

Vanderbilt University Medical Center
Emergency General Surgery Service
Surgical Residency Rotation and Curriculum

UNIT 12 ALIMENTARY TRACT AND DIGESTIVE SYSTEM

UNIT OBJECTIVES:

1. Demonstrate an understanding of the anatomy, physiology, and pathophysiology of the alimentary tract and digestive system.
2. Demonstrate the ability to manage emergency problems of the alimentary tract and digestive system that are amenable to surgical intervention.

COMPETENCY-BASED KNOWLEDGE OBJECTIVES:

Junior Level:

1. Explain and give examples for the following aspects of gastrointestinal diseases:
 - a. Ulceration of the proximal GI tract
 - b. Causes of GI obstruction
 - c. Causes of paralytic ileus
 - d. Causes of GI hemorrhage
 - e. Causes of GI perforation
 - f. Causes of abdominal abscess formation or secondary peritonitis
 - g. Short gut and malabsorptive conditions
 - h. Acute and chronic mesenteric ischemia
 - i. Portal hypertension and venous thrombosis
 - j. Inflammatory bowel diseases
 - k. Causes of an acute abdomen
 - l. Management of intestinal ostomies
2. Outline the essential characteristics of routine and highly specialized diagnostic evaluation of the alimentary tract, including:
 - a. History
 - (1) Pain (4) Prior episodes
 - (2) Nausea/emesis (5) Past surgical history
 - (3) Bowel function
 - b. Physical examination:
 - (1) Inspection (3) Percussion
 - (2) Auscultation (4) Palpation
 - c. Radiologic examinations, including:
 - (1) Barium swallow
 - (2) Upper GI Series with small bowel follow-through
 - (3) Enteroclysis
 - (4) Ultrasound
 - (5) Transesophageal echo
 - (6) Computerized Tomography
 - (7) Magnetic Resonance Imaging
 - (8) Barium enema

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(9) Angiograms

(10) Nuclear scans for bleeding or to evaluate for Meckle's diverticulum

d. Fiberoptic endoscopy

e. Rigid anoscopy and sigmoidoscopy

3. Summarize current medical management and its potential limitations; explain the role of emergent surgical intervention when management fails in the following:

a. Peptic ulcer disease

d. Gastroparesis

b. Esophageal varices

e. Inflammatory bowel disease

c. Upper and lower GI bleeding

f. Diverticulitis

Senior Level:

1. Explain the physiologic rationale for the following gastrointestinal operations:

a. Vagotomy

b. Pyloroplasty

c. Gastric resection for ulcer disease

d. Small bowel resection with anastomosis

e. Ostomy formation

f. Bypass of GI tract segments for unresectable obstructing tumors

g. Drainage of abdominal and retroperitoneal abscesses (percutaneous vs. operative)

2. Detail the standard intraoperative techniques and alternatives associated with each of the above operations.

3. Discuss the surgical ramifications of the following statement: "The expectation of more frequent vague gastrointestinal complaints by the elderly patient may delay presentation with significant illness and diagnosis."

4. Summarize the preoperative, intraoperative, and postoperative management of complex diseases of the alimentary tract and digestive system, in the emergency setting, including:

a. Re-operative abdomen

b. Failed peptic ulcer and reflux operation

c. High output GI fistulas

d. Inflammatory bowel disease with strictures, pouches, ostomies, and perineal fistulas

e. Recurrent colon malignancy

f. Carcinomatosis

COMPETENCY-BASED PERFORMANCE OBJECTIVES:

Junior Level:

1. Evaluate emergency department or clinic patients who present with problems referable to the GI tract.

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2. Serve as assistant to the primary surgeon during operations of the stomach, small intestine, colon, and anorectum.
3. Perform less complicated surgical procedures such as:
 - a. Gastrostomy
 - b. Meckel's diverticulectomy
 - c. Appendectomy
 - d. Incision and drainage of perirectal abscesses
4. Accept responsibility for (under the guidance of the chief resident and attending surgeon) the postoperative management of:
 - a. Nasogastric tubes
 - b. Intestinal tubes
 - c. Intra-abdominal drains
 - d. Intestinal fistulas
 - e. Abdominal incisions (simple and complicated)
5. Evaluate and manage nutritional needs (enteral and parenteral) of surgical patients until normal GI function returns.
6. Provide follow-up care to the surgical patient in the outpatient clinic or surgical office.

Senior Level:

1. Perform initial consultation for inpatients with problems of the GI tract; develop differential diagnosis and initiate treatment plan.
2. Assist the chief resident and attending staff with complex digestive system cases.
3. Perform, under appropriate supervision, GI operations, including:
 - a. Small bowel resection with anastomosis
 - b. Drainage of abdominal and retroperitoneal abscesses
 - c. Lysis of adhesions
 - d. Repair of enterotomies
 - e. Colon resection
 - f. Creation of ostomies
4. Select and interpret appropriate pre- and post- operative diagnostic studies.
5. Assist junior residents in the diagnosis, surgical management, and follow-up care of patients with emergency diseases of the alimentary tract and digestive system.
6. Coordinate intervention of multiple specialties that may be involved in management of complex GI problems such as:
 - a. Varice hemorrhage
 - b. Biliary obstruction
 - c. Chronic varices
 - d. Inflammatory bowel disease
 - e. Chronic abdominal pain
 - f. Chronic constipation
 - g. Localized and advanced malignancies

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7. Perform appropriate reoperative laparotomy for a variety of gastrointestinal problems.
8. Supervise postoperative care of GI and digestive tract surgical patients.