Gastrointestinal System

United States Medical Licensing Examination (USMLE) Step 1

5 to 10% of Step 2 CK · 9 sections · content outline and specifications

The gastrointestinal system is about 5 to 10% of Step 2 CK. Questions ask what you would do next for a patient: the most likely diagnosis, the best first test, the most accurate test, the first-line drug and the timing of surgery. Many items start in the emergency department with bleeding or abdominal pain, so stabilize first and then find the source. Liver disease, the pancreas and the biliary tree, inflammatory bowel disease and screening for colorectal cancer and hepatitis appear often. Pediatric items test pyloric stenosis, intussusception and feeding problems. Nutrition is coded on top of the system, so expect questions on feeding in illness, malabsorption and refeeding.

You should be able to: After this guide, you should be able to stabilize and work up a GI bleed or an acute abdomen, choose the best test and first-line treatment for common biliary, pancreatic, liver and bowel diseases, apply current hepatitis and colorectal cancer screening rules, and feed a sick patient safely.

Every section: the key point and the trap

1 GI bleeding: stabilize, then find the source

Start with the ABCs: two large-bore IV lines, crystalloid, type and crossmatch. Transfuse red cells to a hemoglobin of about 7 g/dL (8 g/dL with heart disease).

Trap: Do not transfuse to a normal hemoglobin; a liberal target raises portal pressure and rebleeding. Do not skip antibiotics in a cirrhotic bleed; they lower death.

2 Acute abdomen: appendicitis, diverticulitis and ischemia

Peritonitis (rigid abdomen, rebound, guarding) or free air on an upright x-ray means a surgical emergency.

Trap: A soft abdomen does not rule out a catastrophe. Pain out of proportion is the warning sign of ischemia; waiting for peritonitis means the bowel is already dead.

3 Biliary and pancreatic disease

Biliary colic: brief pain after meals, normal labs. Acute cholecystitis: longer pain, fever, Murphy sign. Ultrasound is the first test; a HIDA scan helps when ultrasound is unclear.

Trap: Do not send a patient with gallstone pancreatitis home to wait months for surgery. Do not order ERCP for every gallstone pancreatitis; it is for duct obstruction or infection.

4 Liver disease and cirrhosis

Cirrhosis signs: spider angiomas, palmar erythema, ascites, a large spleen, low platelets, low albumin and a high INR.

Trap: Do not restrict protein in hepatic encephalopathy; malnutrition makes cirrhosis worse. Do not skip the paracentesis because the patient looks well.

5 Viral hepatitis: serology, screening and prevention

HBsAg means current infection. Anti-HBs means immunity. Anti-HBc means past or present real infection, because the vaccine does not make it.

Trap: Anti-HBs alone means vaccination; anti-HBs with anti-HBc means past infection. Do not limit hepatitis C screening to people with risk factors.

6 Inflammatory bowel disease and colorectal cancer screening

Crohn disease: any part of the gut, skip lesions, full-thickness inflammation, fistulas, strictures, noncaseating granulomas, often the terminal ileum.

Trap: Do not use the average-risk age of 45 for a patient with a young first-degree relative. Count back 10 years from the relative's age at diagnosis.

7 Dysphagia and GERD

Trouble starting a swallow, cough or nasal regurgitation means oropharyngeal dysphagia. Think stroke, Parkinson disease, myasthenia or Zenker diverticulum, and get a swallow study.

Trap: Do not treat alarm features with a proton pump inhibitor trial. Do not scope a suspected Zenker diverticulum first; a barium swallow is safer.

8 Pediatric GI

Pyloric stenosis: a first-born boy aged 2 to 8 weeks with projectile nonbilious vomiting and a hungry baby. Ultrasound confirms it.

Trap: Pyloric stenosis is a medical problem first and a surgical problem second; do not operate on an alkalotic, dry infant. Do not use an enema when there are signs of perforation or peritonitis.

9 Malabsorption and nutrition

Celiac disease: iron deficiency that does not respond to oral iron, diarrhea, bloating or dermatitis herpetiformis. Test tissue transglutaminase IgA with total IgA while the patient eats gluten, then confirm by duodenal biopsy.

Trap: A normal phosphate on admission does not make full-calorie feeding safe. Do not test for celiac disease after the patient has already stopped gluten; the result can be falsely negative.

Key terms

Melena: Black, tarry stool caused by digested blood, usually from the upper GI tract.

Hematemesis: Vomiting blood.

TIPS: Transjugular intrahepatic portosystemic shunt, a stent in the liver that lowers portal pressure.

ERCP: Endoscopic retrograde cholangiopancreatography, an endoscopy that reaches the bile duct to clear and drain it.

HIDA scan: A nuclear scan that shows whether bile flows into the gallbladder.

Paracentesis: Removing fluid from the abdomen with a needle.

Asterixis: A flapping movement of the outstretched hands, seen in liver failure.

Manometry: A test that measures pressure and muscle contractions in the esophagus.

Pyloromyotomy: Surgery that cuts the thick muscle at the stomach outlet.

Refeeding syndrome: Dangerous shifts of fluid and minerals when a starved person starts eating again.

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