

## Gastrointestinal Hemorrhage

### Assumption

The student understands the anatomy (including blood supply) and physiology of the gastrointestinal tract, to include the esophagus, stomach, small bowel, colon, and anorectum.

### Goal

The student will be able to describe the initial management of a patient with acute upper and lower GI hemorrhage. The student will be able to name the major causes of GI hemorrhage and develop a diagnostic and treatment plan for each.

### Objectives

By the end of the core surgical clerkship, the student will be able to:

1. Define upper vs. lower GI hemorrhage and explain how this can be determined clinically.
2. Describe the initial management of a patient with an acute GI hemorrhage, and state the indications for fluid replacement, choice of fluids, and blood transfusion.
3. List the most common causes of upper and lower GI hemorrhage and for each, describe a diagnostic and treatment plan including the indications for surgical intervention.
4. Explain the role of gastrointestinal endoscopy and interventional radiology in the management of acute GI hemorrhage.

### Problems

For each of the following problems, answer the following questions:

- What further data should be obtained from the patient's history?
  - What physical exam findings would you look for?
  - What is your differential diagnosis?
  - What work-up would you recommend (include laboratory tests and diagnostic interventions)?
  - What therapy or treatment would you recommend?
1. Patient #1 - A 25-year-old, otherwise healthy, medical student presents with acute abdominal pain, nausea, vomiting, and bright red blood per rectum.
  2. Patient #2 - A 65-year-old man presents with hypotension and bright red blood and clots per rectum. Two months ago, he had a similar episode of massive bleeding for which he did not seek medical advice.
  3. Patient #3 - A 62-year-old woman is referred with chronic anemia.

### Skills

1. Conduct a focused history and physical examination to include abdominal, pelvic and rectal exams.
2. Demonstrate the ability to:
  - a. Place NG tubes, IV catheters, and Foley catheters. *\*Refer to ACS/ASE Medical Students Simulation-Based Surgical Skills Curriculum modules.*
  - b. Irrigate an NG tube.
3. Write admission orders.

**Gastrointestinal Hemorrhage** (continued)

**Teaching Hints**

1. Present case in which gastrointestinal bleeding source could be upper or lower in origin. Ask students to develop an algorithm for differentiating upper from lower, formulate the differential diagnosis, and work-up a plan to confirm diagnosis.
2. Discuss medical vs. surgical therapy, pros and cons of each, giving guidelines as to when each is appropriate.
3. Discuss case scenarios of pediatric etiologies.
4. ASE members may consider using the ASE PowerPoint teaching modules (upper and lower GI bleed) located at: <https://surgicaleducation.com/teaching-modules>.
5. Have students observe upper and lower endoscopy, whenever possible.
6. Include students in conferences incorporating gastroenterology, surgery, and radiology.

**Prevention**

Discuss the role of diet, medication, alcohol, caffeine, and *H. pylori* treatment in natural history and prevention of GI hemorrhage.

**Special Considerations**

Discuss etiologies and management of GI hemorrhage in the pediatric population such as Meckel's diverticulum and intussusception.