Goals and Objectives in Laparoscopic (Blue) Surgery

Educational Goals for Residents:
Intern (PGY-1)

Medical Knowledge

- Understand the physiology of the postoperative patient, including postoperative metabolism, wound healing, nutrition, hemostasis , and fluid and electrolyte issues.
- Understand the physiology of common postoperative problems in patients on the ward, including surgical infections, hemorrhage, and thrombotic events.
- Understand perioperative risk stratification of patients
- Understand the initial work up of common hernia, foregut and hepatobiliary patients on the blue surgery service.
- Understand the basic physiological changes following bilateral adrenalectomy, splenectomy, and Whipple procedure.
- Understand the anatomy of hepaticojejunostomy, gastrojejunostomy, pancreaticojejunostomy, esophagogastostomy, and a Roux – en- Y anastamosis.
- Understand the physiology of Gastroesophageal reflux and therapy
- Understand the basic physiology of gastric dysmotility and gastric ulcer
- Understand the basic physiology of digestion.
- Understand the anatomy of the biliary system
- Understand the physiology of gallbladder disease
- Understand the physiology of the synthetic function of the liver
- Understand the physiology of the exocrine and endocrine functions of the pancreas.
- Understand the basic epidemiology, symptoms, diagnosis and staging of neoplasms of the exocrine pancreas (adenoCA of Pancreas)
- Understand the physiology of the spleen
- Understand the anatomy of the abdominal wall, indications for treatment of abdominal wall hernia.
- Understand the physiology of the adrenal gland
- Recognize the indications for adrenalectomy
- Understand the physiology of aging.
- Understand the etiology and management of pancreatic pseudocysts
- Understand the chemotherapeutic agents used to treat esophageal and pancreatic cancers and their side effects

Patient Care

- Develop an understanding of the management of common postoperative patients on blue surgery and how these principles prevent complications.
- Understand the common methods of treating common postoperative complications including: chest pain, shortness of breath, hypotension, low urine output, fever, abdominal pain, and anastomotic leak.
- Understand the concepts surrounding drain and catheter care including: central lines, bladder catheters, chest tubes, feeding tubes, nasogastric tubes, and surgically placed tubes.
- Counsel and educate patients and their families.
- Learn to make informed decisions about diagnostic tests and therapeutic interventions.
- Understand the management of small bowel obstruction
- Understand the management of enterocutaneous fistula.
- Understand the management of ileus.
- Understand the interpretation of laboratory and radiographic liver tests.
- Understand the initial workup for the patient with pancreatic neoplasm
- Understand the perioperative issues of the patient undergoing splenectomy
- Understand the perioperative issues of the patient undergoing bilateral adrenalectomy
- Understand the perioperative issues of unilateral adrenalectomy
- Understand the potential complications of abdominal wall hernia repairs and their preventive strategies
- Understand the effects of aging on perioperative management of the surgical patient.

Professionalism

- Learn to communicate effectively and compassionately with patients, patients family, team members, and staff
- Learn to efficiently sign out patients to other teams
- Be sensitive to patients and in their social and cultural context
- Learn and practice the ethical principles involved with caring for the surgical population including, consent-ability, confidentiality, and informed consent.

Interpersonal and Communication Skills

- Respectfully interact with patients, staff, and families.
- Learn to listen and assess non-verbal cues from patients and staff
- Work effectively with the team, communicating issues appropriately and succinctly.

Practice-Based Learning

- Accept responsibility for the care of patients on the ward, learning and modifying practice management style.
- Apply knowledge of scientific data to the care of the surgical patient.
- Facilitate the learning of medical students and physician assistant students on the team.
- Use the OHSU library, databases and other IT to access medical information and review recent advances of the surgical patient.

Systems-Based Practice

- Develop systems to help maintain consistent quality of patient care.
- Understand, utilize and review clinical pathways for patients on blue surgery.
- Learn to practice cost-effective health care without sacrificing quality of care
- Assist patients to negotiate the medical system in a consistent and fair manner.

  Partner with health care managers to assist in providing seamless care across systems.

Educational Objectives for Residents

Intern (PGY-1)

Medical Knowledge

- Describe the physiology of refeeding syndrome
- Explain the relationship between overfeeding and pulmonary status
- Describe the potential complications arising from disorders in sodium, potassium, magnesium, and phosphorus balance. For each, describe the potential complications arising from these electrolyte abnormalities.
- Describe the evaluation of hypocalcemia in the postoperative patient.
- List the symptoms of hypercalcemia and the most common causes.
- Evaluate Abgs for the primary acid-base disorder.
- List three possible etiologies for persistent high NGT output in the postoperative foregut patient.
- Describe the action of octeotide
- Describe the perioperative issues of the adrenally insufficient patient
- Describe the primary (typical) and secondary (atypical) symptoms of GERD
- List the primary tests in the preoperative evaluation of the pt with GERD
- List three complications arising from long standing GERD
- Define Zenker's diverticulum and its most common cause.
- Define Barrett's Esophagus
- Describe the clinical presentation of a patient with esophageal cancer.
- List the diagnostic modalities for the evaluation of patient with suspected gastric malignancy.
- List the diagnostic tests available for the evaluation of H. pylori
- Describe the classic symptoms of pancreatic cancer and its incidence
- Describe OPSSI in the post-splenectomy pt
- Draw the anatomy of the gallbladder, triangle of Calot, and hepatic artery
- Describe epidural complications
- List the therapeutic options in the patient with delayed gastric emptying
- List at least seven etiologies for small bowel obstruction
- List at least seven etiologies for ileus
- List the causes of fistulas
- List the three (of four) causes of mesenteric ischemia
- Describe Childs classification and its impact on Cholecystectomy
- Develop a thorough understanding of inguinal hernias, including diagnosis, treatment and complications
- List the causes of pyogenic liver abscessList the causes of pancreatitis
- Describe the blood supply to the pancreas.
- Describe the anatomy of the pancreas including regions and ducts
- List the pancreatic enzymes
- List the pancreatic islet polypeptides
- Describe the location, size and blood supply of the spleen
- Describe the function of the spleen
- List the differential diagnoses of the patient with seizure, fever, obtundation, acute abdomen
- Describe the risks associated with :

    - Lap chole
    - Lap inguinal herniorrhaphy
    - Open inguinal herniorrhaphy
    - Veress needle insertion
    - Hassan technique
- List the differential diagnosis of the patient with
    - chest pain,
    - low urine output,
    - hypotension, and
    - hypoxia.
- Draw a schematic for the following surgeries:
    - Nissen fundoplication
    - Transhiatal esophagectomy with gastric pullup
    - Hepaticojejunostomy
    - Whipple
    - Peustow

Patient Care

- List the nutritional options for the NPO patient, the risks and benefits of each
- List the types of feeding tubes available for patients
- Describe the nutritional issues of the patient with pancreatic insufficiency
- List nutritional options for the patient with pancreatic insufficiency
- Calculate the estimated energy requirements for the postoperative patient
- Describe the treatment of a patient with mild hyponatremia
- List intravenous and enteral options for the replacement of potassium, phosphorus, and magnesium
- List the intravenous replacement solutions for calcium and describe the benefit for each.
- Describe the calculation of iv solution rate
- Describe the symptoms, evaluation, and management of intraabdominal abscess
- List the appropriate studies for the evaluation of patient with chest pain
- List the indications for Cholecystectomy
- List the indications for herniorraphy
- Describe the indications for lap vs. open inguinal hernia repair
- List four tests used in the evaluation of the patient with GERD
- Differntiate the following diaphragmatic hernias: hiatal hernia, paraesophageal hernia (all types) and Bockdalek henia.
- Describe Mallory Weiss syndrome
- Describe early and late dumping syndrome
- Describe the signs and symptoms, diagnostic tests and management of small bowel obstruction
- Differentiate between ileus and small bowel obstruction
- Identify the common clinical presentation of the patient with mesenteric ischemia.
- List appropriate immunizations following splenectomy
- Describe appropriate evaluation and treatment of suspected air leak of chest tube
- Describe the appropriate evaluation of suspected leak in a patient with intraabdominal drain.
- Describe the evaluation and management of NGT dysfunction.
- Demonstrate intracorporeal, extracorporeal, and slip knots in the laparoscopic training room. Understand the common methods of treating seizure, acute abdomen
- Identify the pancreatic lesions which might be evaluated by Octreotide scan.
- Describe the steps in evaluation of the patient with HOP mass, and determine resectability.
- Perform open inguinal hernia and minor procedures including: umbilical hernia, sebaceous cyst excision, incision and drainage, muscle biopsy. Have at least one of these evaluated
- Describe the initial evaluation and management of the patient with suspected
    - Small bowel obstruction
    - Enterocutaneous fistula
    - Cellulitis vs. subcutaneous abscess/fluid collection

Professionalism

- Attend Grand Rounds, Resident Conference, Mortality and Morbidity, GI Oncology, GI-Surgery meetings as well as Esophageal Care Conference (ECC) and Pancreatic and Peri-ampullary Oncology Conference (PPOC)
- Participate in absite preparation questions
- Learn to effectively, respectfully request a consult

Interpersonal and Communication Skills

- Demonstrate discharge instructions and advice
- Meet with midlevel practitioner within 48Hrs of start of service for orientation to the service
- Inform team of pertinent events of the day
- Maintain an accurate patient list and learn to hand off care when you leave the hospital

Practice-Based Learning

- Evaluate an article relating to pertinent patient care issues
- Learn to effectively, respectfully request a consult

Systems-Based Practice

* Review and recommend updates to current practice guidelines

Educational Goals for Residents:
Junior (PGY-3)
All intern goals as well as these Junior Resident specific goals

Medical Knowledge

- Understand the physiology of the acutely-ill postoperative patient in the SICU, including SIRS, hemostasis, ventilator management,
- Understand the physiology of shock: including hemorrhagic/hypovolemic shock, cardiogenic shock, septic shock, and obstructive shock.
- Understand physiologic monitoring of the ICU patient including invasive monitoring of arterial blood pressure, pulmonary artery catheters and hemodynamic monitoring, respiratory monitoring, and renal monitoring.
- Understand cancer biology, screening, and tumor markers for cancers of the foregut, hepatobiliary, and adrenal systems.
- Understand the basics of minimally invasive surgery including: patient positioning, room set up, trocar placement, and the management of special situations including cancer, cirrhotic/portal hypertension, and pregnant patients.
- Develop a thorough understanding of Gallbladder disease and its management
- Develop a thorough understanding of inguinal hernias, including diagnosis, treatment, and complications
- Understand the physiology of the patient with pheochromocytoma.
- Understand the basic physiology of the patient with neuroendocrine tumors
- Understand the physiology of the patient with portal hypertension.
- Understand the physiology of ITP.
- Understand basics of esophageal dysmotility
- Understand the physiology of the progression from Barretts to esophageal carcinoma
- Understand the physiology of gastric acid secretion, gastric motility, and gastric hormones
- Understand the physiology of digestion in the small intestine.
- Understand the basic surgical anatomical landmarks of the liver.
- Understand the physiology of liver failure.
- Understand the anatomy of the hepatic vasculature.
- Understand the physiology of acute and chronic pancreatitis.
- Understand the basics of neoplasms of the endocrine pancreas (neuroendocrine tumors)
- Understand the physiology of the spleen
- Understand the indications for splenectomy
- Understand the physiology, treatment and surgical principles of abdominal wall hernia repair
- Understand the anatomy of the mesentery
- Understand the physiology, treatment and surgical principles of inguinal hernia repair
- Understand the acute physiologic changes following adrenalectomy for pheochromocytoma and cushings disease

Patient Care

- Develop and practice management procedures for the care of the acutely ill postoperative
- Understand the diagnosis and management of abdominal compartment syndrome, shock, SIRS
- Understand the appropriate work up of the patient with foregut, hepatobiliary, pancreatic, and adrenal cancer.
- Understand the management of acute hemorrhage.
- Develop the ability to appropriately set up the patient and the operating suite for minimally invasive surgery.
- Develop a system of evaluation and treatment of the ICU patient
- Efficiently communicate with the SICU team
- Counsel patients and families regarding end of life decisions in ethically appropriate manner
- Understand the principles of performing a safe Cholecystectomy
- Understand the principles of performing a safe herniorraphy.
- Understand the principles of preoperative evaluation and staging for common cancers of the foregut, hepatobiliary, pancreatic, and adrenals.

- Understand the appropriate management of the patient with pheochromocytoma.
- Understand the basic principles of surgery for peptic ulcer disease
- Understand the basic principles for the management of Mallory-Weiss Tear
- Understand the management of obscure GI bleeding
- Understand the management of short bowel syndrome.
- Understand the classifications of cirrhosis and the prediction of surgical outcome
- Understand the management of the patient with acute pancreatitis, pancreatic pseudocyst.
- Understand the complications of pancreatic surgery
- Recognize hypocortisolism, appropriate suppression of pheochromocytoma

Professionalism

- Learn to effectively collaborate with the SICU team
- Learn to effectively use and consult other physician specialties
- Learn to assume a leadership position with the team when necessary
- Demonstrate responsiveness to patient needs, balancing ethical issues regarding withholding of care

Interpersonal and Communication Skills

- Effectively communicate with other team members in a leadership role
- Assist the chief by taking responsibility when the chief is unavailable
- Effectively consult other services
- Develop the ability to appropriately counsel and triage patients through telephone calls

Practice-Based Learning

- Practice regular review of outcomes and management styles
- Understand and review literature regarding management of particular pertinent issues
- Practice regular review of technical issues surrounding cholecystectomies, line placement, hernia repair, set up of minimally invasive surgical patient and suite.

Systems-Based Practice

- Learn to assist in continuity of care by informing appropriate services of events overnight. (phone calls, and ward issues)
- Develop systems to maintain consistent quality of care in the ICU setting in collaboration with the SICU team.
- Develop a method of effective transfer of the ICU patient primary care to the intern to promote learning, continuity, and consistent quality care.

Educational Objectives for Residents:
Junior (PGY-3)

Medical Knowledge

- List three (of five) types of primary esophageal dysmotility disorders
- List four (of five) manometric characteristics of achalasia.
- Describe esophageal impedence and its use.
- Describe three adjucts, or secondary tests for the evaluation of GERD
- Describe the difference between pulsion and traction diverticuli
- Describe the therapeutic options for the patient with Barretts disease with dysplasia.
- Describe the risks of central line placement.
- Identify the segmental anatomy of the liver on CT scan
- Describe the anatomic variants of cystic ducts
- List four different types of choledochal cysts
- Describe the evaluation of the patient with painless jaundice
- List the etiologies of pancreatitis, and the risk factors associated with prognosis
- Describe the etiologies and pathophysiology of pancreatic pseudocysts
- List the tenets in the therapy of acute pancreatitis
- Draw a schematic of the inguinal anatomy both laparoscopically and open
- Describe the three components of antireflux mechanism
- Describe the possible indications for transthoracic fundoplication
- Differentiate between Nissen, Dor, Toupet, Belsey Mark IV fundoplications
- Describe the manometric findings of the patient with scleroderma.
- Describe three options for esophageal reconstruction following esophagectomy
- Describe the blood supply to the stomach
- List four operations for gastric ulcer.
- Define zollinger Ellison Syndrome
- List three types of gastric cancers.
- Describe the indications for gastric secretory analysis

- Describe the formation of Gastrostomy, and list the risks involved with this formation.
- Name at least three types of gastrostomies.
- Describe the rule of 2's in Meckels Diverticulae.
- List the causes of parasitic liver abscesses
- Describe portal embolization and the indications for this in the patient with hepatic neoplasm
- Describe RFA for hepatic neoplasms
- Describe short bowel syndrome: patients at risk, clinical manifestations, treatment
- Draw a schematic for the following surgeries:
    - Loop gastrojejunostomy
    - Roux en Y gastrojejunostomy
    - Pyloroplasty
    - Heller Myotomy with Dor OR Toupet fundoplication
    - Hepatic segmentectomy
    - Hepatic lobectomy
- Describe the two variants of porta hepatis anatomy
- Describe pancreas divisum
- Describe the function of the pancreatic polypeptides
- Describe the presentation of each of the neuroendocrine tumors of the pancreas
- List the factors that determine the severity of acute pancreatitis
- Describe the complications of pancreatitis
- Describe a longitudinal pancreaticojejunostomy, distal pancreatectomy
- List the serum markers used in the following malignancies: Pancreatic cancer, esophageal cancer, adrenal tumors, hepatocellular cancer.
- List the incidence of accessory spleen in the general population and in those with hematologic disease.
- Describe the common locations of accessory spleen.
- List the indications for splenectomy

Patient Care

- Describe the difference between Bravo Probe and pH probe
- Describe esophageal impedence testing
- Read and analyze manometry tracings
- Read and analyze pH tracing
- Describe the initial management of the patient with suspected esophageal perforation.
- List the indications for surgical treatment of a bleeding duodenal ulcer.
- Describe clinical presentation of pt with Roux syndrome.
- Describe the morbidity and recurrence rate of surgery for fistula
- Describe the features of duodenal neoplasms amenable to Endoscopic polypectomy
- Describe the most common presentation of an adult patient with symptomatic Meckel's diverticulum
- Describe the evaluation of the patient with occult GI bleed.
- List the indications for TIPS
- Demonstrate safe placement of central line
- Demonstrate laparoscopic Cholecystectomy
- List the techniques needed to create the "critical view of safety" when performing laparoscopic Cholecystectomy
- Describe the steps of open Cholecystectomy
- Describe the signs and symptoms of bile leak
- List the diagnosis and management options of bile leak
- Describe the management of the patient with liver abscess
- Describe the evaluation and initial management of the patient with acute pancreatitis.
- Identify Passaro's triangle and its importance in gastrinomas
- Describe the evaluation and treatment of a pancreatic pseudocyst.
- Describe the early and late complications from Whipple procedure, their evaluation and management..
- Perform laparoscopic Cholecystectomy and one open procedure with attending. Technical aspects of each case will be evaluated.

Professionalism

- Attend Grand Rounds, Resident Conference, Mortality and Morbidity, GI Oncology, GI-Surgery, ECC, and PPOC meetings
- Collaborate with intern and demonstrate leadership in the care of ward patients

Interpersonal and Communication Skills

- Demonstrate method of SICU care hand off
- Demonstrate method of consulting another service

Practice-Based Learning

- Review an article pertinent to patient care issues

Systems-Based Practice

- Review and update practice guidelines.

Educational Goals for Residents:
Chief (PGY-5)

Responsible for all the intern and junior goals as well as the Chief specific goals.

Medical Knowledge

- Understand the physiology of esophageal carcinoma, staging, and surgical principles in esophagectomy
- Understand the physiology, treatment, and surgical principles of reflux disease
- Understand the physiology, treatment, and surgical principles of hiatal hernia and paraesophageal hernia.
- Understand the physiology, treatment, and surgical principles of esophageal dysmotility
- Understand the physiology, treatment, and surgical principles of gastric cancer and benign gastric neoplasms.
- Understand the physiology, treatment and surgical principles of small bowel neoplasms, meckel's diverticulum, and mesenteric ischemia.
- Understand the physiology and treatment of both primary and metastatic liver neoplasms, cystic diseases of the liver.
- Understand the physiology, treatment and surgical principles of pancreatic cancer, including periampullary tumors, pancreatic lymphoma, and neuroendocrine tumors.
- Understand the physiology, treatment, and surgical principles of pancreatic pseudocyst
- Understand the physiology, treatment and surgical principles of both laparoscopic and open splenectomy
- Understand the physiology, treatment and surgical principles of adrenal surgery including evaluation of pheochromocytoma, cushings, and adrenocortical cancer

Patient Care

- Develop an understanding for the surgical principles and care of the patient with esophagectomy
- Develop an understanding for he surgical principles and care of the patient requiring: hepatic resection, RFA, bland and chemoembolization
- Develop an understanding of the surgical principles and management of the patient with pancreatic neoplasm: including pancreaticojejunostomy, duodenopancreaticojejunostomy.

Professionalism

- Demonstrate compassionate care, respectful communication of patients, team members, students, and staff
- Develop professional commitment to the delivery of care of the patients on blue surgery service.

Interpersonal and Communication Skills

- Develop an ability to communicate and lead team members
- Develop ability to communicate bad news effectively to patients

Practice-Based Learning

- Understand the principles involved in appropriate M&M presentations.
- Evaluate the literature to support principles of patient management
- Review outcomes with the team to improve and enhance learning

Systems-Based Practice

- Understand and develop practice guidelines to enhance quality and continuity of care within the general surgery populations
- Practice cost-effective care without compromise of quality of care

Educational Objectives for Residents:
Chief (PGY-5)

Medical Knowledge

- Decribe the staging of esophagectomy
- Describe the controversy surrounding extent of lymph node dissection in esophagectomy
- Describe the difference in presentation, evaluation, treatment and survival for squamous cell, adenocarcinoma, and sarcomas of the esophagus.
- List the primary (5) and secondary (4) esophageal motility disorders and define each
- Describe the innervation of the esophagus
- List the indications for neoadjuvant therapy prior to esophagectomy
- Describe the lymphatic drainage of the stomach and label the lymph node stations
- Describe the management of perforation; retroperitoneal duodenum, intraperitoneal duodenum, jejunal and ileal perforation.

- List the common causes (both medical and surgical) of chylous ascites.
- Describe gastrinoma, and the boundaries and significance of the gastrinoma triangle
- Define the extent of gastrectomy in gastric cancer, and the extent of Lymphadenectomy
- Describe the advantages, disadvantages of liver imaging with MRI, CT, PET in the evaluation of HCC, colonic CA mets, hepatic cysts, hemangiomas, breast mets
- Discuss Childs score vs. MELD score in the preoperative evaluation of the hepatic resection candidate
- List the most common types of hepatic cysts, both benign as well as neoplastic. Describe the treatment of each.
- Describe the therapeutic options and indications for the patient with hepatic neoplasms including: resection, re-resection, RFA, embolization, chemoembolization.
- Describe the appropriate evaluation and treatment of the patient with neuroendocrine tumor.
- Describe familial pancreatitis, listing any syndromes, autoimmune diseases or genetic conditions that predispose pts to chronic pancreatitis.
- Describe the indications for, technical differences, and advantages of the: distal pancreatectomy and splenectomy, spleen preserving distal pancreatectomy, Peustow, Frey, duodenal preserving pancreatic head resection, pancreaticoduodenectomy (standard and pylorus preserving), and total pancreatectomy
- Describe the cystic neoplasms of the pancreas, indications for surgery, and malignant potential of each.
- Discuss the role of surgery in pancreatic lymphoma.
- Describe alternative treatment modalities for pancreatic pseudocysts and appropriate timing and outcomes of therapy

Patient Care

- List the steps in an open tranhiatal esophagectomy
- Differentiate between a D1 and D2 gastrectomy
- Describe the surgical options for duodenal neoplasms and their preoperative evaluation.
- Demonstrate Kocher maneuver
- Demonstrate the technique for development of gastrojejunal, pancreaticojejunal, and hepaticojejunal anastamoses
- Describe the radiologic findings of mild, moderate and severe chronic pancreatitis
- Describe the evaluation and management of the postoperative patient with pancreatic leak.
- Demonstrate pancreaticojejunostomy, hepaticojejunostomy, and gastrojejunostomy.
- Perform a major open abdominal case with attending. Technical aspects will be evaluated: eg: Whipple, Open esophagectomy.
- Perform an advanced laparoscopic case with attending. Technical aspects will be evaluated: eg: Laparoscopic Nissen Fundoplication

Professionalism

- Coordinate efforts of the team
- Attend Grand Rounds, Resident Conference, Mortality and Morbidity, GI Oncology, GI-Surgery, ECC, and PPOC meetings

Interpersonal and Communication Skills

- Delegate jobs clearly to the appropriate team member

Practice-Based Learning

* Participate in Mortality and Morbidity Conference

Systems-Based Practice

- Assist in the development of care pathways
- Assist in the coordination of call for all surgery residents