamental laparoscopic skills including intracorporeal suturing.

Begin procedure and perform most of the case independently (I)

Function as an assistant (A)

- Access of peritoneal cavity (open and laparoscopic) (I)
- Abdominal closure (I)
- Patient positioning, prepping and draping (open and laparoscopic) (I)
- Laparoscopic and open appendectomy for uncomplicated appendicitis (I)
- Laparoscopic cholecystectomy for biliary colic (I)
- Open repair of primary inguinal hernia (I)
- Open repair of incisional hernia (uncomplicated) (I)
- Stoma maturation (I)
- Side-to side anastomosis of bowel(I)
- Adhesiolysis (A)
- Closure loop ileostomy (I)
- Umbilical or epigastric hernia repair (I)
- Camera navigation (I)
- Simple anal fistulotomy (I)
- Hemorrhoidectomy (I)
- Incision and drainage of simple perianal abscess (I)
- Anal sphincterotomy (I)
- Fulguration anal condylomata (I)
- Excision pilonidal sinus (I)
- Open breast biopsy and lumpectomy (I)



CLINICAL/KNOWLEDGE BASE – SENIOR RESIDENT

Preamble

Through inpatient ward and outpatient experience the senior resident will develop an approach to a patient presenting with common (as described above) and more complex digestive, endocrine and head and neck surgical problems. In addition to what is expected for junior residents, the senior resident must obtain sufficient knowledge and understanding of the principles of surgical management in order to provide effective and appropriate patient-centered surgical care. The senior resident will be able to operate independently and with minimal staff assistance for common and uncomplicated surgical procedures, including open colorectal resection, laparoscopic cholecystectomy, appendectomy, and incisional hernia repair. In advanced/MIS GI surgery, the senior resident will have an understanding of the steps of each procedure, and understand trocar placement, exposure, tissue and instrument handling. Depending on the level of training and the procedure, senior residents are expected to perform part or complete MIS procedures.

Foregut

Esophagus

- Paraesophageal hernia
 - Imaging characteristics
 - Indications for surgery
 - Operative management
- Achalasia
 - Physiological tests and imaging characteristics
 - Management options
 - Operative management
- Reflux
 - Pathophysiology and complications
 - Pre-operative work-up
 - Diagnosis
 - Management options

Stomach and duodenum

- Peptic ulcer disease
 - Physiology
 - Diagnosis
 - Management options for complications
- Benign & malignant gastric tumours: adenocarcinoma, GIST, carcinoid, lymphoma
 - Epidemiology
 - Pathophysiology



- Management options
- Multidisciplinary management

Midgut: Small intestine

- Imaging modalities
- Small bowel obstruction
 - Presentations
 - Diagnosis
 - Management
- Crohn's disease
 - Epidemiology
 - Pathophysiology
 - Multidisciplinary management
 - Surgical treatment
- Tumours
 - Epidemiology
 - Imaging characteristics
 - Multidisciplinary management
 - Surgical treatment

Hindgut

- Appendix
 - Management of complicated appendicitis
 - Appendiceal tumours: diagnosis and management
- Colon and rectum
 - Imaging and endoscopic procedures
- Large bowel obstruction
 - Etiology and diagnosis
 - Management options
 - Surgical treatment
- Inflammatory bowel disease
 - Epidemiology
 - Pathophysiology
 - Multidisciplinary management
 - Surgical treatment- indications, options, outcomes
- Rectal prolapse
 - Diagnosis
 - Indications for surgery
 - Surgical treatment- indications, options, outcomes
- Colorectal polyps
 - Natural history



- Diagnosis
- Indications for resection
- Malignant colorectal tumours
 - Epidemiology
 - Presentation, diagnosis
 - Staging
 - Multidisciplinary management including adjuvant and neoadjuvant therapies
 - Surgical treatment- indications, options, outcomes
- Diverticular disease
 - Diagnosis
 - Imaging
 - Treatment: medical and surgical
 - Complications
- Rectal prolapse
 - Diagnosis
 - Treatment
- Colon ischemia
 - Diagnosis
 - Treatment

Solid Organ

- Adrenal Gland
 - Physiologic evaluation
 - Imaging
 - Multidisciplinary management of pheochromocytoma
 - Indications for resection for benign and malignant tumours
- Spleen
 - Imaging
 - Hematologic disease: multidisciplinary care, indications for surgery, outcomes
 - Splenic cysts: natural history, management options
 - Malignant disease: diagnosis, management including adjuvant therapy
- Lymphadenopathy
 - Imaging
 - Diagnostic approaches: percutaneous, laparoscopic, open



Abdominal wall

- Mesh classification and indications
- Hernia: recurrent inguinal
 - Diagnosis
 - Indications for surgery
 - Surgical options and outcomes
- Hernia: recurrent ventral
 - Diagnosis
 - Indications for surgery
 - Management of mesh infection
 - Management of fistula
 - Surgical options and outcomes including component separation

Hepatobiliary

- Biliary disease: cholelithiasis, polyp, cholecystitis, cholangitis, pancreatitis
 - Diagnosis
 - Indications and options for cholangiography
 - Surgical options and outcomes

TECHNICAL SKILLS – SENIOR RESIDENT

Through intra-operative experience the senior resident must develop technical proficiency in advanced GI surgery. Depending on the complexity and the dissection and suturing skills required, the senior resident will function either as an independent surgeon or first assistant.

Begin procedure and perform most of the case independently (I)

Function as an assistant (A)

FOREGUT

- Paraesophageal hernia repair (laparoscopic)
 - Dissection of the sac (A)
 - Construction of wrap (A)
 - Closure of hiatus and suture of wrap (I)
- Myotomy (laparoscopic)
 - Mobilization of esophagus (I)
 - Myotomy (A)
 - Closure of hiatus and suture of wrap (I)
- Nissen fundoplication (laparoscopic) (I)
- Gastrectomy
 - Laparoscopic Gastrectomy (A)
 - Open Gastrectomy (I)
 - Laparoscopic wedge resection (I)



MIDGUT

- Laparoscopic or open small bowel resection (I)
- Strictureplasty, open (I)

HINDGUT

- Difficult appendectomy (open or laparoscopic) (I)
- Open and laparoscopic right colectomy (I)
- Open and laparoscopic left colectomy (I)
- Transverse colectomy: open (I), laparoscopic (A)
- (Low) anterior resection
 - Colonic mobilization: open and laparoscopic (I)
 - Rectal mobilization: open (I), laparoscopic (A)
 - Anastomosis: open (I), laparoscopic (A)
- Subtotal colectomy with end ileostomy: open and laparoscopic (I)
- IPAA: open or laparoscopic (A)
- Coloanal anastomosis: open or laparoscopic (A)
- Perineal procedures for prolapse (A)
- Abdominal rectopexy: laparoscopic or open (A)
- Complex perianal abscess/fistula (A)
- Procedures for rectovaginal fistula, fecal incontinence (A)
- Trans-anal excision of lesions (A)
- Abdominal perineal resection
 - Perineal portion (A)

HEPATOBIILIARY

- Difficult cholecystectomy and cholangiogram (open or laparoscopic) (I)

SOLID ORGAN

- Splenectomy: open or laparoscopic
 - small spleen (I or A)
 - unroofing splenic cyst (I)
 - splenomegaly (A)
- Adrenalectomy: open or laparoscopic (A)
- Lymph node biopsy
 - Intraperitoneal: open or laparoscopic (I)
 - Retroperitoneal: open (I), laparoscopic (A)

ABDOMINAL WALL

- Laparoscopic incisional hernia repair
 - Primary nonrecurrent (I)



- Previous mesh or challenging position (A)
- Open complex incisional hernia (eg fistula, recurrence after mesh) (I)
- Laparoscopic inguinal hernia
 - Flap creation and sac dissection (I)
 - Mesh placement (I or A)

COMMUNICATOR

1. Demonstrate effective communication with patients and families characterized by understanding, trust, respect, empathy and confidentiality
2. Gather information not only about disease but the patient's belief, concerns and expectations about his illness
3. Be aware of the influential factors such as age, gender, ethnic, cultural and socio-economic background and spiritual values that may affect the illness
4. Ensures that various members of the health care team deliver consistent messages to the patient and the family
5. Establish good relationship with peers and other health professionals
6. Effectively provide and receive information
7. Prepares documents, summaries and operative reports that are accurate and timely
8. Demonstrates the ability to handle conflict situations

COLLABORATOR

1. Demonstrate effective interaction with health professionals recognizing their roles within the care of the patient
2. Consult effectively with other physicians and health care professionals
3. Contribute effectively to the inter-disciplinary team activity and meetings
4. Develop care plan for the patient including investigation, treatment, and continued care in collaboration with other members of inter-disciplinary team

MANAGER

1. Understand the concept of resource utilization and the need for prioritization of health care delivery
2. Allocate such resources wisely
3. Utilize various technologies such as OACIS and PACS systems to optimize patient care and using such information to assist in decision making.
4. Demonstrate effective leadership with appropriate delegation of responsibilities to other members of the house staff.



5. Plan for the weekly service rounds with the assignment of responsibility for presentation of subject matter and cases.
6. Select cases for the weekly morbidity and mortality rounds with specific emphasis on identification of systemic issues.

HEALTH ADVOCATE

1. Understand the specialist role to intervene on behalf of patients on issues that may impact on their health
2. Identify the important determinates of health affecting the patient.
3. Utilize such information in the prioritization of cases for urgent, emergent or elective access to the operating room.
4. Understand the social demographic issues which affect patient hospital stay and evaluate the patient's ability to access various support services within the health and social systems.
5. Understand the issues related to disease prevention and identification of risk factors, which may be modified through lifestyle change.

SCHOLAR

1. Commitment as a specialist to engage in lifelong learning in the pursuit of mastery.
2. Recognize and identify gaps in one's own knowledge and develop a learning project to correct such deficiency
3. Participate actively in the CAGS evidence based Journal Club
4. Critically appraise medical information and successfully integrate this information into the discussion at M&M rounds, Grand rounds and service rounds
5. Contribute to the development of new knowledge through involvement in a research project while on the service
6. Utilize an evidence-based approach to the resolution of clinical problems

PROFESSIONAL

1. Recognize the responsibility for the overall care of the surgical patient
2. Deliver the highest quality of care and integrity, understanding and compassion
3. Have knowledge of and understanding of the professional legal and ethical codes to which surgeons are bound
4. Develop ability to recognize, analyze and deal with unprofessional behaviors in clinical practice through knowledge of local and provincial regulations
5. Demonstrate appropriate personal and inter-personal behavior