

Gastroenterology Curriculum

Goal

Gastroenterology encompasses the evaluation and treatment of patients with disorders of the gastrointestinal tract, pancreas, biliary tract, and liver as well as organs within the abdominal cavity. It requires knowledge of the manifestations of gastrointestinal disorders in other organ systems, such as the skin, and knowledge of nutrition and nutritional deficiencies, and screening and prevention, particularly for colorectal cancer.

Rotation on the medical ward services, gastroenterology elective, and in general medicine clinic will provide training for the resident to (1) understand risk factors for the development of gastrointestinal and hepatobiliary disease to effectively provide primary and secondary preventative care, (2) diagnose and treat a broad spectrum of gastrointestinal and related complaints commonly encountered in a general internal medicine practice, (3) develop familiarity with GI complications commonly encountered in the intensive care unit setting, (4) understand the social impact of chronic abdominal pain and the contribution of chronic illness behavior to these problems, and (5) recognize the need for and appropriate timing of GI referral.

With the exception of flexible sigmoidoscopy, the internist will usually be assisted by the gastroenterologist for diagnostic procedures. However, he or she should be familiar with the indications, contraindications, interpretation, and complications of the wide range of procedures performed by the gastroenterologist.

Objectives

Patient Care

- I. Provide patient care that is compassionate, appropriate and effective for the prevention and treatment of gastrointestinal and hepatobiliary disorders.

Medical Knowledge

- I. Develop the knowledge and skills to obtain an appropriate history for patients with complaints concerning for gastrointestinal or hepatobiliary disease.
- II. Develop the knowledge and skills for performing and interpreting physical exam findings on patients with suspected gastrointestinal or hepatobiliary disease, including abdominal exam, skin inspection, and rectal exam.
- III. Develop an approach to patients presenting the following symptoms or signs:
 - a. abdominal bloating or distention
 - b. acute and chronic abdominal pain
 - c. abnormal liver function tests
 - d. anorectal discomfort, bleeding, or pruritis
 - e. anorexia or weight loss
 - f. ascites

- g. biliary colic
- h. constipation
- i. diarrhea
- j. dysphagia or odynophagia
- k. early satiety
- l. excess intestinal gas
- m. fecal incontinence
- n. gastrointestinal bleeding
- o. heartburn
- p. hematemesis
- q. iron deficiency anemia
- r. jaundice
- s. malnutrition
- t. melena
- u. nausea or vomiting
- v. noncardiac chest pain

- IV. Recognize symptoms and signs, differential diagnosis and management of the following disease processes:
- a. achalasia
 - b. alcoholic liver disease and cirrhosis
 - c. alpha-1 antitrypsin deficiency
 - d. anal fissure
 - e. autoimmune hepatitis
 - f. Barrett's esophagus
 - g. celiac sprue
 - h. cholecystitis
 - i. cholangitis
 - j. colonic polyps
 - k. diverticulosis and diverticulitis
 - l. dyspepsia
 - m. gallstone disease
 - n. gastritis and peptic ulcer disease
 - o. gastroesophageal reflux disease
 - p. gastroparesis
 - q. GI manifestations of AIDS
 - r. hemochromatosis
 - s. hemorrhoids
 - t. hepatitis
 - u. hepatorenal syndrome
 - v. inflammatory bowel disease (Crohn's, ulcerative colitis, microscopic colitis, pouchitis)
 - w. irritable bowel syndrome
 - x. acute and chronic liver failure and associated complications (ascites, spontaneous bacterial peritonitis, encephalopathy, portal hypertension)
 - y. malabsorption

- z. mesenteric insufficiency
 - aa. neoplasm – esophagus, stomach, biliary tract, pancreas, liver, small bowel and colorectal
 - bb. pancreatitis – acute, chronic, pseudocysts
 - cc. peritonitis
 - dd. primary biliary cirrhosis
 - ee. primary sclerosing cholangitis
 - ff. steatohepatitis
 - gg. upper and lower gastrointestinal bleeding
 - hh. varices
 - ii. venoocclusive disease
 - jj. Wilson’s disease
- V. Understand issues related to the initial assessment of patients for liver transplant and initial management of patients with a history of organ transplant.
- VI. Become familiar with the management of nutritional support.
- a. Know normal body metabolism/caloric requirements and understand the changes that occur with stress/disease/starvation.
 - b. Know how to calculate ideal body weight.
 - c. Develop competence in the management of obesity.
 - d. Understand indications for enteral and parenteral nutrition.
 - e. Know methods of enteral nutrition (nasogastric/nasojejunal feedings, PEG, PEG-J, jejunostomy tubes).
 - f. Know how to order and adjust peripheral and central parental nutrition.
- VII. Understand appropriate use, interpretation and limitations of the following diagnostic studies:
- a. complete blood count with indices
 - b. chemistries
 - c. liver function tests – recognition of patterns
 - d. amylase and lipase
 - e. B12 and folate levels
 - f. stool guaiac
 - g. stool studies: fecal leukocytes, ova and parasites, culture, fat, electrolytes, osmolality
 - h. hepatitis serologies
 - i. blood tests for autoimmune, cholestatic and genetic liver diseases
 - j. assays for *Helicobacter pylori*
 - k. tumor markers
 - l. serum gastrin level
 - m. abdominal x-ray
 - n. upper and lower GI series
 - o. abdominal CT scan
 - p. gastric emptying study
 - q. gall bladder radionuclide (HIDA) scan

- r. liver spleen scan
 - s. WBC scan
 - t. bleeding scan
 - u. PET scan
 - v. abdominal ultrasound
 - w. endoscopic ultrasound
 - x. magnetic resonance pancreatography
 - y. mesenteric arteriography
 - z. upper and lower endoscopy with/without biopsy
 - aa. endoscopic retrograde pancreatography
 - bb. liver biopsy
 - cc. 24 hour esophageal pH monitoring
 - dd. esophageal and anorectal manometry
 - ee. swallowing study
 - ff. electrogastrogram
 - gg. small bowel absorption tests
 - hh. lactose and hydrogen breath tests
 - ii. laxative screen
 - jj. Schilling test
- VIII. Develop competence in the following procedures:
- a. Nasogastric intubation
 - b. Anoscopy
 - c. Flexible sigmoidoscopy
 - d. Paracentesis
- IX. Understand appropriate use of the following interventions:
- a. TIPS
 - b. speech pathology
 - c. esophageal dilation
 - d. psychiatric/psychologic evaluation and treatment
 - e. iron therapy, erythropoietin and transfusion

Practice-Based Learning and Improvement

- I. Utilize multidisciplinary approach to manage patients with chronic abdominal pain, involving surgeons, social workers, psychologists, psychiatrists, nurses, and pharmacists.
- II. Be able to access clinical practice guidelines to help improve patient care.
 - a. American Gastroenterological Association - www.gastro.org/clinicalRes/
- III. Research specific clinical questions arising from patient care for best evidence-based practice.
- V. Review patient care errors with attention to changes in systems to prevent recurrence.
- VI. Utilize information technology to enhance patient education.

Interpersonal and Communication Skills

- I. Communicate effectively with patients and families in a compassionate, culturally sensitive and patient-centered manner to improve understanding and compliance.
- II. Understand the impact of chronic pain on family and workplace.
- III. Develop specific skills for dealing effectively with patients lacking insight, patients acting against medical advice, and patients continuing to use alcohol/drugs.
- IV. Develop skills to counsel patients on colorectal cancer screening risks and benefits.
- V. Ensure charting is legible, thoughtful, complete and timely to facilitate communication within the health care team.

Professionalism

- I. Understand impact of gender, age, culture, religion, and socioeconomic status on patient compliance with therapy.
- II. Understand how to inform patients regarding the natural history of their disease and the risks and benefits of therapeutic interventions to obtain informed consent for procedures and treatments.
- III. Develop a respectful, compassionate approach to counseling patients with substance abuse problems and addressing code status and hospice in patients with end-stage liver disease, and patients receiving palliative care for gastrointestinal malignancies.
- IV. Respect patient confidentiality, particularly with respect to substance abuse and disability issues.
- V. Provide meaningful feedback to colleagues and students regarding performance and behavior.

Systems-Based Practice

- I. Understand and utilize community resources for substance abuse.
- II. Interact with the multidisciplinary team including the social worker, nurse, pharmacist, therapist and billing coordinator to provide optimal care.
- III. Apply evidence-based, cost-conscious strategies to prevention, diagnosis and disease management.
- IV. Understand the factors involved in the determination of eligibility for transplant.
- V. Develop skills in identifying opportunities for quality improvement, risk management and cost-effectiveness within a practice.

Teaching Methods

- I. Attending supervision of resident activities in patient care
- II. Teaching rounds
- III. Individual rounds with the gastroenterologist, surgeon, pathologist and radiologist to review specific cases.
- IV. Conferences
 - Morning report

- Noon conference
- V. Recommended reading

Resident Evaluation

- I. Attending feedback to residents on strengths and weaknesses throughout the rotation
- II. Attending written evaluation of residents at the end of the rotation
- III. Mini-CEX bedside evaluation tool

Resources

Harrison's Principles of Internal Medicine, 15th ed. McGraw Hill, 2001.

Cecil Textbook of Medicine, 21st ed, Saunders, 2000.

Sleisenger and Fordtran's Gastrointestinal and Liver Disease: Pathophysiology/Diagnosis/Management, 6th ed Saunders, 1998.

Yamada's Textbook of Gastroenterology, 4th ed. Lippincott Williams & Wilkins, 2003.

Yamada's Gastroenterology/Atlas, Lippincott Williams & Wilkins, 2003.

MKSAP

On-line Resources

- UptoDate
- MDConsult
- Practice guidelines
 - American Gastroenterologic Association - www.gastro.org
(links to ACG, ASGE, AASLD)

Residents should review *Annals of Internal Medicine* for recent Updates in Gastroenterology and Hepatology section as well as ACP journal club for pertinent articles.