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DEPARTMENT OF SURGERY

**VA ANN ARBOR HEALTHCARE SYSTEM**

VA GENERAL SURGERY (VAGS)

Ann Arbor Veteran's Administration Hospital

House Officer I  
House Officer II  
House Officer III  
House Officer IV  
House Officer V

Curriculum/Rotation Goals and Objectives for  
Surgery Residents

# VA General Surgery

## House Officer I

**Goal:** During their HO I rotation, residents will develop their understanding of the underlying pathophysiology, presentation, treatment, and management of general surgery disease processes including colorectal, bariatric, hernia, and hepatobiliary/pancreatic surgery, with a special focus on the needs of the military Veteran patient population.

### Learning Objectives:

#### Patient Care:

By the end of the VA General Surgery rotation, the HO I resident will be able to:

1. Demonstrate an ability to perform an accurate pre-operative assessment for the general surgery patient with straightforward general surgery issues, including patients undergoing surgery for hepatobiliary disease, colorectal disease, obesity, and hernia
2. Identify major risk factors for complications
3. Accurately order and interpret appropriate basic pre-operative tests and consultations
4. Recognize, evaluate, and manage post-operative problems and complications in the general surgery patient promptly and accurately, seeking advice promptly when appropriate.
5. Chart accurately and in a timely fashion, including: progress notes accurately reflect patient condition and progress; operative notes, discharge summaries accurate and completed in timely fashion
6. Communicate effectively and compassionately with patients and their families, and communicate effectively and efficiently with other health care providers to optimize care delivery in basic care situations
7. Demonstrate safe and effective surgical skills for level appropriate cases, including:
  - a. Demonstrate prepping and draping of simple cases
  - b. Demonstrate basic skills for knot tying and instrument handling
  - c. Demonstrate soft tissue mass excision
  - d. Demonstrate safe laparoscopic access using Veress and Hasson techniques
  - e. Describe the steps of dissection and relevant anatomy of an open hernia repair

#### Medical Knowledge:

By the end of the VA General Surgery rotation, the HO I resident will be able to:

##### 1. Inguinal and Femoral Hernia

- a. Describe the anatomy and physiology of primary and recurrent inguinal and femoral hernias, including the anatomy for laparoscopic approaches
- b. Summarize the common treatment options for groin hernia including both open and laparoscopic approaches
- c. Summarize the intra-operative risks of both open and laparoscopic groin hernia repair
- d. Demonstrate competence in the post-operative management of uncomplicated groin hernia repairs, including provision of adequate pain control and wound management.
- e. Describe the post-operative complications, both short and long term for groin hernia repair
- f. Develop a management plan for post-operative hernia complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

##### 2. Ventral and Incisional Hernia

- a. Describe the anatomy of the abdominal wall and physiology of primary and recurrent ventral hernias, including umbilical, epigastric, incisional and Spigelian hernias
- b. Summarize the common treatment options for ventral hernia including both open and

laparoscopic approaches

- c. Define the anatomy and technique relevant to component separation abdominal wall reconstruction procedures
- d. Summarize the intra-operative risks of both open and laparoscopic ventral hernia repair
- e. Demonstrate competence in the post-operative management of ventral hernia repairs, including provision of adequate pain control and wound management.
- f. Describe post-operative complications, both short and long term for ventral hernia repair
- g. Demonstrate safe and effective management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

### **3. Hepatobiliary Disease**

- a. Summarize the pathophysiology of liver cancer and alcoholic and viral liver disease
- b. Develop a management plan for the diagnostic evaluation of the patient with a liver mass, including the basic principles of imaging
- c. Demonstrate knowledge of basic anatomy, physiology, pharmacology, and pathology as it relates to hepatobiliary and pancreatic surgery
- d. Summarize the indications and contraindications of the major hepatobiliary and pancreatic procedures
- e. Delineate monitoring abnormalities and physical signs/symptoms that need immediate attention during and after hepatectomy
- f. Demonstrate knowledge of appropriate post procedure recovery, patient management and follow-up for diseases of the complex hepatobiliary and pancreatic systems

### **4. Colorectal Disease**

- a. Describe the pathophysiology of diverticular disease
- b. Summarize the basic principles of diagnosis of diverticular disease, including the principles of history, exam, and imaging
- c. Summarize the basic principles of management of diverticular disease, including the indications and basic principles of non-operative and operative management
- d. Define the genetic basis of colorectal cancer, including specific heritable colorectal cancer syndromes
- e. Summarize the principles of colonoscopy surveillance and the management of premalignant and malignant polyps
- f. Summarize the basic principles of diagnosis of colorectal cancer including the principles of laboratory testing, including tumor markers, imaging, staging, and prognosis
- g. Define the basic principles of multidisciplinary management of colorectal cancer, including the indications for operative management and adjuvant and neoadjuvant chemotherapy and radiotherapy
- h. Summarize the pathophysiology of anorectal disease, including hemorrhoids, anal fissure, perirectal abscess, and fistula in ano
- i. Summarize the principles of diagnosis and treatment of anorectal disease, including the indications for imaging, office, exam, and exam under anesthesia
- j. Describe the pathophysiology of inflammatory bowel disease
- k. Summarize the role of non-operative and operative management of complications of inflammatory bowel disease
- l. Demonstrate an ability to perform surgical management of perianal abscess

### **5. Obesity and Bariatric Surgery**

- a. Describe the term BMI and definitions of overweight, obese, morbidly obese, and super-obese
- b. Analyze the genetic contribution to obesity-what percent of the tendency toward obesity or leanness is genetic?
- c. Summarize the putative pathophysiologic mechanisms of obesity, including disorders of satiety, thermogenesis, and lipid metabolism
- d. Describe the role of leptin in the pathophysiology of obesity and its mechanism of action and stimulatory and inhibitory feedback mechanisms
- e. Describe the biochemical mechanism of uncoupling of oxidative phosphorylation from electron transport in mitochondria and its relation to the pathogenesis of obesity. Describe the role of uncoupling proteins in this process

- f. Be familiar with long-term success rates and degree of weight loss for dietary weight loss in obese patients
- g. Summarize the indications for bariatric surgery as outlined by NIH consensus criteria
- h. Define the terms excess body weight and percent excess weight loss, and overall weight loss results of bariatric surgery expressed in these terms
- i. Describe the co-morbidities associated with obesity and their response rates to bariatric surgery
- j. Summarize the anatomy and mechanism of action of the core bariatric operations (gastric bypass, gastric banding, sleeve gastrectomy, and biliopancreatic diversion with or without duodenal switch). List the terms restrictive and malabsorptive and to which operations they apply
- k. Summarize the putative mechanisms of resolution of diabetes after gastric bypass, including the incretin theory and the paradigmatic incretins GLP-1 and GIP and their putative stimuli for secretion and mechanisms of action.
- l. Define the common post-operative complications that occur in bariatric patients & how to recognize them
- m. Describe the principles of post-operative diet in the early and late postoperative periods after bariatric surgery
- n. Develop a management plan to assess nutritional and psychological status of bariatric patients post-operatively in the outpatient setting
- o. Describe the multidisciplinary evaluation necessary to assess operative risk of bariatric patients.
- p. Summarize the basic concepts of bariatric sensitivity, including an understanding of the genetic basis of obesity, appropriate terminology for communicating with obese patients and special needs of obese patients in inpatient and outpatient settings
- q. Demonstrate an ability to use the proper techniques for the use of electrocautery, suturing, and tying in laparoscopic surgery.
- r. Demonstrate safe and effective laparoscopic access and establishment of pneumoperitoneum in the obese

## **8. Benign Gallbladder Disease**

- a. Describe the pathophysiology of gallstone formation.
- b. Summarize the difference between symptomatic and asymptomatic gallstones and the indications for operative intervention in each situation
- c. Evaluate a patient with gallstones and determine whether or not the patient is symptomatic, whether this is an acute or chronic problem
- d. Describe the appropriate diagnostic tests to evaluate the patient with suspected biliary colic, including liver function lab tests, ultrasound, MRCP, HIDA scan
- e. Determine whether the patient with cholelithiasis is an appropriate candidate for surgical treatment
- f. Evaluate a patient with symptomatic gallstones for laparoscopic vs. open cholecystectomy and explain the contraindications to laparoscopic cholecystectomy
- g. Summarize the appropriate diagnostic tests to evaluate the patient with suspected acute cholecystitis
- h. Define the differences between acute and chronic cholecystitis and indications and timing for operative intervention in each
- i. Summarize the indications for intraoperative cholangiography
- j. Define the concept of the "critical view of safety"
- k. Demonstrate an ability to place ports/trocars for laparoscopic cholecystectomy

## **Systems-Based Practice:**

By the end of the VA General Surgery rotation, the HO I resident will be able to:

1. Explain how health care systems function to manage patients and deliver optimal health care, and how systems-based errors impair quality of care
2. Describe the roles that support services, such as pharmacy, security and social work, play in patient care and health care delivery

3. Coordinate patient care including obtaining basic tests and scheduling procedures, in both elective and emergency settings
4. Utilize multidisciplinary consultations, laboratory, radiographic and other diagnostic and consultative services appropriately and efficiently
5. Work cooperatively with health care professionals associated with the AAVAH Surgery Service (physician assistants, nurse coordinators, discharge planners)
6. Demonstrate an awareness of the need to implement responsible, cost-effective health care and address issues of resource allocation without compromising quality of care

### **Practice-Based Learning and Improvement:**

By the end of the VA General Surgery rotation, the HO I resident will be able to:

1. Attend regularly and participate actively in VA Surgery weekly and monthly conferences and other regular teaching conferences and sessions
2. Describe common postoperative complications in the general surgery patient and demonstrate an ability to recognize and manage them at D&C Conference
3. Describe the management plan for patients with basic general surgery issues on service when questioned regarding their specific care, or related hypothetical patients
4. Use medical literature to supplement and enhance patient care, be familiar with current standard of care practices and latest evidence-based practices for simple general surgery issues
5. Describe the basic tenets of the scientific method as applied to clinical and/or basic science-translational research and define the basic concepts regarding formulating a central hypothesis
6. Evaluate experimental design and interpret results in published literature, including randomization, blinded studies, prospective versus retrospective evaluations, and the advantages and weaknesses of each; knows the meaning of "P" value in suggesting statistical significance

### **Professionalism:**

By the end of the VA General Surgery rotation, the HO I resident will be able to:

1. Demonstrate a commitment to the ethical and legal aspects of surgery including patient privacy, patient autonomy
2. Demonstrate honesty, reliability, and respectfulness in working with patients and colleagues
3. Define the role of research in the context of patient care, and the importance of peer/IRB review of protocols, ethical considerations
4. Dress neatly and appropriately when working with patients and colleagues in all settings and maintain a professional demeanor at all times

### **Interpersonal and Communication Skills:**

By the end of the VA General Surgery rotation, the HO I resident will be able to:

1. Collaborate with other health care personnel, being sensitive to their roles and abilities
2. Communicate with colleagues and staff in a manner that is consistent with patient-centered focus of the health care team
3. Communicate basic care decisions with patients and their families, explaining recommendations to them in terms each individual can comprehend
4. Demonstrate respect for patients' right to privacy and autonomy
5. Demonstrate respect for the sexual, moral, ethical, or religious characteristics of the patient and family, and other members of the healthcare team, and an ability to work with a culturally diverse range of patients and colleagues
6. Demonstrate respect for the special psychosocial needs of the surgical patient especially in the military Veterans population

# VA General Surgery

## House Officer II

**Goal:** During their HO II rotation, residents will build on their overall general surgical knowledge and operative experience. There will be more concentrated exposure to the pathophysiology, presentation, treatment, and management of general surgery disease processes including colorectal, bariatric, hernia, and hepatobiliary/pancreatic surgery, with a special focus on the needs of the military Veteran patient population.

### Learning Objectives:

#### Patient Care:

By the end of the VA General Surgery rotation, the HO II resident will be able to:

1. Perform an accurate pre-operative assessment for the general surgery patient with straightforward general surgery issues, including patients undergoing surgical treatment for hepatobiliary disease, colorectal disease, obesity, hernia; identify major risk factors for complications; accurately order and interpret appropriate basic and advanced pre-operative tests and consultations
2. Recognize, evaluate, and manage post-operative problems and complications in the general surgery patient promptly and accurately, an increasing ability to manage basic postoperative complications independently, and seek upper level advice promptly when appropriate
3. Chart accurately and in a timely fashion, including: progress notes accurately reflect patient condition and progress; operative notes, discharge summaries accurate and completed in timely fashion
4. Communicate effectively and compassionately with patients and their families, and communicate effectively and efficiently with other health care providers to optimize care delivery in increasingly complex care situations
5. Demonstrate safe and effective surgical skills for level appropriate cases, including the ability to:
  - a. Execute skills outlined in HO I objectives
  - b. Demonstrate basic Laparoscopic port placement for simple cases (e.g. laparoscopic cholecystectomy, laparoscopic appendectomy)
  - c. Execute all necessary steps in an open hernia repair, appendectomy
  - d. Execute the initial access and early dissection steps of a laparoscopic hernia repair with an understanding of the relevant anatomy

#### Medical Knowledge:

By the end of the VA General Surgery rotation, the HO II resident will be able to:

##### 1. Inguinal and Femoral Hernia

- a. Describe the anatomy and physiology of primary and recurrent inguinal and femoral hernias
- b. Describe in detail the anatomy for laparoscopic approaches to groin hernia repair, including locations of the "triangle of doom" and "triangle of pain"
- c. Define the common treatment options for groin hernia including both open and laparoscopic approaches
- d. Summarize the intra-operative risks of both open and laparoscopic groin hernia repair
- e. Demonstrate safe and effective post-operative management of uncomplicated groin hernia repairs, including provision of adequate pain control and wound management
- f. Summarize post-operative groin hernia complications, both short and long term
- g. Demonstrate competence in the management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **2. Ventral and Incisional Hernia**

- a. Describe and discuss the anatomy of the abdominal wall and the physiology of primary and recurrent ventral hernias, including umbilical, epigastric, incisional and Spigelian hernias
- b. Outline the common treatment options for ventral hernia including both open and laparoscopic approaches
- c. Describe the anatomy and technique relevant to component separation abdominal wall reconstruction procedures
- d. Summarize the intra-operative risks of both open and laparoscopic ventral hernia repair
- e. Demonstrate competence in the post-operative management of ventral hernia repairs, including provision of adequate pain control and wound management
- f. Delineate post-operative complications, both short and long term for ventral hernia repair
- g. Demonstrate competence in the management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **3. Hepatobiliary Disease**

- a. Explain management of the multidisciplinary care of the patient with liver cancer, including hepatocellular cancer, FNH, adenoma, hemangioma
- b. Describe indications for RFA, cryotherapy, and operative resection of liver cancer, including the considerations that relate to preexisting cirrhosis and liver disease
- c. Perform safely and effectively (under attending supervision) increasingly complex hepatobiliary surgery, including RFA, and hepatic wedge resection
- d. Describe assessment of hepatic reserve and apply this concept to the patient undergoing hepatic resection

## **4. Colorectal Disease**

- a. Explain management of complex diverticular disease, including understanding the indications for non-operative and operative management
- b. Create a management plan for the multidisciplinary management of colorectal cancer, including coordinating chemo-, radio-, and surgical therapy
- c. Describe pathophysiology of disease and mechanisms of therapy to coordinate the multidisciplinary management of inflammatory bowel disease, including the indications and timing of surgical therapy in relation to medical immunotherapy
- d. Perform a simple colectomy via a laparoscopic approach
- e. Perform surgical management of fistula-in-ano and anal fissure
- f. Perform an ileostomy/colostomy creation and takedown with minimal faculty supervision

## **1. Obesity and Bariatric Surgery**

- a. Describe vagal nerve anatomy and gastric anatomy and blood supply
- b. Summarize the components of the multidisciplinary preoperative assessment of morbidly obese individuals undergoing bariatric surgery.
- c. Demonstrate the basic principles, terminology, and concepts required to act as a bariatric surgery consultant to referring primary care providers and endocrinologists, and the basic principles, terminology, and concepts required to coordinate preoperative and postoperative care for bariatric surgery patient with referring primary care providers and endocrinologists
- d. Describe the presentation, diagnostic workup, and management of the common acute post-operative complications occurring in bariatric patients including anastomotic leak, bowel obstruction, thromboembolic disease, wound infection, dehiscence, pneumonia, and sepsis.
- e. Describe metabolic and nutritional consequences of commonly performed bariatric procedures and how to diagnose and treat them. Explain common nutritional deficiencies associated with bariatric surgery and their presentation and management.
- f. Development a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with nutritional disorders after surgery
- g. Define Roux limb anatomy and standard and bariatric terminology for Roux limbs
- h. Define the concept of bile reflux gastritis and its surgical treatment/prevention
- i. Create a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with abdominal pain in the early (<30 days postop) and late (months-years) postoperative periods
- j. Create a management plan for the diagnostic workup and therapeutic management of the

bariatric surgery patient who presents with ulcer disease after surgery; explain the pathogenesis of marginal/anastomotic ulcer formation after gastric bypass and its treatment

- k. Describe the pathophysiology of calcium oxalate stones after gastric bypass
- l. Define the pathogenesis of cholelithiasis after bariatric surgery and its prevention and management and the role of prophylactic cholecystectomy during bariatric surgery
- m. Demonstrate proficiency in laparoscopic suturing, knot tying in vivo
- n. Summarize the techniques for creation of a Roux limb; demonstrate an ability to suture, tie, and run bowel in a laparoscopic environment in the operating room
- o. Demonstrate an ability to perform sleeve gastrectomy

## **2. Benign Gallbladder Disease**

- a. Develop a management plan for the patient with acute cholecystitis, including diagnostic evaluation and non-operative and operative management
- b. Develop a management plan for the patient with chronic cholecystitis, including diagnostic evaluation and non-operative and operative management
- c. Define the presentation of choledocholithiasis
- d. Evaluate a patient with choledocholithiasis and devise a diagnostic workup for such a patient
- e. Apply and interpret the diagnostic tests relevant to gallbladder disease, including liver function lab tests, ultrasound, MRCP, HIDA scan, ERCP, and sphincter of Oddi manometry
- f. Critique the role of intraoperative cholangiogram in the prevention of bile duct injury
- g. Critique the role of intraoperative cholangiogram in the evaluation of choledocholithiasis
- h. Demonstrate an ability to perform an intraoperative cholangiogram
- i. Explain the role of ERCP in the management of choledocholithiasis
- j. Outline the indications for both laparoscopic and open common bile duct exploration.
- k. Demonstrate an ability to establish a "critical view of safety" during laparoscopic cholecystectomy

## **Systems-Based Practice:**

By the end of the VA General Surgery rotation, the HO II resident will be able to:

- 1. Explain how health care systems function to manage patients and deliver optimal health care, and how systems-based errors impair quality of care
- 2. Define the roles that support services, such as pharmacy, security and social work, play in patient care and health care delivery; demonstrate an ability to communicate effectively with these support services to deliver care
- 3. Coordinate patient care including obtaining basic tests and scheduling procedures, in both elective and emergency settings
- 4. Interpret basic diagnostic tests
- 5. Request and use multidisciplinary consultations, laboratory, radiographic and other diagnostic and consultative services appropriately
- 6. Work cooperatively with health care professionals associated with the VAH Surgery Service (physician assistants, nurse coordinators, discharge planners)
- 7. Demonstrate an increasing ability to implement responsible, cost-effective health care and address issues of resource allocation without compromising quality of care

## **Practice-Based Learning and Improvement:**

By the end of the VA General Surgery rotation, the HO II resident will be able to:

- 1. Attend regularly and participate actively in VA Surgery weekly and monthly conferences and other regular teaching conferences and sessions
- 2. Describe common postoperative complications in the general surgery patient and demonstrate an ability to recognize and manage them at D&C Conference
- 3. Describe management plan specific to patients with basic and advanced general surgery issues on service when questioned regarding their specific care, or related hypothetical

patients; demonstrates an increasing ability to guide medium-term and long-term care
4. Use medical literature to supplement and enhance patient care, be familiar with current standard of care practices and latest evidence-based practices for simple general surgery issues
5. Define the basic tenets of the scientific method as applied to clinical and/or basic science-translational research and outline the basic concepts regarding formulating a central hypothesis
6. Evaluate experimental design and interpret results in published literature, including randomization, sampling error, blinded studies, prospective versus retrospective evaluations, and the advantages and weaknesses of each; knows the meaning of confidence intervals and "P" value in suggesting statistical significance

<b>Professionalism:</b>
By the end of the VA General Surgery rotation, the HO II resident will be able to:
1. Demonstrate a commitment to the ethical and legal aspects of surgery including patient privacy, patient autonomy, end of life care and decision making
2. Demonstrate honesty, reliability, compassion, and respectfulness in working with patients and colleagues
3. Define the role of research in the context of patient care, and the importance of peer/IRB review of protocols, ethical considerations
4. Dress neatly and appropriately when working with patients and colleagues in all settings and maintain a professional demeanor at all times

<b>Interpersonal and Communication Skills:</b>
By the end of the VA General Surgery rotation, the HO II resident will be able to:
1. Collaborate with other health care personnel, being sensitive to their roles and abilities
2. Communicate with colleagues and staff in a manner that is consistent with patient-centered focus of the health care team
3. Communicate basic care decisions with patients and their families, explaining recommendations to them in terms each individual can comprehend
4. Demonstrate respect for patients' right to privacy and autonomy
5. Demonstrate respect for the sexual, moral, ethical, or religious characteristics of the patient and family, and other members of the healthcare team, and an ability to work with a culturally diverse range of patients and colleagues
6. Demonstrate respect for the special psychosocial needs of the surgical patient especially in the military Veterans population

# VA General Surgery

## House Officer III

**Goal:** During their HO III rotation, residents will build on their overall general surgical knowledge and operative experience. There will be more concentrated exposure to the pathophysiology, presentation, treatment, and management of general surgery disease processes including colorectal, bariatric, hernia, and hepatobiliary/pancreatic surgery, with a special focus on the needs of the military Veteran patient population.

### Learning Objectives:

#### Patient Care:

By the end of the VA General Surgery rotation, the HO III resident will be able to:

1. Perform an accurate pre-operative assessment for the general surgery patient with straightforward and more complex general surgery issues, including patients undergoing surgical treatment for hepatobiliary disease, colorectal disease, obesity, hernia; identify major and minor risk factors for complications; accurately order and interpret appropriate basic and advanced pre-operative tests and consultations
2. Recognize, evaluate, and manage post-operative problems and complications in the general surgery patient promptly and accurately; demonstrate an increasing ability to manage basic and complex postoperative complications independently; and seek upper level and peer advice promptly when appropriate.
3. Chart accurately and in a timely fashion, including: progress notes accurately reflect patient condition and progress; operative notes, discharge summaries accurate and completed in timely fashion; demonstrate an increasing ability to model appropriate charting for junior colleagues
4. Communicate effectively and compassionately with patients and their families, and to communicate effectively and efficiently with other health care providers to optimize care delivery in increasingly complex care situations
5. Demonstrate safe and effective surgical skills for level appropriate cases, including the ability to:
  - a. Execute skills outlined in HO I and HO II objectives plus:
  - b. Execute the necessary steps in a laparoscopic cholecystectomy with cholangiogram, simple colectomy
  - c. Execute all steps in a simple uncomplicated laparoscopic hernia repair

#### Medical Knowledge:

By the end of the VA General Surgery rotation, the HO III resident will be able to:

##### 1. Inguinal and Femoral Hernia

- a. Apply his or her knowledge of anatomy and physiology of primary and recurrent inguinal and femoral hernias to guide treatment planning
- b. Define the anatomy for laparoscopic approaches to groin hernia repair, including locations of the "triangle of doom" and "triangle of pain"
- c. Develop treatment plans for groin hernias, including patients in need of both open and laparoscopic approaches
- d. Summarize the intra-operative risks of both open and laparoscopic groin hernia repair
- e. Demonstrate safe and effective post-operative management of uncomplicated groin hernia repairs, including provision of adequate pain control and wound management
- f. Analyze patient symptoms and other available data to correctly identify post-operative groin hernia complications, both short and long term
- g. Demonstrate safe and effective management of post-operative complications, including

hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **2. Ventral and Incisional Hernia**

- a. Develop appropriate patient treatment plans based on their knowledge of the anatomy of the abdominal wall and the physiology of primary and recurrent ventral hernias, including umbilical, epigastric, incisional and Spigelian hernias
- b. Define the common treatment options for ventral hernia including both open and laparoscopic approaches
- c. Describe and discuss the anatomy and technique relevant to component separation abdominal wall reconstruction procedures
- d. Summarize the intra-operative risks of both open and laparoscopic ventral hernia repair
- e. Demonstrate competence in the post-operative management of ventral hernia repairs, including provision of adequate pain control and wound management.
- f. Analyze patient symptoms and other data to correctly diagnose post-operative complications, both short and long term for ventral hernia repair
- g. Demonstrate competence in the management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **3. Hepatobiliary Disease**

- a. Manage the multidisciplinary care of the patient with liver cancer, including hepatocellular cancer, FNH, adenoma, hemangioma
- b. Describe indications for RFA, cryotherapy, and operative resection of liver cancer, including the considerations that relate to preexisting cirrhosis and liver disease
- c. Perform safely and effectively (under attending supervision) increasingly complex hepatobiliary surgery, including RFA, hepatic wedge resection
- d. Describe assessment of hepatic reserve and apply this concept to the patient undergoing hepatic resection

## **4. Colorectal Disease**

- a. Demonstrate an ability to manage complex diverticular disease, including understanding the indications for non-operative and operative management
- b. Create a management plan for the multidisciplinary management of colorectal cancer, including coordinating chemo-, radio-, and surgical therapy
- c. Describe pathophysiology of disease and mechanisms of therapy to coordinate the multidisciplinary management of inflammatory bowel disease, including the indications and timing of surgical therapy in relation to medical immunotherapy
- d. Perform a simple colectomy via a laparoscopic approach
- e. Perform surgical management of fistula-in-ano and anal fissure
- f. Perform an ileostomy/colostomy creation and takedown with minimal faculty supervision

## **1. Obesity and Bariatric Surgery**

- a. Describe vagal nerve anatomy and gastric anatomy and blood supply
- b. Summarize the components of the multidisciplinary preoperative assessment of morbidly obese individuals undergoing bariatric surgery.
- c. Describe the basic principles, terminology, and concepts required to act as a bariatric surgery consultant to referring primary care providers and endocrinologists, and the basic principles, terminology, and concepts required to coordinate preoperative and postoperative care for bariatric surgery patient with referring primary care providers and endocrinologists
- d. Define the presentation, diagnostic workup, and management of the common acute post-operative complications occurring in bariatric patients including anastomotic leak, bowel obstruction, thromboembolic disease, wound infection, dehiscence, pneumonia, and sepsis.
- e. Describe metabolic and nutritional consequences of commonly performed bariatric procedures and how to diagnose and treat them. Explain common nutritional deficiencies associated with bariatric surgery and their presentation and management. Develop a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with nutritional disorders after surgery
- f. Define Roux limb anatomy and standard and bariatric terminology for Roux limbs
- g. Define the concept of bile reflux gastritis and its surgical treatment/prevention

- h. Develop a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with abdominal pain in the early (<30d postop) and late (months-years) postoperative periods
- i. Create a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with ulcer disease after surgery; describe the pathogenesis of marginal/anastomotic ulcer formation after gastric bypass and its treatment
- j. Describe the pathophysiology of calcium oxalate stones after gastric bypass
- k. Describe the pathogenesis of cholelithiasis after bariatric surgery and its prevention and management and the role of prophylactic cholecystectomy during bariatric surgery
- l. Demonstrate proficiency in laparoscopic suturing, knot tying in vivo
- m. Summarize the techniques for creation of a Roux limb; demonstrate an ability to suture, tie, and run bowel in a laparoscopic environment in the operating room
- n. Demonstrate an ability to perform sleeve gastrectomy

## 2. Benign Gallbladder Disease

- a. Develop a management plan for the patient with acute cholecystitis, including diagnostic evaluation and non-operative and operative management
- b. Develop a management plan for the patient with chronic cholecystitis, including diagnostic evaluation and non-operative and operative management
- c. Summarize the presentation of choledocholithiasis
- d. Evaluate a patient with choledocholithiasis and devise a diagnostic workup for such a patient
- e. Apply and interpret the diagnostic tests relevant to gallbladder disease, including liver function lab tests, ultrasound, MRCP, HIDA scan, ERCP, and sphincter of Oddi manometry
- f. Critique the role of intraoperative cholangiogram in the prevention of bile duct injury
- g. Critique the role of intraoperative cholangiogram in the evaluation of choledocholithiasis
- h. Demonstrate an ability to perform an intraoperative cholangiogram
- i. Describe the role of ERCP in the management of choledocholithiasis
- j. Summarize the indications for both laparoscopic and open common bile duct exploration.
- k. Demonstrate an ability to establish a "critical view of safety" during laparoscopic cholecystectomy

## Systems-Based Practice:

By the end of the VA General Surgery rotation, the HO III resident will be able to:

1. Explain how health care systems function to manage patients and deliver optimal health care, and how systems-based errors impair quality of care; demonstrate a growing ability to navigate the system to expedite patient care as well as manage various aspects of multidisciplinary care
2. Define the roles that support services, such as pharmacy, security and social work, play in patient care and health care delivery; demonstrate an ability to communicate effectively with these support services to deliver care
3. Coordinate patient care including obtaining basic and advanced tests and scheduling procedures, both elective and emergency; demonstrate an ability to interpret basic and advanced diagnostic tests
4. Request and use multidisciplinary consultations, laboratory, radiographic and other diagnostic and consultative services appropriately; demonstrate an ability to interpret such test results in a manner that expedites overall patient care plans
5. Work cooperatively with health care professionals associated with the VAH Surgery Service (physician assistants, nurse coordinators, discharge planners), demonstrate increasing leadership in managing multidisciplinary care teams
6. Practice responsible, cost-effective health care and address issues of resource allocation without compromising quality of care

## Practice-Based Learning and Improvement:

By the end of the VA General Surgery rotation, the HO III resident will be able to:

1. Attend regularly and participate actively in VA Surgery weekly and monthly conferences

and other regular teaching conferences and sessions; demonstrate an increasing ability to lead conferences
2. Describe common and less common postoperative complications in the general surgery patient and demonstrates an ability to recognize and manage them at D&C Conference, and evaluate complications and assess practice patterns in the context of the medical literature
3. Describe management plan specific to patients with basic and advanced general surgery issues on service when questioned regarding their specific care, or related hypothetical patients; demonstrates an increasing ability to guide medium-term and long-term care in the context of a multidisciplinary team
4. Use medical literature to find answers to complex clinical problems in specific patients
5. Define the basic tenets of the scientific method as applied to clinical and/or basic science-translational research and explain the basic concepts regarding formulating a central hypothesis
6. Evaluate experimental design and interpret results in published literature, including true randomization, sampling error, blinded studies, prospective versus retrospective evaluations, and the advantages and weaknesses of each; knows the meaning of confidence intervals or "P" value in suggesting statistical significance

### **Professionalism:**

By the end of the VA General Surgery rotation, the HO III resident will be able to:

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| 1. Demonstrate a commitment to ethical and legal aspects of surgery including patient privacy and autonomy and futility of care, and end of life care and decision making, and futility of care |
| 2. Demonstrate honesty, reliability, compassion, and respectfulness in working with patients and colleagues, and an ability to model these traits for junior colleagues                         |
| 3. Define the role of research in the context of patient care, and the importance of peer/IRB review of protocols, ethical considerations, and the limitations of such endeavors.               |
| 4. Dress neatly and appropriately when working with patients and colleagues in all settings and maintain a professional demeanor at all times   |

### **Interpersonal and Communication Skills:**

By the end of the VA General Surgery rotation, the HO III resident will be able to:

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| 1. Collaborate with other health care personnel, being sensitive to their roles and abilities; demonstrates a growing ability to lead care teams   |
| 2. Communicate with colleagues and staff in a manner that is consistent with patient-centered focus of the health care team  |
| 3. Communicate basic and increasingly complex care decisions with patients and their families, explaining recommendations to them in terms each individual can comprehend  |
| 4. Demonstrate respect for patients' right to privacy and autonomy   |
| 5. Demonstrate respect for the sexual, moral, ethical, or religious characteristics of the patient and family, and other members of the healthcare team, and an ability to interact with patients and team members from diverse cultural backgrounds |
| 6. Demonstrate respect for the special psychosocial needs of the surgical patient especially in the military Veterans population   |

# VA General Surgery

## House Officer IV

**Goal:** During their HO IV rotation, residents will build on their overall general surgical knowledge and operative experience. There will be more concentrated exposure to the underlying pathophysiology, presentation, treatment, and management of general surgery disease processes including colorectal, bariatric, hernia, and hepatobiliary/pancreatic surgery, with a special focus on the needs of the military Veteran patient population.

### Learning Objectives:

#### Patient Care:

By the end of the VA General Surgery rotation, the HO IV resident will be able to:

1. Perform an accurate pre-operative assessment for the general surgery patient with straightforward and complex general surgery issues, including patients undergoing surgical treatment for hepatobiliary disease, colorectal disease, obesity, hernia; identify major and minor risk factors for complications; accurately order and interpret appropriate basic and advanced pre-operative tests and consultations
2. Recognize, evaluate, and manage complex post-operative problems and complications in the general surgery patient promptly and accurately, an increasing ability to manage basic postoperative complications independently, seek upper and peer level advice promptly when appropriate, and seek answers to complex clinical problems in the medical literature
3. Chart accurately and in a timely fashion, including: progress notes accurately reflect patient condition and progress; operative notes, discharge summaries accurate and completed in timely fashion; demonstrate ability to coordinate and oversee accurate charting of entire team, including junior residents and students
4. Communicate effectively and compassionately with patients and their families, and communicate effectively and efficiently with other health care providers to optimize care delivery in increasingly complex care situations; guide junior colleagues in developing communication skills
5. With appropriate indirect supervision, perform safe and effective surgical skills for level appropriate cases, including the ability to:
  - a. Execute skills outlined in HO I, II, and III objectives plus:
  - b. Execute the necessary steps in a complex colectomy/proctectomy (e.g. APR, LAR), laparoscopic hernia repair in situations with a large indirect hernia sac, laparoscopic sleeve gastrectomy

#### Medical Knowledge:

By the end of the VA General Surgery rotation, the HO IV resident will be able to:

##### 1. Inguinal and Femoral Hernia

- a. Create a treatment plan based on their knowledge of anatomy and physiology of primary and recurrent inguinal and femoral hernias
- b. Develop an intra-operative dissection plan based on their knowledge of the anatomy for laparoscopic approaches to groin hernia repair, including locations of the "triangle of doom" and "triangle of pain"
- c. Construct a treatment plan for addressing the intra-operative risks of both open and laparoscopic groin hernia repair
- d. Establish a treatment plan for post-operative management of uncomplicated groin hernia repairs, including provision of adequate pain control and wound management.
- e. Develop a treatment plan based on patient symptoms and other available data to correctly

- identify post-operative groin hernia complications, both short and long term
- f. Demonstrate competence in the management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **2. Ventral and Incisional Hernia**

- a. Develop appropriate patient treatment plans based on their knowledge of the anatomy of the abdominal wall and the physiology of primary and recurrent ventral hernias, including umbilical, epigastric, incisional and Spigelian hernias
- b. Evaluate appropriateness of the common treatment options for ventral hernia for a given patient presentation, including both open and laparoscopic approaches
- c. Apply principles of the anatomy and technique relevant to component separation abdominal wall reconstruction procedures into decision making and patient care
- d. Construct treatment plans to address the intra-operative risks of both open and laparoscopic ventral hernia repair
- e. Demonstrate competence in the post-operative management of ventral hernia repairs, including provision of adequate pain control and wound management.
- f. Construct a treatment plan based on symptoms and other data to correctly diagnose post-operative complications, both short and long term for ventral hernia repair
- g. Demonstrate safe and effective management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **3. Hepatobiliary Disease**

- a. Summarize the principles of specialized anesthesia in hepatobiliary surgery
- b. Define the differences in diagnosis and management of neoplastic disease of the hepatobiliary system including "benign" hepatic tumors, malignant tumors
- c. Summarize the medical management of hepatobiliary disease including indications for palliative surgery
- d. Summarize the scoring systems used to classify the severity of hepatobiliary disease (Child-Pugh and MELD scores) and their role in predicting candidacy for operative intervention

## **4. Colorectal Disease**

- a. Demonstrate an ability to manage the complex issues of diverticular disease, including the application of laparoscopic washout and the role of one-, two-, and three-stage operations
- b. Manage the multidisciplinary care of the colorectal cancer patient, including coordination of chemo-, radio-, and surgical therapy
- c. Develop a management plan for postoperative surveillance of the patient with colorectal cancer after curative treatment
- d. Create a management plan for the patient with acute and chronic complications of inflammatory bowel disease, including the coordination of medical immunotherapy and surgical therapy
- e. Demonstrate an ability to perform a colectomy via a laparoscopic approach
- f. Demonstrate an ability to perform an APR and LAR with some faculty supervision

## **1. Obesity and Bariatric Surgery**

- a. Explain the strengths and weaknesses of BMI as a metric for obesity, and the history, strengths, weaknesses, and current evolving concepts in BMI-based candidacy criteria for bariatric surgery, and an ability to apply these concepts to patient selection for bariatric surgery
- b. Develop a management plan for suspected anastomotic/staple line leak after bariatric surgery
- c. Describe the effect of bariatric surgery, specifically gastric bypass, sleeve gastrectomy, and gastric banding on GERD and esophageal motility
- d. Describe the rationale and anatomical aspects of Roux-en-Y gastric bypass, e.g., length of common channel, length of Roux limb, antecolic vs. retrocolic and their consequences.
- e. Create a management plan for the diagnostic workup and therapeutic management of the gastric bypass patient who presents with abdominal pain after surgery in peri-operative and late postoperative periods
- f. Describe the anatomy, types, and management considerations for internal hernia after gastric bypass

- g. Summarize the pathophysiology of band slippage, methods of prevention at primary operation, and clinical presentation, diagnosis, and treatment
- h. Create a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with weight regain after surgery; explain the mechanisms of weight regain and weight loss failure after bariatric surgery and the principles of management
- i. Create a management plan for the patient with nutritional complications of bariatric surgery such as malnutrition, inadequate weight loss, excessive weight loss, vomiting, acute abdominal pain, bowel obstruction
- j. Define dumping and its putative mechanisms; distinguish between early and late dumping, and explain the suspected role of gut hormones in its pathogenesis
- k. Summarize the multidisciplinary requirements of bariatric surgery patients in inpatient and outpatient settings, in routine and adverse clinical courses, and how to manage the multidisciplinary team
- l. Summarize the basic principles of bariatric sensitivity in communicating with obese patients and families; explain how to effectively communicate information about complications after bariatric surgery to patients and families
- m. Summarize the basics of insurance payment for bariatric surgery, its limitations, and the effect of bariatric surgery on nationwide healthcare economics; are health care costs recouped after bariatric surgery as a result of improvement in co-morbid diseases? How long does it take to recoup costs? Is lifespan extended? Are cancer risks reduced?
- n. Critique the strengths and weaknesses of the current obesity and bariatric surgery literature
- o. Perform laparoscopic creation of a Roux limb

## **2. Benign Gallbladder Disease**

- a. Perform all of the basic steps of laparoscopic and open cholecystectomy with minimal assistance from faculty
- b. Determine when to convert laparoscopic to open cholecystectomy
- c. Evaluate the high risk elderly patient with gallbladder disease and create a diagnostic and treatment management plan
- d. Describe "bailout" maneuvers in the operative management of the difficult inflamed gallbladder
- e. Describe the indications for percutaneous cholecystostomy and the indications for interval cholecystectomy after percutaneous cholecystostomy
- f. Describe the role of "prophylactic cholecystectomy" in the context of diabetes, bariatric surgery, and transplant patients
- g. Create a management plan for the pregnant patient with biliary colic; with cholecystitis
- h. Create a management plan for the patient with RUQ pain in the absence of cholelithiasis
- i. Create a management plan for patients with gallbladder dyskinesia, sphincter of Oddi dysfunction, porcelain gallbladder, gallbladder polyps, and post-cholecystectomy syndrome
- j. Describe the primary mechanisms and subtypes of bile duct injury
- k. Create a management plan for bile duct injury including non-operative and operative management
- l. Describe how to perform intraoperative cholangiography
- m. Evaluate the patient with an elevated bilirubin in the post-operative period following a laparoscopic vs. an open cholecystectomy
- n. Summarize the possible etiologies of elevated bilirubin in the post-operative period following a laparoscopic vs. an open cholecystectomy
- o. Manage the diagnostic evaluation of the patient with elevated bilirubin in the post-operative period following a laparoscopic vs. an open cholecystectomy

## **Systems-Based Practice:**

By the end of the VA General Surgery rotation, the HO IV resident will be able to:

1. Explain how the health system functions to manage patients care, and how systems-based errors impair quality of care; demonstrate a growing ability to navigate the system to expedite patient care as well as manage various aspects of multidisciplinary care; demonstrate an ability to lead and

coordinate multidisciplinary care as team leader
2. Define the roles that support services, such as pharmacy, security and social work, play in patient care and health care deliver; demonstrate an ability to communicate effectively with these support services to deliver care and lead a team that includes multiple support services
3. Coordinate complex patient care including obtaining basic and advanced tests and scheduling procedures, both elective and emergency. Demonstrate an ability to interpret basic and advanced diagnostic results and limit the use of diagnostics to only those that are necessary for optimal patient care
4. Request and use multidisciplinary consultations, laboratory, radiographic and other diagnostic and consultative services appropriately; demonstrate an ability to interpret such test results in a manner that expedites overall patient care plans and lead a team in organizing coordination of multidisciplinary care
5. Work cooperatively with health care professionals associated with the AAVAH Surgery Service (physician assistants, nurse coordinators, discharge planners) demonstrate leadership in managing multidisciplinary care teams
6. Practice responsible, cost-effective health care and address issues of resource allocation without compromising quality of care; guide junior colleagues in increasing cost efficacy of practice patterns

### **Practice-Based Learning and Improvement:**

By the end of the VA General Surgery rotation, the HO IV resident will be able to:

1. Attend regularly and participate actively in VA Surgery weekly and monthly conferences and other regular teaching conferences and sessions; Organize and lead conferences
2. Describe common and less common postoperative complications in the general surgery patient and demonstrates an ability to recognize and manage them at D&C Conference, and evaluate complications and assess practice patterns in the context of the medical literature. Demonstrate an ability to organize and lead conferences
3. Describe management plan specific to patients with basic and advanced general surgery issues on service when questioned regarding their specific care, or related hypothetical patients; demonstrates an ability to guide long-term care in the context of a multidisciplinary team and a patient with multiple complex issues
4. Use medical literature to find answers to complex clinical problems in specific patients; demonstrate a mastery of the basic literature in the core areas of general surgery, including hepatobiliary, colorectal, bariatric, and hernia diseases
5. Define the basic tenets of the scientific method as applied to clinical and/or basic science-translational research and outline the steps in the generation or statement of a research hypothesis from clinical questions or observations
6. Evaluate experimental design and interpret results in published literature, including true randomization, sampling error, blinded studies, prospective versus retrospective evaluations, and the advantages and weaknesses of each; knows the distinction between dependent and independent variables under evaluation and knows the meaning of confidence intervals and "P" value in suggesting statistical significance. Apply these concepts to existing medical literature in the context of patient care situations

### **Professionalism:**

By the end of the VA General Surgery rotation, the HO IV resident will be able to:

1. Demonstrate a commitment to the ethical and legal aspects of surgery including patient privacy and autonomy, futility of care, end of life care and decision making and integrate these issues into patient care and team management
2. Demonstrate honesty, reliability, compassion, and respectfulness in working with patients and colleagues, and an ability to model these traits for junior colleagues
3. Summarize role of research in the context of patient care, the importance of peer/IRB review of protocols, ethical considerations, and the limitations of such endeavors. Explain the logistic and

conceptual complexity of the patient research consent process

4. Dress neatly and appropriately when working with patients and colleagues in all settings and maintain a professional demeanor at all times

### **Interpersonal and Communication Skills:**

By the end of the VA General Surgery rotation, the HO IV resident will be able to:

1. Collaborate with other health care personnel, being sensitive to their roles and abilities; demonstrates a ability to lead diverse care teams
2. Provide and receive advice and critical feedback in a manner that is consistent with patient-centered functioning of the health care team; serves as a role model and educator for junior members of the team
3. Communicate complex care decisions with patients and their families, explaining recommendations to them in terms each individual can comprehend, and assisting in guiding patients and families with decision-making
4. Demonstrate respect for patients' rights to privacy and autonomy
5. Demonstrate respect for sexual, moral, ethical, or religious characteristics of the patient and family, and other members of the healthcare team, and an ability to interact with patients and team members from diverse cultural backgrounds
6. Demonstrate respect for the special psychosocial needs of the surgical patient especially in the military Veterans population

# VA General Surgery

## House Officer V

**Goal:** During their HO V rotation, residents will build on their overall general surgical knowledge and operative experience. There will be more concentrated exposure to the underlying pathophysiology, presentation, treatment, and management of general surgery disease processes including colorectal, bariatric, hernia, and hepatobiliary/pancreatic surgery, with a special focus on the needs of the military Veteran patient population.

### Learning Objectives:

#### Patient Care:

By the end of the VA General Surgery rotation, the HO V resident will be able to:

1. Perform an accurate pre-operative assessment for the general surgery patient with straightforward and complex general surgery issues, including patients undergoing surgical treatment for hepatobiliary disease, colorectal disease, obesity, hernia; identify major and minor risk factors for complications and demonstrate an ability to risk-stratify patients; accurately coordinate, order, and interpret appropriate basic and advanced pre-operative tests and consultations; be capable of managing complex care issues and complex complications that occur within general surgery patients
2. Recognize, evaluate, and manage complex post-operative problems and complications in the general surgery patient promptly and accurately, an ability to manage basic and complex postoperative complications independently, guide junior colleagues in the management of complications, and seek answers to complex clinical problems in the medical literature; have a mastery of the medical literature in the core areas of general surgery
3. Chart accurately and in a timely fashion, including: progress notes accurately reflect patient condition and progress; operative notes, discharge summaries accurate and completed in timely fashion; coordinate and oversee charting of entire team, including junior residents and students; act as a role model for junior team members with respect to medical charting
4. Communicate effectively and compassionately with patients and their families, and communicate effectively and efficiently with other health care providers to optimize care delivery in increasingly complex care situations; lead a clinical team in providing coherent unified messaging to patients, families, and care providers
9. Demonstrate safe and effective surgical skills for level appropriate cases, including the ability to:
  - a. Execute skills outlined in HOI, II, III, and IV objectives plus:
  - b. Execute the necessary steps in a complex colectomy (e.g. APR), laparoscopic inguinal and ventral hernia repair, laparoscopic sleeve gastrectomy, hepatectomy, laparoscopic Roux en Y jejunostomy

#### Medical Knowledge:

By the end of the VA General Surgery rotation, the HO V resident will be able to:

##### 1. Inguinal and Femoral Hernia

- a. Create a treatment plan based on their knowledge of anatomy and physiology of primary and recurrent inguinal and femoral hernias
- b. Develop an intra-operative dissection plan based on their knowledge of the anatomy for laparoscopic approaches to groin hernia repair, including locations of the "triangle of doom" and "triangle of pain"
- c. Construct a treatment plan for addressing the intra-operative risks of both open and

- laparoscopic groin hernia repair
- d. Establish a treatment plan for post-operative management of uncomplicated groin hernia repairs, including provision of adequate pain control and wound management
- e. Develop a treatment plan based on patient symptoms and other available data to correctly identify post-operative groin hernia complications, both short and long term
- f. Demonstrate safe and effective management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **2. Ventral and Incisional Hernia**

- a. Develop appropriate patient treatment plans based on their knowledge of the anatomy of the abdominal wall and the physiology of primary and recurrent ventral hernias, including umbilical, epigastric, incisional and Spigelian hernias
- b. Evaluate the potential appropriateness of the common treatment options for ventral hernia for a given patient presentation, including both open and laparoscopic approaches
- c. Integrate principles of the anatomy and technique relevant to component separation abdominal wall reconstruction procedures into decision making and patient care
- d. Construct treatment plans to address the intra-operative risks of both open and laparoscopic ventral hernia repair
- e. Demonstrate competence in the post-operative management of ventral hernia repairs, including provision of adequate pain control and wound management.
- f. Construct a treatment plan based on symptoms and other data to correctly diagnose post-operative complications, both short and long term for ventral hernia repair
- g. Demonstrate safe and effective management of post-operative complications, including hematoma, urinary retention, surgical site infection, including "red flags" for notifying senior residents or faculty regarding potential need for reoperation

## **3. Hepatobiliary Disease**

- a. Summarize the principles of specialized anesthesia in hepatobiliary surgery
- b. Define the differences in diagnosis and management of neoplastic disease of the hepatobiliary system including "benign" hepatic tumors, malignant tumors
- c. Develop a treatment plan for the medical management of hepatobiliary disease including indications for palliative surgery
- d. Explain the scoring systems used to classify the severity of hepatobiliary disease (Child-Pugh and MELD scores) and their role in predicting candidacy for operative intervention

## **4. Colorectal Disease**

- a. Manage the complex issues of diverticular disease, including the application of laparoscopic washout and the role of one-, two-, and three-stage operations
- b. Manage the multidisciplinary care of the colorectal cancer patient, including coordination of chemo-, radio-, and surgical therapy
- c. Develop a management plan for postoperative surveillance of the patient with colorectal cancer after curative treatment
- d. Create a management plan for the patient with acute and chronic complications of inflammatory bowel disease, including the coordination of medical immunotherapy and surgical therapy
- e. Demonstrate an ability to perform a colectomy via a laparoscopic approach
- f. Demonstrate an ability to perform an APR and LAR with some faculty supervision

## **5. Obesity and Bariatric Surgery**

- a. Summarize the strengths and weaknesses of BMI as a metric for obesity, and the history, strengths, weaknesses, and current evolving concepts in BMI-based candidacy criteria for bariatric surgery, and apply these concepts to patient selection for bariatric surgery
- b. Develop a management plan for suspected anastomotic/staple line leak after bariatric surgery
- c. Describe the effect of bariatric surgery, specifically gastric bypass, sleeve gastrectomy, and gastric banding on GERD and esophageal motility
- d. Outline rationale and anatomical aspects of Roux-en-Y gastric bypass, e.g., length of common channel, length of Roux limb, antecolic vs. retrocolic and their consequences
- e. Create a management plan for the diagnostic workup and therapeutic management of the gastric bypass patient who presents with abdominal pain after surgery in peri-operative and

late postoperative periods

- f. Describe the anatomy, types, and management considerations for internal hernia after gastric bypass
- g. Summarize the pathophysiology of band slippage, methods of prevention at primary operation, and clinical presentation, diagnosis, and treatment
- h. Create a management plan for the diagnostic workup and therapeutic management of the bariatric surgery patient who presents with weight regain after surgery; explain the mechanisms of weight regain and weight loss failure after bariatric surgery and the principles of management
- i. Create a management plan for the patient with nutritional complications of bariatric surgery such as malnutrition, inadequate weight loss, excessive weight loss, vomiting, acute abdominal pain, bowel obstruction
- j. Define dumping and its putative mechanisms; distinguish between early and late dumping, and explain the suspected role of gut hormones in its pathogenesis
- k. Summarize the multidisciplinary requirements of bariatric surgery patients in inpatient and outpatient settings, in routine and adverse clinical courses, and how to manage the multidisciplinary team
- l. Summarize the basic principles of bariatric sensitivity in communicating with obese patients and families; explain how to effectively communicate information about complications after bariatric surgery to patients and families
- m. Define the basics of insurance payment for bariatric surgery, its limitations, and the effect of bariatric surgery on nationwide healthcare economics; are health care costs recouped after bariatric surgery as a result of improvement in co-morbid diseases? How long does it take to recoup costs? Is lifespan extended? Are cancer risks reduced?
- n. Critique the strengths and weaknesses of the current obesity and bariatric surgery literature
- o. Perform laparoscopic creation of a Roux limb

## **6. Benign Gallbladder Disease**

- a. Perform all of the basic steps of laparoscopic and open cholecystectomy with minimal assistance from faculty
- b. Define when to convert laparoscopic to open cholecystectomy
- c. Evaluate the high risk elderly patient with gallbladder disease and create a diagnostic and treatment management plan
- d. Explain "bailout" maneuvers in the operative management of the difficult inflamed gallbladder
- e. Determine the indications for percutaneous cholecystostomy and the indications for interval cholecystectomy after percutaneous cholecystostomy
- f. Describe the role of "prophylactic cholecystectomy" in the context of diabetes, bariatric surgery, and transplant patients
- g. Create a management plan for the pregnant patient with biliary colic; with cholecystitis
- h. Create a management plan for the patient with RUQ pain in the absence of cholelithiasis
- i. Create a management plan for patients with gallbladder dyskinesia, sphincter of Oddi dysfunction, porcelain gallbladder, gallbladder polyps, and post-cholecystectomy syndrome
- j. Describe the primary mechanisms and subtypes of bile duct injury
- k. Create a management plan for bile duct injury including non-operative and operative management
- l. Define the indications for and of how to perform intraoperative cholangiography.
- m. Evaluate the patient with an elevated bilirubin in the post-operative period following a laparoscopic vs. an open cholecystectomy
- n. Summarize the possible etiologies of elevated bilirubin in the post-operative period following a laparoscopic vs. an open cholecystectomy
- o. Manage the diagnostic evaluation of the patient with elevated bilirubin in the post-operative period following a laparoscopic vs. an open cholecystectomy

## **Systems-Based Practice:**

By the end of the VA General Surgery rotation, the HO V resident will be able to:

1. Describe how the health system functions to manage patient care, and how systems-based errors

impair quality of care; demonstrate an ability to navigate the system to expedite patient care as well as manage various aspects of multidisciplinary care; demonstrate an ability to lead and coordinate multidisciplinary care as team leader; act as a role model for navigating the health care system
2. Define the roles that support services, such as pharmacy, security and social work, play in patient care and health care delivery; demonstrate an ability to communicate effectively with these support services to deliver care and lead a team that includes multiple support services
3. Coordinate complex patient care including obtaining basic and advanced tests and scheduling procedures, both elective and emergency. Demonstrate an ability to interpret diagnostic results and limit the use of diagnostics to only those that are necessary for optimal patient care. Demonstrate an ability to manage a team in charge of coordinating basic and advanced diagnostic testing
4. Use multidisciplinary consultations, laboratory, radiographic and other diagnostic and consultative services appropriately; demonstrate an ability to interpret such test results in a manner that expedites overall patient care plans and lead a team in organizing coordination of multidisciplinary care
5. Collaborate with health care professionals associated with the VAH Surgery Service (physician assistants, nurse coordinators, discharge planners) demonstrate leadership in managing multidisciplinary care teams
6. Practice responsible, cost-effective health care and address issues of resource allocation without compromising quality of care; lead a clinical team in maximizing cost efficacy of practice patterns

### **Practice-Based Learning and Improvement:**

By the end of the VA General Surgery rotation, the HO V resident will be able to:

1. Attend regularly and participate actively in VA Surgery weekly and monthly conferences and other regular teaching conferences and sessions; demonstrate an ability to organize and lead conferences; oversee distribution of conference duties to all team members
2. Describe common and less common postoperative complications in the general surgery patient and demonstrates an ability to recognize and manage them at D&C Conference, and evaluate complications and assess practice patterns in the context of the medical literature. Demonstrate an ability to organize and lead conferences and serve as a role model for conference performance for junior colleagues
3. Describe management plan specific to patients with basic and advanced general surgery issues on service when questioned regarding their specific care, or related hypothetical patients; demonstrates an ability to guide long-term care in the context of a multidisciplinary team and a patient with multiple complex issues
4. Use medical literature to find answers to complex clinical problems in specific patients; demonstrate a mastery of the basic literature in the core areas of general surgery, including hepatobiliary, colorectal, bariatric, and hernia diseases; demonstrate a mastery of the subtleties of the literature on at least one topic of evolving subspecialty interest
5. Define the basic tenets of the scientific method as applied to clinical and/or basic science-translational research and outline the steps in the generation or statement of a research hypothesis from clinical questions or observations
6. Evaluate experimental design and interpret results in published literature (or planned research), including true randomization, sampling error, blinded studies, prospective versus retrospective evaluations, and the advantages and weaknesses of each; knows the distinction between dependent and independent variables under evaluation and knows the meaning of confidence intervals or "P" value in suggesting statistical significance. Apply these concepts to existing medical literature in the context of patient care situations

### **Professionalism:**

By the end of the VA General Surgery rotation, the HO V resident will be able to:

1. Demonstrate a commitment to the ethical and legal aspects of surgery including patient privacy and autonomy, futility of care, end of life care and decision making and integrate these issues into patient care and team management; serve as a role model for ethical behavior in the context of general surgical care
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| 2. Demonstrate honesty, reliability, compassion, and respectfulness in working with patients and colleagues, and serve as a role model for these traits for junior colleagues; demonstrate an ability to lead a team in a manner consistent with underlying principles of honesty, reliability, compassion, and respectfulness   |
| 3. Define the role of research in the context of patient care, and the importance of peer/IRB review of protocols, ethical considerations, and the limitations of such endeavors. Explain the logistic and conceptual complexity of the patient research consent process; participate in some aspects of clinical/basic science-translational research in the context of clinical care |
| 4. Dress neatly and appropriately when working with patients and colleagues in all settings and maintain a professional demeanor at all times; serve as a role model for professional presentation for junior colleagues   |

### **Interpersonal and Communication Skills:**

By the end of the VA General Surgery rotation, the HO V resident will be able to:

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| 1. Collaborate with other health care personnel, being sensitive to their roles and abilities; demonstrates the ability to lead diverse care teams  |
| 2. Provide and receive advice and critical feedback in a manner that is consistent with the patient-centered function of the health care team; serves as a role model and educator for junior members of the team; provide substantive feedback on a regular basis to junior team members |
| 3. Communicate complex care decisions with patients and their families, explaining recommendations to them in terms each individual can comprehend, and assisting in guiding patients and families with decision-making; model these skills for junior colleagues                         |
| 4. Demonstrate respect for patients' rights to privacy and autonomy.  |
| 5. Demonstrate respect for sexual, moral, ethical, or religious characteristics of the patient and family, and other members of the healthcare team, and an ability to interact with patients and team members from diverse cultural backgrounds  |
| 6. Demonstrate respect for psychosocial needs of the surgical patient especially in the military Veterans population  |