



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.

	<b><u>PGY1</u></b>	<b><u>PGY3</u></b>	<b><u>PGY5</u></b>
<b>Integumentary System</b>			
Excision benign skin lesions	S	S	S
Excision malignant skin lesions	S	S	S
Excision subcutaneous lesions	S	S	S
<b>Haemic and Lymphatic System</b>			
Splenectomy	A	A	S
Neck dissection	A	A	S
<b>Digestive System</b>			
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
<b>Thyroid/Parathyroid/Adrenal</b>			
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	Crohn's disease of colon and anus
Ischemic colitis	Infectious colitis
Radiation enterocolitis	Pseudomembranous enterocolitis
Solitary rectal ulcer	Diverticular disease
Megacolon	Colonic volvulus
Angiodysplasia	Colonic endometriosis
Colonic polyps	Carcinoma of colon and rectum
Carcinoid tumours of the colon and rectum	Rectal prolapse

### **Appendix**

Appendicitis  
Appendicial tumours

- Carcinoid Mucocele Adenocarcinoma

### **Peritoneum**

subphrenic abscess  
intra-abdominal abscess  
pelvic abscess

## **Abdominal Wall, Omentum, Mesentery, 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

Femoral hernia

Umbilical hernia

Ventral hernia

Spigelian hernia

Lumbar hernias

Richter hernia

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.

	<u>PGY1</u>	<u>PGY3</u>	<u>PGY5</u>
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**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

	<b><u>PGY1</u></b>	<b><u>PGY3</u></b>	<b><u>PGY5</u></b>
<b>Intestinal</b>			
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
<b>Abdominal Sepsis</b>			
Drainage intra-abdominal abscess			
• abdominal	A	S	S
• subphrenic	A	S	S
• pelvic	A	S	S
<b>Hernia &amp; Abdominal Wall</b>			
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**

Laparoscopic -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

	<b><u>PGY1</u></b>	<b><u>PGY3</u></b>	<b><u>PGY5</u></b>
<b>Spleen</b>			
Laparoscopic -splenectomy	A	A	S
Open -splenectomy	A	AS	S
Laparoscopic adrenalectomy	A	A	S
<b>Abdominal Wall</b>			
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.

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

	<b><u>PGY1</u></b>	<b><u>PGY3</u></b>	<b><u>PGY5</u></b>
<b>Intestinal</b>			
Entero-enterostomy	SA	S	S
Res& anastomosis of small bowel	A	S	S
Lysis of adhesions	A	S	S
<b>Liver</b>			
Incisional liver biopsy	S	S	S
Local excision liver lesion	S	S	S
Partial hepatic lobectomy	A	A	S
<b>Biliary Tract</b>			
Cholecystostomy	S	S	S
Choledochotomy	A	S	S
Choledochoscopy	S	S	S
Exploration common bile duct	A	S	S
Transduodenal sphincterotomy			
/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
<b>Pancreatic</b>			
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
<b>Abdominal Sepsis</b>			
Drainage intra-abdominal abscess			
• abdominal	A	S	S
• subphrenic	A	S	S
• pelvic	A	S	S
<b>Hernia &amp; Abdominal Wall</b>			
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

- Cholelithiasis
- 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.

	<u>PGY1</u>	<u>PGY3</u>	<u>PGY5</u>
<b><u>Endoscopy</u></b>			
Gastroscopy	S	S	S
Colonoscopy	S	S	S
<b><u>Esophagus</u></b>			
Laparoscopic nissen fundoplication	A	A	S
Laparoscopic heller myotomy	A	A	SA
<b><u>Stomach</u></b>			
Laparoscopic -wedge resection	A	A	S
-gastroenterostomy	A	SA	S
-gastrectomy	A	A	SA
Open -gastrectomy	A	A	S
<b>Small Intestine</b>			
Laparoscopic -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
<b>Appendix</b>			
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
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**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.