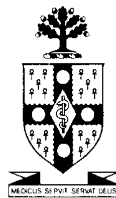
University Health Network

Toronto General Hospital Toronto Western Hospital Princess Margaret Hospital

Division of General Surgery

Rotation Specific Educational Objectives



Faculty of Medicine
University of Toronto

University Health Network
General Surgery Rotation Specific Educational Objectives

Introduction:

The Division of General Surgery at the University Health Network encompasses three sites; Toronto General Hospital, Toronto Western Hospital and the Princess Margaret Hospital. The PMH site has a separate learning objectives document. At TGH and TWH there are two separate Resident Teams. Across the centres residents will gain experience with virtually all areas of General Surgery with the exception of trauma. With a total of 20 General Surgeons UHN has specialization and expertise in Minimally Invasive Surgery, Hepatobiliary Surgery, Head and Neck and Colorectal Surgical Oncology and Robotic Surgery.

Details of site and subspecialty specific rounds are found in the *Residents' Guide to the Division of General Surgery.* There are many disease based conferences and Quality of Care Rounds held every week. Additionally, Senior Residents from all sites meet weekly with the Division Head to discuss all mortality, morbidity issues and any other patient care difficulties or concerns. Cases are then selected for formal presentation at Quality of Care Rounds. These rounds are well attended, multidisciplinary and have proven to be an exceptional venue for educational exchange.

Educational objectives are presented in CanMeds format as described in the RCPSC General Standards of Accreditation. Cognitive and technical skills are presented by subspecialty group, as noted above, and by level of training. All residents receive a copy of *the UHN Residents' Guide to the Division of General Surgery* and the *Rotation Specific Educational Objectives* at the beginning of their UHN rotation.

Resident Evaluation

Several members of the multidisciplinary team evaluate residents throughout their rotations. Residents meet with the Division Head at the beginning, middle and end of their UHN rotation. Discussion on each resident is solicited and recorded monthly at the General Surgery Divisional meetings. At the end of every resident's rotation all Faculty members, senior residents (if appropriate), and the Nurse Manager, provide drafts of the Surgery Intraining Evaluation Report. These documents and the minutes from Divisional meetings are used to form a final intraining evaluation for each resident. Residents then meet with the Division Head on an individual basis for an exit interview and to receive and review their intraining evaluation.

EDUCATIONAL OBJECTIVES FOR GENERAL SURGERY RESIDENT ON THE GENERAL SURGERY SERVICE UNIVERSITY HEALTH NETWORK

General Aims

1. To become familiar with the recognition, natural history, and general and specific treatment of those conditions that one would expect to encounter in a University hospital practice.

2. To understand the pathophysiology of general surgical conditions, and the response of the patient to surgery.

3. To learn to provide resuscitation and emergency treatment for the unstable patient with complex surgical problems which require transport to a specialized centre for definitive treatment.

4. To become technically proficient with the operations used for common general surgical conditions.

5. To achieve the range of other CANMeds competencies within the context of a general surgical environment.

Specific Educational Objectives

Medical Expert

1. Clinical Skills

Given a patient with a general surgical disease, the resident will be able to do the following to the satisfaction of his/her supervisor(s):

a) Take a relevant history.
b) Perform an acceptable physical exam concentrating on the relevant areas.
c) Arrive at an appropriate differential diagnosis.
d) Order appropriate laboratory, radiological and other diagnostic procedures, demonstrating knowledge in the interpretation of these investigations.
e) Arrive at an acceptable plan of management, demonstrating knowledge in operative and non-operative treatment of the disease process.
f) Manage patients in the ambulatory setting, demonstrating knowledge of common office techniques and procedures.
g) Manage the patient throughout the entire in-hospital course, demonstrating knowledge of common office techniques and procedures.
h) Provide a plan for patient discharge and follow-up.

2. Cognitive Knowledge

The resident will be expected to demonstrate a fundamental knowledge and understanding of General Surgical disease processes as listed in the attachments on Breast, Endocrine, HPB, MIS and Oncology. The specific areas covered during the rotation will vary depending on which service the resident is assigned to. The resident's knowledge base must be adequate to permit appropriate assessment, investigation, diagnosis, and treatment within the specific disease group. The level of knowledge expected will correlate with the individual resident's level of training as per the attachment.

3. Technical Skills

During the rotation, the resident will assist, operate under supervision or independently, depending on case complexity, level of training, patient comorbidity, as well as confounding issues such as resource availability.

In the operating room, the trainee is expected to develop the following abilities: to anticipate surgical maneuvers, to handle tissues gently, to make reasonable suggestions and ask intelligent questions, and to contribute to a positive operating room atmosphere. In addition, by the end of the rotation, the resident will be expected to develop technical competence in performing the procedures as outlined in the attachment, to the satisfaction of his/her supervisors(s): Specific procedures will vary depending on service assigned to. (see appendix)

4. Communicator

a) Obtain and synthesize relevant history from patients, their families and the community
b) Demonstrate an appreciation of the unique relationship between general surgical patients and their families and be able to deal effectively and compassionately with patients and family members by establishing therapeutic relationships.
c) Demonstrate an appreciation of the psychological needs of general surgical patients.
d) Listen effectively
e) Demonstrate effective communication skills including oral presentations at rounds and tumour boards.
f) Writes or dictates timely meaningful notes and reports on all patients
g) Can summarize a patient's condition quickly and accurately
h) Presents consult verbally in an understandable way.
i) Communicates effectively and empathetically with his/her patients and their families.
j) Can conduct a family meeting effectively.
k) Can and does discuss treatment plans with the charge nurse on the team.
l) Communicates treatment plans to all members of the team so that they understand.
m) Demonstrates skill in working with others who present significant communication challenges such as ethno-cultural background different from the physician's own, anger or confusion.

5. Collaborator

a) Consult effectively with other physicians and health care professionals, including GI, Internal Medicine Imaging and Emergency Medicine staff
b) Contribute effectively to other interdisciplinary team activities.
c) Effectively use the team approach in the management of complex patients.
d) Demonstrates respects for ancillary staff
e) Participate in discharge planning rounds (KARDEX)

6. Manager

a) Utilize resources effectively to balance patient care, personal learning needs, and outside activities.
b) Do notes and dictations appropriately and in a timely fashion.
c) Generate schedules in a fair and timely manner. (Senior)
d) Allocate juniors and students to the OR and clinics appropriately (Senior).
e) Come to morning rounds, clinic, teaching sessions and academic events on schedule.
f) Book tests, procedures and OR appropriately and efficiently.
g) Multitask appropriately and effectively, prioritize tasks appropriately and understands the principles of effective delegation
h) Delegate responsibilities appropriately and/or accepts delegated tasks appropriately.
i) Understands population-based approaches to health care services and their implication for medical practice and preordination to access.
j) Maintain and demonstrate an up to date personal log of procedures.

7. Health Advocate

a) Identify the important determinants of health affecting patients.
b) Demonstrate an understanding of injury prevention.
c) Recognize and respond to those issues where advocacy is appropriate.
d) Contribute to health-maintenance advocacy for patients, including such areas as travel safety, helmet use, operating machinery or motorized vehicles and accessibility to firearms.
e) Understands the role of screening programs for General Surgical disease (ie: breast, colon)

8. Scholar

a) Develop, implements and monitors a personal continuing education strategy.
b) Critically appraises sources of medical information.
c) Facilitate learning of patients, housestaff / students and other health care professionals through formal and informal teaching opportunities. Present at rounds at a level relevant to year of training.
d) Attend and participate in divisional academic activities including M and M rounds, Tumour Boards and Journal Club.
e) Contribute to development of new knowledge to foster the academic growth of the specialty of general surgery by participating in scholarly work.

9. Professional

a) Deliver highest quality care with integrity, honesty and compassion.
b) Exhibit appropriate personal and interpersonal professional behaviours.
c) Have an ethical relationship with colleagues, patients, and relatives.
d) Demonstrate sensitivity to age, gender, culture and ethnicity in dealing with patients and their families.
e) Have a complete knowledge of the principles of biomedical ethics and medical jurisprudence.
f) Have knowledge and understanding of the professional legal and ethical codes to which all physicians are bound.
g) Recognize and respect his/her own limitations of professional competence.
h) Recognize the importance of maintenance of competence and evaluation of outcomes.
i) Understand the legal issues related to surgical consent, confidentiality, and refusal of treatment.
j) Have the ability to recognize, analyze and know how to deal with unprofessional behaviours in clinical practice, taking into account hospital, university and provincial regulations.
k) Dress appropriately and cleanly, arrive promptly.
l) Display teamwork and respect for all members of the health care team.
m) Answer pages and responds in a timely fashion.
n) Maintain patient privacy and dignity and acts with personal integrity.

Endocrine, Head and Neck Surgery

Cognitive Knowledge

Given a patient with a general surgical disease, the resident must be able to perform the clinical skills listed and be able to demonstrate to the satisfaction of his/her supervisor(s) a fundamental knowledge and understanding of the general areas and a practical working knowledge of the specific disease processes listed; the expectations of depth of knowledge will vary with the level of training as articulated at the end of the list.

Airway obstruction

Skin and Subcutaneous Tissue

Benign tumours

- Benign pigmented lesions

Malignant tumours

- Malignant melanoma
- Basal cell carcinoma
- Squamous cell carcinoma
- Kaposi's sarcoma

Salivary glands

- Infections
- Tumours, benign and malignant

Thyroid

- Thyrotoxicosis
- Thyroiditis
- Hypothyroidism
- Goiter
- Tumours, benign and malignant
- Papillary carcinoma
- Follicular carcinoma
- Hurthle cell carcinoma
- Medullary carcinoma
- Anaplastic carcinoma
- Lymphoma

Parathyroid

- Hyperparathyroidism
- Parathyroid adenomas
- Parathyroid hyperplasia
- Parathyroid carcinoma
- Hypoparathyroidism
- Calcium and phosphorus disturbances

Technical Skills

Residents at all levels must master:
ASSISTING (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, an ability to take direction well, to make reasonable suggestions and enquiry, and to contribute to a positive operating room atmosphere.

PGY1
Given a patient requiring one of the surgical procedures listed below, the PGY1 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY1 resident will initiate the process of technical skill development by assisting in both simple and complex operations, and by performing, under supervision, simple procedures. It is expected that the PGY1 resident will be familiar with surgical instruments and suture materials. It is expected that the PGY1 resident will be able to position and drape patients for general surgical operations. It is expected that the PGY1 resident will be able to open and close surgical wounds, control bleeding, and demonstrate knowledge of fundamental principles of tissue handling.

PGY3
Given a patient requiring one of the surgical procedures listed below, the PGY3 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY3 resident will be a competent assistant for both simple and complex operations, and be able to perform, under supervision, most common general surgical procedures, based on an understanding of fundamental surgical principles.

PGY5
Given a patient requiring one of the surgical procedures listed below, the PGY5 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY5 resident will be competent in performing independently most general surgical procedures. It is expected that the PGY5 resident will be able to lead an operating team and operatively treat surgical problems, safely, effectively and efficiently. It is expected that the PGY5 resident will be able to deal with operative circumstances that are unusual or unexpected.

At the end of a rotation in Endocrine and Head & Neck Surgery, the resident must be able to show technical competence in the following procedures to the satisfaction of his/her supervisor(s). Designation is listed as to expectation of ***Surgeon*** or ***Assistant*** for each operation and each level.

	PGY1	PGY3	PGY5
Integumentary System			
Excision benign skin lesions	S	S	S
Excision malignant skin lesions	S	S	S
Excision subcutaneous lesions	S	S	S
Haemic and Lymphatic System			
Splenectomy	A	A	S
Neck dissection	A	A	S
Digestive System			
Excision thyroglossal duct cyst	A	A	S
Excision submandibular gland	A	A	S
Excision parotid gland	A	A	S
Excision branchial cyst	A	A	S
Thyroid/Parathyroid/Adrenal			
Aspiration thyroid cyst	S	S	S
Fine needle aspiration thyroid lesion	S	S	S
Thyroidectomy	A	A	S
Parathyroidectomy	A	A	S
Adrenalectomy	A	S	S
Neck dissection	A	A	A

GI Surgery

Cognitive Knowledge

Given a patient with a general surgical disease, the resident must be able to perform the clinical skills listed and be able to demonstrate to the satisfaction of his/her supervisor(s) a fundamental knowledge and understanding of the general areas and a practical working knowledge of the specific disease processes listed; the expectations of depth of knowledge will vary with the level of training as articulated at the end of the list.

Metabolic
Fluid and electrolyte disorders
Acid base disturbances

Shock
Septic shock

Response to surgery
Wound infection, dehiscence, and evisceration
Thromboembolic disorders
Atelectasis and pneumonia
Pressure palsy and pressure ulceration
Bladder retention
Delirium
Organ failure
Stress ulceration

Surgical Nutrition
Malnutrition
Obesity
Specific nutritional deficiencies

Coagulation
Specific coagulation disorders
General coagulopathies

Blood Products
Transfusion reaction

Surgical Infections
Erysipelas
Necrotizing fasciitis
Streptococcal myonecrosis
Progressive synergistic gangrene

Venous and Lymphatics
Superficial thrombophlebitis
Subclavian vein thrombosis
Visceral venous thrombosis

Small Intestine
Crohn's enteritis
Tuberculous enteritis
Infectious enteritis
Neoplasms

- Benign
- Malignant
- Carcinoma
- Sarcoma
- Lymphoma
- Carcinoid

Small bowel fistula
Meckle's and other small bowel diverticular
Blind loop syndrome
Pneumatosis cystoides intestinalis
Short bowel syndrome
Morbid obesity
Small bowel obstruction

Colon, Rectum and Anus
Ulcerative colitis
Ischemic colitis
Radiation enterocolitis
Solitary rectal ulcer
Megacolon
Angiodysplasia
Colonic polyps
Carcinoid tumours of the colon and rectum
Crohn's disease of colon and anus
Infectious colitis
Pseudomembranous enterocolitis
Diverticular disease
Colonic volvulus
Colonic endometriosis
Carcinoma of colon and rectum
Rectal prolapse

Appendix
Appendicitis
Appendicial tumours

- Carcinoid Mucocele Adenocarcinoma

Peritoneum
subphrenic abscess
intra-abdominal abscess
pelvic abscess

Abdominal Wall, Omentum, Mesentary, Retroperitoneum

Rectus sheath hematoma
Desmoid tumours
Torsion of the omentum
Omental cysts
Omental tumours
Mesenteric artery and vein

- Acute arterial occlusion
- Chronic visceral ischemia
- Acute venous occlusion
- Nonocclusive mesenteric ischemia

Retroperitoneal fibrosis
Retroperitoneal tumours

Abdominal Wall Hernias

Inguinal hernia
Umbilical hernia
Spigelian hernia
Richter hernia
Femoral hernia
Ventral hernia
Lumbar hernias
Obturator hernia

Technical Skills

Residents at all levels must master:
ASSISTING (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, an ability to take direction well, to make reasonable suggestions and enquiry, and to contribute to a positive operating room atmosphere.

PGY1

Given a patient requiring one of the surgical procedures listed below, the PGY1 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY1 resident will initiate the process of technical skill development by assisting in both simple and complex operations, and by performing, under supervision, simple procedures. It is expected that the PGY1 resident will be familiar with surgical instruments and suture materials. It is expected that the PGY1 resident will be able to position and drape patients for general surgical operations. It is expected that the PGY1 resident will be able to open and close surgical wounds, control bleeding, and demonstrate knowledge of fundamental principles of tissue handling.

PGY 3

Given a patient requiring one of the surgical procedures listed below, the PGY3 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY3 resident will be a competent assistant for both simple and complex operations, and be able to perform, under supervision, most common general surgical procedures, based on an understanding of fundamental surgical principles.

PGY5

Given a patient requiring one of the surgical procedures listed below, the PGY5 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY5 resident will be competent in performing independently most general surgical procedures. It is expected that the PGY5 resident will be able to lead an operating team and operatively treat surgical problems, safely, effectively and efficiently. It is expected that the PGY5 resident will be able to deal with operative circumstances that are unusual or unexpected.

At the end of a rotation in Colorectal Surgery, the resident must be able to show technical competence in the following procedures to the satisfaction of his/her supervisor(s). Designation is listed as to expectation of ***Surgeon*** or ***Assistant*** for each operation and each level.

	PGY1	PGY3	PGY5
General Diagnostic & Therapeutic Procedures			
Arterial puncture	S	S	S
Venipuncture	S	S	S
Foley catheter insertion	S	S	S
Integumentary System			
Incision & drainage subcutaneous abscess	S	S	S
Excision pilonidal cyst	S	S	S
Excision skin for hydradenitis	S	S	S
Endoscopy			
Esophago-gastro-duodenoscopy	S	S	S
Endoscopic polypectomy	A	S	S
Intestinal			
Colonoscopy	SA	S	S
Rigid sigmoidoscopy	S	S	S
Flexible sigmoidoscopy	S	S	S
Endoscopic polyp excision	A	S	S
Ileostomy	SA	S	S
Insertion feeding enterostomy	SA	S	S
Colostomy	SA	S	S
Cecostomy	SA	S	S
Entero-enterostomy	SA	S	S
Resection and anastomosis of small bowel	A	S	S
Resection and anastomosis of large bowel	A	S	S
Proctectomy	A	A	S
Low anterior resection of rectosigmoid	A	A	SA
Lysis of adhesions	A	S	S

	PGY1	PGY3	PGY5
Intestinal			
Closure enterostomy	A	S	S
Excision Meckle's diverticulum	S	S	S
Appendectomy	S	S	S
Drainage appendiceal abscess	S	S	S
Colon reconstruction following Hartmann	A	S	S
Trans-sacral proctotomy & exc rectal lesion	A	A	SA
Trans-anal excision rectal lesions	A	S	S
Trans-abdominal repair rectal prolapse	A	A	S
Abdominal Sepsis			
Drainage intra-abdominal abscess			
• abdominal	A	S	S
• subphrenic	A	S	S
• pelvic	A	S	S
Hernia & Abdominal Wall			
Repair inguinal hernia	S	S	S
Repair femoral hernia	S	S	S
Repair ventral hernia	SA	S	S
Closure evisceration	A	S	S

Adrenal

- Neoplasm
- Benign
- Malignant
- Endocrine disorders

Abdominal Wall

- Hernias

Technical Skills

Residents at all levels must master:
ASSISTING (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, an ability to take direction well, to make reasonable suggestions and enquiry, and to contribute to a positive operating room atmosphere.

PGY1
Given a patient requiring one of the surgical procedures listed below, the PGY1 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY1 resident will initiate the process of technical skill development by assisting in both simple and complex operations, and by performing, under supervision, simple procedures. It is expected that the PGY1 resident will be familiar with surgical instruments and suture materials. It is expected that the PGY1 resident will be able to position and drape patients for general surgical operations. It is expected that the PGY1 resident will be able to open and close surgical wounds, control bleeding, and demonstrate a knowledge of fundamental principles of tissue handling.

PGY3
Given a patient requiring one of the surgical procedures listed below, the PGY3 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY3 resident will be a competent assistant for both simple and complex operations, and be able to perform, under supervision, most common general surgical procedures, based on an understanding of fundamental surgical principles.

PGY5
Given a patient requiring one of the surgical procedures listed below, the PGY5 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY5 resident will be competent in performing independently most general surgical procedures. It is expected that the PGY5 resident will be able to lead an operating team and operatively treat surgical problems, safely, effectively and efficiently. It is expected that the PGY5 resident will be able to deal with operative circumstances that are unusual or unexpected.

At the end of a rotation in Minimally Invasive Surgery, the resident must be able to show technical competence in the following procedures to the satisfaction of his/her supervisor(s). Designation is listed as to expectation of ***Surgeon*** or ***Assistant*** for each operation and each level.

	PGY1	PGY3	PGY5
Endoscopy			
Gastroscopy	S	S	S
Colonoscopy	S	S	S
Esophagus			
Laparoscopic nissen fundoplication	A	A	S
Laparoscopic heller myotomy	A	A	SA
Stomach			
Laparoscopic -wedge resection	A	A	S
-gastroenterostomy	A	SA	S
-gastrectomy	A	A	SA
Open -gastrectomy	A	A	S
Small Intestine			
Laparascopic -lysis of adhesions	A	SA	S
-resection	A	A	S
-ileostomy	A	A	S
Open -lysis of adhesions	SA	SA	S
-resection	A	SA	S
-ileostomy	SA	SA	S
Appendix			
Laparoscopic -appendectomy	A	SA	S
Open -appendectomy	S	S	S
Large Intestine & Rectum			
Laparoscopic -resection	A	A	S
-rectopexy	A	A	S
-colostomy	A	SA	S
Open -resection	A	SA	S
-rectopexy	A	A	S
-colostomy	A	SA	S
Biliary Tract			
Laparoscopic -cholecystectomy	S	S	S
-CBD exploration	A	A	S
-Choledochojejunostomy	A	A	SA
-Cholecystojejunostomy	A	A	S
Open -cholecystectomy	SA	S	S
-CBD exploration	A	A	S
-Choledochojejunostomy	A	A	SA

	PGY1	PGY3	PGY5
Spleen			
Laparoscopic -splenectomy	A	A	S
Open -splenectomy	A	AS	S
Laparoscopic adrenalectomy	A	A	S
Abdominal Wall			
Laparoscopic -inguinal hernia	A	SA	S
-ventral hernia	A	A	S
Open -inguinal hernia	S	S	S
-ventral hernia	SA	S	S

Hepatobiliary

Cognitive Knowledge

Given a patient with a general surgical disease, the resident must be able to perform the clinical skills listed and be able to demonstrate to the satisfaction of his/her supervisor(s) a fundamental knowledge and understanding of the general areas and a practical working knowledge of the specific disease processes listed; the expectations of depth of knowledge will vary with the level of training as articulated at the end of the list.

Liver

Hepatic abscess
- Pyogenic
- Amebic

Hepatic cysts
- Nonparasitic
- hydatid

Malignant tumors
- primary hepatocellular carcinoma
- metastatic cancer

Portal Hypertension → esophageal varices, ascities, hepatic coma, liver failure

Biliary Tract

Choledochal cysts
Gallstones
- Cholelithiasis
- Choledocholithiasis
- Gallstone ileus
- Cholecystitis
- Cholangitis

Sclerosing cholangitis
Cholangiohepatitis
Carcinoma of the gallbladder
Carcinoma of the bile ducts

Pancreas

Acute pancreatitis
Chronic pancreatitis
True cysts
Pseudocysts
Tumours of the pancreas
- Carcinoma
- Islet cell tumours
- Cystadenoma

Peritoneum

Primary peritonitis

Technical Skills

Residents at all levels must master:
Assisting (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, an ability to take direction well, to make reasonable suggestions and enquiry, and to contribute to a positive operating room atmosphere.

PGY1
Given a patient requiring one of the surgical procedures listed below, the PGY1 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY1 resident will initiate the process of technical skill development by assisting in both simple and complex operations, and by performing, under supervision, simple procedures. It is expected that the PGY1 resident will be familiar with surgical instruments and suture materials. It is expected that the PGY1 resident will be able to position and drape patients for general surgical operations. It is expected that the PGY1 resident will be able to open and close surgical wounds, control bleeding, and demonstrate a knowledge of fundamental principles of tissue handling.

PGY3
Given a patient requiring one of the surgical procedures listed below, the PGY3 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY3 resident will be a competent assistant for both simple and complex operations, and be able to perform, under supervision, most common general surgical procedures, based on an understanding of fundamental surgical principles.

PGY5
Given a patient requiring one of the surgical procedures listed below, the PGY5 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY5 resident will be competent in performing independently most general surgical procedures. It is expected that the PGY5 resident will be able to lead an operating team and operatively treat surgical problems, safely, effectively and efficiently. It is expected that the PGY5 resident will be able to deal with operative circumstances that are unusual or unexpected.

At the end of a rotation in Hepatobiliary Surgery, the resident must be able to show technical competence in the following procedures to the satisfaction of his/her supervisor(s). Designation is listed as to expectation of ***Surgeon*** or ***Assistant*** for each operation and each level.

	PGY1	PGY3	PGY5
General Diagnostic & Therapeutic Procedures			
Arterial puncture	S	S	S
Foley catheter insertion	S	S	S
Tracheostomy	S	S	S
Liver biopsy	S	S	S
Paracentesis	S	S	S
Endoscopy			
Esophago-gastro-duodenoscopy	S	S	S
Injection sclerotherapy for Esophageal varices	A	S	S

	PGY1	PGY3	PGY5
Intestinal			
Entero-enterostomy	SA	S	S
Res& anastomosis of small bowel	A	S	S
Lysis of adhesions	A	S	S
Liver			
Incisional liver biopsy	S	S	S
Local excision liver lesion	S	S	S
Partial hepatic lobectomy	A	A	S
Biliary Tract			
Cholecystostomy	S	S	S
Choledochotomy	A	S	S
Choledochoscopy	S	S	S
Exploration common bile duct	A	S	S
Transduodenal sphicterotomy /sphinteroplasty	A	A	S
Cholecystoenterostomy	SA	S	S
Choledochoenterostomy	A	A	S
Cholecystectomy, open	S	S	S
Cholecystectomy, laparoscopic	S	S	S
Choledochectomy	A	A	SA
Pancreatic			
Drainage pancreatic abscess	A	A	SA
Whipple procedure	A	A	SA
Local excision pancreatic lesion	A	A	S
Distal pancreatic excision	A	A	S
Anastomosis pancreatic cyst to internal organ	A	A	SA
Peustow procedure	A	A	SA
Paracentesis	S	S	S
Abdominal Sepsis			
Drainage intra-abdominal abscess			
• abdominal	A	S	S
• subphrenic	A	S	S
• pelvic	A	S	S
Hernia & Abdominal Wall			
Insertion peritoneovenous shunt	A	A	S

Minimally Invasive Surgery

Cognitive Knowledge

Given a patient with a general surgical disease, the resident must be able to perform the clinical skills listed and be able to demonstrate to the satisfaction of his/her supervisor(s) a fundamental knowledge and understanding of the general areas and a practical working knowledge of the specific disease processes listed; the expectations of depth of knowledge will vary with the level of training as articulated at the end of the list.

Esophagus

- Reflux
- Strictures
- Motility disorders

Stomach

- Ulcers
- Neoplasm
- Benign
- Malignant

Duodenum

- Neoplasm
- Benign
- Malignant
- Ulcers

Small Intestine

- Neoplasm
- Benign
- Malignant
- Inflammatory bowel disease
- Fistulae

Appendix

- Appendicitis

Colon

- Neoplasm
- Benign
- Malignant
- Inflammatory bowel disease
- Diverticulitis

Rectum / Anus

- Neoplasm
- Benign
- Malignant
- Hemorrhoids
- Fissures, Fistulae

Liver

- Neoplasm
- Benign
- Malignant
- Abscess

Biliary Tract

- Choleithiasis
- Cholecystitis
- Cholangitis
- Choledocholithiasis
- Malignant tumour

Pancreas

- Pancreatitis
- Malignant tumours

Spleen

- ITP
- TTP
- Hypersplenism
- Blood disorders requiring splenectomy

Technical Skills

Residents at all levels must master:
ASSISTING (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, an ability to take direction well, to make reasonable suggestions and enquiry, and to contribute to a positive operating room atmosphere.

PGY1
Given a patient requiring one of the surgical procedures listed below, the PGY1 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY1 resident will initiate the process of technical skill development by assisting in both simple and complex operations, and by performing, under supervision, simple procedures. It is expected that the PGY1 resident will be familiar with surgical instruments and suture materials. It is expected that the PGY1 resident will be able to position and drape patients for general surgical operations. It is expected that the PGY1 resident will be able to open and close surgical wounds, control bleeding, and demonstrate a knowledge of fundamental principles of tissue handling.

PGY3
Given a patient requiring one of the surgical procedures listed below, the PGY3 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY3 resident will be a competent assistant for both simple and complex operations, and be able to perform, under supervision, most common general surgical procedures, based on an understanding of fundamental surgical principles.

PGY5
Given a patient requiring one of the surgical procedures listed below, the PGY5 resident will participate in the patient's care as a member of the operating team. It is expected that the PGY5 resident will be competent in performing independently most general surgical procedures. It is expected that the PGY5 resident will be able to lead an operating team and operatively treat surgical problems, safely, effectively and efficiently. It is expected that the PGY5 resident will be able to deal with operative circumstances that are unusual or unexpected.

At the end of a rotation in Minimally Invasive Surgery, the resident must be able to show technical competence in the following procedures to the satisfaction of his/her supervisor(s). Designation is listed as to expectation of ***Surgeon*** or ***Assistant*** for each operation and each level.

	PGY1	PGY3	PGY5
Endoscopy			
Gastroscopy	S	S	S
Colonoscopy	S	S	S
Esophagus			
Laparoscopic nissen fundoplication	A	A	S
Laparoscopic heller myotomy	A	A	SA
Stomach			
Laparoscopic -wedge resection	A	A	S
-gastroenterostomy	A	SA	S
-gastrectomy	A	A	SA
Open -gastrectomy	A	A	S
Small Intestine			
Laparascopic -lysis of adhesions	A	SA	S
-resection	A	A	S
-ileostomy	A	A	S
Open -lysis of adhesions	SA	SA	S
-resection	A	SA	S
-ileostomy	SA	SA	S
Appendix			
Laparoscopic -appendectomy	A	SA	S
Open -appendectomy	S	S	S

Large Intestine & Rectum

Laparoscopic	-resection	A	A	S
	-rectopexy	A	A	S
	-colostomy	A	SA	S
Open	-resection	A	SA	S
	-rectopexy	A	A	S
	-colostomy	A	SA	S

		PGY1	PGY3	PGY5
Biliary Tract				
Laparoscopic	-cholecystectomy	S	S	S
	-CBD exploration	A	A	S
	-Choledochojejunostomy	A	A	SA
	-Cholecystojejunostomy	A	A	S
Open	-cholecystectomy	SA	S	S
	-CBD exploration	A	A	S
	-Choledochojejunostomy	A	A	SA
Spleen				
Laparoscopic	-splenectomy	A	A	S
Open	-splenectomy	A	AS	S
		Adrenal		
Laparoscopic adrenalectomy		A	A	S
Abdominal Wall				
Laparoscopic	-inguinal hernia	A	SA	S
	-ventral hernia	A	A	S
Open	-inguinal hernia	S	S	S
	-ventral hernia	SA	S	S

Management of General Surgery Disease in the Oncology Patient

Cognitive Knowledge

Given that there is a major cancer centre within this institution, there are frequent requests for consults on patients with non General Surgery malignancies, who require general surgery procedures. The General Surgery Resident must be able to perform the clinical skills listed and be able to demonstrate to the satisfaction of his/her supervisor(s) a fundamental knowledge and understanding of the general areas and a practical working knowledge of the specific disease processes listed; the expectations of depth of knowledge will vary with the level of training as articulated at the end of the list. Additionally, the General Surgical Resident will demonstrate knowledge and skill in malignant and benign bowel obstruction, radiation enteritis, protilt, typhlitis, abdominal nadir and sepsis and other surgical emergencies in the cancer patient.

Management of the General Surgery Diseases in the Transplant Patient

In a Regional Transplant Centre there are a large number of patients awaiting solid organ transplant, have recently undergone transplant, or are long term survivors on chronic immunosuppression. General Surgery Residents must understand principles and practices related to general surgery disease in the transplant population.