A 38-year-old man presents with 4 hours of chest pressure and nausea which began while eating steak at a local restaurant. Presently, the patient is hemodynamically stable but endorses worsening of his symptoms when attempting to drink liquids. Upper endoscopy with visualization of the lower third of the esophagus demonstrates the findings shown on the right.

Which of the following statements is true regarding food bolus impaction?

A. Push technique should be avoided due to the high risk of esophageal perforation
B. Management with proteolytic enzymes is associated with hyponatremia
C. Intravenous glucagon is an effective alternative to endoscopic therapy
D. Esophageal biopsies are contraindicated in the setting of prolonged impaction
E. Eosinophilic esophagitis has been reported in as many as 30% of patients presenting with food bolus impaction

Answers will be posted 2 weeks after the course
A 72 year-old plumber with a past medical history significant for coronary artery disease, tobacco use, and obesity presents to the clinic for evaluation of gastrointestinal symptoms. A couple months ago, he started experiencing increased salivation, a sensation of foreign body during swallowing, as well as recurrent nocturnal tussive episodes. Physical examination revealed dental caries, halitosis, and tongue leukoplakia. Routine laboratory findings revealed a hemoglobin for 14.4 mg/dl, platelets of 267. The patient brings with him discs of acquired imaging by his primary care physician.

His condition is characterized by which of the following:

A. Severe inflammatory infiltrate in the submucosa of the esophagus with elongation of the dermal papillae
B. Iron deficiency anemia is a classic association although not frequent
C. Could be seen in association with epidermolytic diseases
D. There is a possible increase in squamous cell carcinoma risk
E. Impaired relaxation of the upper esophageal sphincter has been implicated
A 98 year-old woman presents with recurrent dysphagia and throat discomfort. She reports a history of coughing up a bean that she ate the night before. On one occasion she underwent Heimlich maneuver. Her past medical history includes osteoporosis and osteoarthritis. She lives independently. She has a long-term history of upper esophageal stenosis associated with a diverticulum (image 1), which has been managed conservatively for years. She has frequent regurgitation and marked dysphagia to the point that she is now dependent on percutaneous gastric tube for nutrition.

In general, what is the diagnostic test of choice for suspected Zenker’s diverticulum?

A. Upper endoscopy
B. Barium esophagography
C. Nasopharyngeal laryngoscopy
D. Video barium swallow
E. Transnasal endoscopy

A 57-year-old woman with a history of high blood pressure and osteoporosis was seen because of a 7 month history of dysphagia primarily for solids. The patient has been treated with a combination of an ACE inhibitor and a calcium channel blocker for her high blood pressure and alendronate for her osteoporosis. During endoscopy, the patient was noted to have shedding of esophageal mucosal fragments that occurred during endoscopic advancement. Esophageal biopsies revealed mucosal blistering in the absence of significant inflammation.

What is the most likely diagnosis?

A. Severe erosive esophagitis
B. Eosinophilic esophagitis
C. Esophagitis dissecans superficialis
D. Dystrophic epidermolysis bullosa
E. Epidermolysis bullosa acquisita

Answers will be posted 2 weeks after the course
A 56 year old man with symptoms of longstanding non-cardiac chest pain, undergoes high resolution manometry to further evaluate his symptoms. High resolution manometry demonstrates impaired LES relaxation and abnormal peristalsis with ≥ 20% of swallows with panpressurization (Figure 1). Which would be the next best step in the management of this patient?

A. Serial Pneumatic Dilation  
B. Barium Esophagram  
C. Esophagogastroduodenoscopy  
D. Laparoscopic myotomy with Dor fundoplication

Figure 1

Answers will be posted 2 weeks after the course
A 52-year-old woman with a history of Hashimoto’s thyroiditis, uncontrolled hypertension and arthritis is referred to you with a chief complaint of difficulty with swallowing. Her dysphagia has been getting worse in the last 6 months and it is mainly noted with solids. She also describes daily attacks of pain and color changes in her fingers, which were always triggered by cold temperatures. A complete blood count (CBC) is normal, and there are no electrolyte abnormalities. Her erythrocyte sedimentation rate (ESR) is elevated, and an antinuclear antibody test (ANA) is positive with a anti-centromere pattern. Further antibody studies are negative (anti-double stranded DNA, anti-single stranded DNA, anti-SCI-70, anti-Smith, anti-centromere, anti-RNP, anti-SSA, anti-SSB, and anti-histones). To evaluate her dysphagia, you ordered a barium swallow with fluoroscopy, as well as an esophagogram.

All of the following are correct about the GI manifestations of this disease except:

A. Antimicrobial coverage can be beneficial some patients
B. This patient is at risk of developing Barrett’s esophagus
C. Gastric emptying studies demonstrate accelerated gastric emptying in most patients
D. Patients may experience diarrhea or constipation
E. The upper third of the esophagus is not commonly involved

**Answer C**

The diagnosis is systemic sclerosis (scleroderma). About 90% of patients with scleroderma have some degree of gastrointestinal involvement. C is not correct because accelerated gastric emptying is not common in patients with scleroderma. In one study, delayed gastric was demonstrated in about 82% of patients with scleroderma. Gastric dysmotility occurs due to collagen disposition and smooth muscles atrophy. A is correct since malabsorption resulting from small intestinal bacterial overgrowth (SIBO) is common in scleroderma patients which can be treated with antibiotics to reduce intestinal flora. B is correct because the annual risk of Barrett’s esophagus development is up to 12.7% in scleroderma patients; this is due to increased reflux and inflammation of the distal esophagus. D is correct since patients may experience diarrhea secondary to SIBO; or constipation secondary to large intestine involvement. E is correct since scleroderma usually affect smooth muscles and the upper skeletal muscle portion of the esophagus is rarely involved.
A 71-year-old woman presents to your clinic with six months of progressive dysphagia. She is now only able to tolerate small sips of water. She denies odynophagia. She has a history of breast cancer treated with right lumpectomy, chemotherapy, and radiation treatment to the breast 5 years ago. She denies a history of caustic injury or GERD. An esophagram is shown, and an EGD was performed and revealed an intrinsic moderate stenosis measuring 11 cm (in length) x 6 mm (inner diameter) in the distal one half of the esophagus that was traversed. Biopsies were non-diagnostic.

What is the most likely cause of the stricture?

A. Radiation induced stricture
B. Peptic stricture.
C. Malignant stricture from metastatic breast cancer.
D. Scleroderma

Answers will be posted 2 weeks after the course
49-year-old man with a history of asthma is seen in clinic for several years of solid-food dysphagia and acid reflux. Dysphagia is worse with dry food. It is relieved by drinking water and eating very slowly. He also reports regurgitation of food. He does not have a history of food impaction. An EGD was performed and the picture of the esophagus is shown below. Esophageal biopsies are significant for 25 eosinophils/hpf.

What is the next step in treatment?

A. Proton pump inhibitor twice a day for eight weeks followed by repeat endoscopy and biopsies
B. Fluticasone MDI with drug swallowed for eight weeks followed by repeat endoscopy and biopsies
C. Six food elimination for eight weeks followed by repeat endoscopy and biopsies
D. Prednisone orally for eight weeks followed by repeat endoscopy and biopsies
E. Esophageal dilation

Answers will be posted 2 weeks after the course
A 38-year-old woman presents with progressive dysphagia to both solids and liquids over the last 6 months. An EGD is performed and did not show any evidence of mechanical obstruction or esophagitis. Biopsies from the mid and distal esophagus showed 1-5 eosinophils per high-powered field. A high-resolution esophageal manometry is performed and is shown below.

Which of the following is the next best step managing this patient’s condition?

A. Botulinum toxin  
B. Long-acting nitrate  
C. Calcium channel blocker  
D. Surgical myotomy  
E. Esophagectomy
A 76-year-old woman with a history of cirrhosis presents for evaluation of iron-deficiency anemia. A colonoscopy is unremarkable. On upper endoscopy, the gastric antrum has the appearance as shown on the right. Several of these lesions were noted to be actively bleeding. Biopsies from the antrum demonstrate the histologic findings of tortuous gastric mucosal capillaries, spindle cell proliferation, fibrohyalinosis, and fibrin thrombi.

What is the next best step in her management?

A. Initiation of a non-selective beta blocker
B. Thermoablative therapy
C. Transjugular intrahepatic portosystemic shunt (TIPS) placement
D. Octreotide infusion
E. Referral for liver transplant

A 50-year-old man is seen in clinic for evaluation of dyspepsia. His symptoms began 6 months ago. His pain is unrelated to meals and he denies nausea, vomiting, early satiety, or bloating. He does not take aspirin or NSAIDs. Prior to his current evaluation, his primary care physician treated him with a PPI twice a day for 8 weeks and there was no improvement in his symptoms after treatment. On physical examination, the patient noted moderate epigastric tenderness to palpation. No fever, abdominal masses, or lymphadenopathy were noted. The patient underwent CT imaging which was unrevealing. On upper endoscopy he was noted to have a 4 cm mass in the body of the stomach. Endoscopic ultrasound was performed and revealed a hypoechoic 4th layer tumor (Figure 1). Biopsy with immunostaining reveals CD117 positivity (Figure 2).

What is the likely diagnosis of the stomach lesion?
A. Leiomyoma
B. Duplication Cyst
C. Schwannoma
D. Carcinoid
E. Gastrointestinal stromal tumor (GIST)

A 56-year-old man is referred for an elevated gastrin of 850 pg/mL. Gastric pH is elevated. What is the most likely etiology?

A. Gastric outlet obstruction  
B. Retained gastric antrum  
C. Antral G cell hyperplasia  
D. Atrophic gastritis  
E. Gastrinoma

Answers will be posted 2 weeks after the course

A 66-year-old man is newly diagnosed with gastric adenocarcinoma. Testing for H pylori by stool antigen is positive. Which H pylori virulence factor does not pose an increased risk of gastric cancer?

A. CagA  
B. VacA  
C. BabA  
D. oipA  
E. GGT

Answers will be posted 2 weeks after the course

A 25-year-old man with a history of migraine headaches presents for evaluation of recurrent emesis and abdominal pain. His symptoms began 2 years prior to his presentation. He describes episodes of lethargy followed by severe epigastric pain and nausea lasting 30 minutes to 1 hour with up to 6-8 subsequent vomiting episodes per hour. His symptoms last several hours and then gradually resolve. He reports multiple extended periods over the past year in which he was asymptomatic. He started smoking marijuana daily after the onset of his symptoms. Subsequent evaluation included an upper endoscopy and duodenal biopsy which were normal and a solid-phase gastric emptying study which demonstrated 25% gastric emptying at 1 hour, 75% emptying at two hours, and 99% emptying at 4 hours.

What is the most appropriate first step in managing this patient?

A. Initiate rifaximin therapy  
B. Initiate a low dose tricyclic antidepressant (TCA) medication  
C. Require the patient to follow gluten free diet  
D. Initiate a gastroparesis diet low in fat and fiber with small, frequent meals.  
E. Referral to a psychiatrist

Answers will be posted 2 weeks after the course
A 46-year-old gentleman underwent abdominal ultrasound for intermittent post-prandial dyspepsia. Findings were only significant for a 2.9 cm solid lesion in segment V of the liver. On subsequent MRI of the liver with triple phase IV contrast, the lesion was found to have rapid arterial enhancement with isointensity in later venous phases, most consistent with a hepatic adenoma. The scan did not show any evidence of cirrhosis or portal hypertension. Serum alpha-fetoprotein was 3.4 ng/mL (normal < 6 ng/mL). Of note, he does not have chronic liver disease or risk factors for it. He does not take any hormonal medications or supplements.

What is the next step in management?

A. Refer to a surgeon for resection
B. Biopsy of the lesion
C. Repeat MRI in 6 months
D. Repeat ultrasound in 6 months
E. Reassurance, and no further or intervention needed

References:
A 52 year old gentleman was referred to you for concern of iron overload. He was first evaluated by his primary care provider for chronic bilateral hand pain that was worse in his knuckles. He has no swelling or morning stiffness. He feels well otherwise. His past medical history includes hypertension, impaired fasting glucose, and being overweight. He does not drink alcohol and is a non-smoker. Laboratory results were notable for normal cell counts, high ferritin of 1048 mcg/L, with serum transferrin saturation of 82%. His liver enzymes were mildly elevated (AST 62 U/L, ALT 75 U/L) with normal alkaline phosphatase and bilirubin. He had normal CRP and ANA. Hepatitis B and C serologies were negative. HFE gene testing revealed that he carried two copies of C282Y gene mutation. His hand x-ray is shown below.

What is the next best step in management?
A. Perform joint aspiration and connective tissue disease serologies
B. Perform liver biopsy
C. No further testing needed; start treatment with iron chelation
D. No further testing needed; start treatment with therapeutic phlebotomy
E. Symptomatic management of his arthralgias and repeat liver chemistry in 3 months.
You are seeing a 57-year-old woman who was referred from the primary care clinic where she was followed for shortness of breath for abnormal liver tests. She is a non-smoker and has a remote history of IV drug use. She denies any abdominal pain or jaundice. Her only current symptom is an exertional shortness of breath that she has had for 4 months, without chest pain or orthopnea. Current medications are azithromycin for presumed bronchitis, and PRN albuterol inhaler. Today she has palmar erythema and digital clubbing. Her abdomen is non tender, with no fluid wave. Labs from her primary care physician’s office: AST: 64U/L, ALT: 58U/L; Alkaline Phosphatase: 97U/L; Bilirubin: 0.8mg/dL; Hgb: 13g/dL; MCV: 100fL; WBC: 140X10^9/L; Plts: 140X10^9/L; Na: 136mmol/L; Cr: 0.9mg/dL; Albumin: 3.4g/dL; INR: 1.3. Workup for the shortness of breath included a CT scan with contrast that showed no pulmonary embolism (see CT images), a routine echocardiogram with normal ejection fraction and an ABG (pH: 7.49; PaO2: 59mmHg; PaCO2: 34mmHg). An ultrasound of the abdomen shows coarse hepatic echotexture, small ascites and splenomegaly.

A workup for abnormal liver tests initiated by her PCP showed a positive anti-HCV and an elevated viral load. She was then referred to the GI clinic for management of hepatitis C.

The next best step in her management is:

A. Initiate a 12-week course of ledipasvir/sofosbuvir with routine follow-ups
B. Wait until her presumed bronchitis is resolved then start ledipasvir/sofosbuvir
C. Follow-up in 3 months with US and hepatitis C viral load to confirm chronic infection before treatment
D. Refer patient to a transplant center

Answers will be posted 2 weeks after the course
A 25-year-old woman with a BMI of 34, gravida 1, para 1, is referred to you for an isolated elevation in the AST (310 U/L) first detected during pregnancy. Review of her records reveals that she had undergone an extensive workup, including a normal abdominal CT scan, and blood testing including viral serologies, A1AT testing, ceruloplasmin, autoimmune tests, and the results were unremarkable. The ALT, alkaline phosphatase, and bilirubin were normal. Cardiac and skeletal evaluation was unrevealing. With concern for possible liver disease of pregnancy, the patient was observed closely during her pregnancy, and the course was uneventful. The liver tests were followed and remained normal during the pregnancy and the post-partum period, except for a persistent elevation in the AST ranging between 250 and 350 U/L. A total of 2 liver biopsies were obtained as part of the workup, both showing minimal steatohepatitis. The patient is being referred to you for further evaluation. She is asymptomatic, and denies knowledge of any previous liver disease. She says her liver tests were never checked prior to the recent pregnancy, and denies any history of jaundice, pruritus or abdominal pain. Besides prenatal vitamins, she was on no medication recently. The AST today is 379 U/L, and the ALT, bilirubin, alkaline phosphatase, INR and albumin remain normal. You order a test that shows that 95% of the serum AST activity precipitates with polyethylene glycol (AST post-PEG precipitation: 20 U/L).

Which of the following is the next best step in management?

A. Repeat a third liver biopsy to rule out advanced fibrosis from NASH
B. Check CK enzyme level and consider EMG and muscle biopsy
C. Reassurance and no further testing
D. Genetic testing and counseling against any future pregnancy

Answers will be posted 2 weeks after the course

A 32-year-old man with a 2-year history of primary sclerosing cholangitis and mild pancolonic ulcerative colitis presents to your clinic for follow up. He has been relatively asymptomatic describing daily formed bowel movements, no hematochezia, no abdominal pain, and has not had any episodes of cholangitis. Liver biochemistries are normal and unchanged from last year. He is currently on mesalamine for his ulcerative colitis. Which of the following malignancies is this patient not at increased risk for?

a. Cholangiocarcinoma  
b. Hepatocellular carcinoma  
c. Carcinoma of the gallbladder  
d. Colorectal carcinoma

Answers will be posted 2 weeks after the course

A 42-year-old woman was referred to you for evaluation of liver lesions identified on a CT scan at the local ER. The CT was done as part of an assessment for kidney stones; her symptoms from the kidney stones have resolved. Her past medical history is unremarkable without any risk factors for liver disease. She is on oral contraception. Family history is unknown. Physical exam is normal. An MRI of the liver is performed (picture below) which is reported as innumerable hypervascular masses throughout both lobes of the liver with no appreciable washout. You decided to proceed with a biopsy of the largest lesion, which measures 4 cm, and pathology report is consistent with HNF1A mutated hepatocellular adenoma.

Which one of the following would you advise?
A. Referral for liver transplantation
B. Discontinuation of oral contraceptive and repeat MRI in 12 months.
C. Biopsy of non-involved liver
D. Surgical resection of largest lesion
E. Radiofrequency ablation of largest lesion

Answers will be posted 2 weeks after the course
A 65-year-old man with a history of chronic hepatitis C was referred to the GI clinic for further evaluation of a liver mass. He presented to a local emergency room 3 days ago for colicky right lower abdominal pain. A CT scan of the abdomen with intravenous contrast showed a 3 mm stone in the right kidney without evidence of hydronephrosis or hydroureter. A 1.5 cm hyperenhancing nodule was incidentally found in the right hepatic lobe. A laboratory evaluation showed a platelet count of 130x10^9/L, INR 1.0, AST 60 U/L, ALT 35 U/L, total bilirubin 1.0 mg/dL, and creatinine 1.2 mg/dL. The serum alpha-fetoprotein was elevated at 450 ng/mL. The HCV viral load was 1.5 million IU/mL and the genotype was 1.

What is the next best step in the management of this patient?

A. CT guided biopsy of liver mass
B. Four phasic CT or Dynamic multi-phasic MRI of the abdomen
C. Liver ultrasound in 3-4 months for interval follow up of the liver mass
D. No need for follow up of the liver mass
E. Liver transplant clinic referral for the management of HCC

Answers will be posted 2 weeks after the course

A 48-year-old Asian man with a history of chronic hepatitis B virus (HBV) infection was referred to GI clinic for further evaluation of liver nodules. He was started on tenofovir treatment 3 years ago for e-antigen negative chronic active hepatitis B. He has been tolerating the medication well and the most recent blood test showed undetectable HBV DNA with normal serum ALT, AST, and bilirubin. He recently underwent a liver ultrasound (US) for HCC surveillance. US showed two new hypoechoic nodules in the left lobe of the liver. The largest nodule was 0.8 cm in size. No nodules were seen during the previous liver ultrasound 6 months ago. Laboratory evaluation was significant for a platelet count of 180x10^9/L, INR 1.0, AST 24 U/L, ALT 35 U/L, total bilirubin 0.9 mg/dL, and creatinine 0.8 mg/dL. The serum alpha-fetoprotein was elevated at 25 ng/mL. He is anxious about this finding as his mother died of liver cancer at the age of 45 and his younger brother was just diagnosed with a liver tumor earlier this year.

What is the next best step in the management of this patient?

A. CT guided biopsy of liver nodule
B. Four-phase CT or dynamic multi-phasic MRI of the abdomen
C. Liver ultrasound in 3-4 months for interval follow up of the liver nodule
D. No need for follow up of liver nodules as he does not have cirrhosis
E. Fibroscan to assess the severity of liver fibrosis

A 65 years-old-man presents with intermittent moderate sharp right upper quadrant and epigastric pain radiating to the back, lasting for 4 hours postprandially, associated with nausea. The physical examination revealed normal vitals, epigastric tenderness with guarding and a negative Murphy's sign. Alkaline phosphatase 348 U/L, ALT 415 U/L, AST 166 U/L, total bilirubin 1.3 mg/dL, direct bilirubin 0.8 mg/dL, and WBC 12.1/µL. Abdominal ultrasound showed a 1.76-cm dilated common bile duct (CBD), dilated bilateral intra hepatic ducts, and normal gallbladder. HIDA scan was compatible with complete CBD obstruction. His abdominal ultrasound 6 years ago was positive for a 0.9 cm gallstone and a 0.5 cm CBD. On endoscopic retrograde cholangiography a large, bulbous cyst protruding just above the ampulla was noted (Image 1). A biliary sphincterotomy was performed and a stone was extracted (Image 2). The biopsies of the cyst lining showed duodenal epithelium rather than biliary epithelium. An MRI the following day showed a normal decompressed bile duct.

What is the next best step in management?

A. No further treatment is required  
B. Surgical ampullectomy  
C. Whipple procedure  
D. Roux-en-Y hepaticojejunostomy

A 68-year-old woman is referred to GI clinic for evaluation of an incidentally-detected pancreatic cyst. She had a CT scan performed for evaluation of microscopic hematuria. On the CT imaging, a hypodense area was noted in the head of the pancreas. MRI was obtained for better characterization of the lesion.

The MRI (Figure 1) demonstrates 1.5 cm multicystic lesion with central scar. The pancreatic duct is normal in caliber and no visible communication with the cyst.

The patient is currently asymptomatic. She does not have a prior history of pancreatitis. There is no family history of pancreatitis or pancreatic cancer.

Which of the following is the most likely diagnosis based on clinical presentation and imaging?

A. Mucinous cystic neoplasm
B. Pancreatic pseudocyst
C. Branch duct intraductal papillary mucinous neoplasm (IPMN)
D. Serous cystadenoma
E. Main duct IPMN

Figure 1.
A 32-year-old man presented with abdominal pain and hematochezia. His blood tests revealed the following: Hemoglobin 7.2 gm/dl, MCV 72 fl, ferritin 8 ng/ml, lipase 1088 U/L, and IgG4 78 mg/dl. His liver tests were normal. A colonoscopy showed pancolitis and a normal appearing terminal ileum. A pancreas-protocol CT scan showed diffuse enlargement of the pancreas with irregular narrowing of the main pancreatic duct. The pancreatic core biopsy demonstrated the histologic hallmark of the disease as shown in the image below.

Which of the following is true regarding his underlying disease?

A. It is poorly responsive to corticosteroids
B. In patients who achieve clinical remission with corticosteroids, the risk of relapse is less than 20%
C. Majority of patients with this condition have associated ulcerative colitis
D. The typical histologic finding is lymphoplasmacytic sclerosing pancreatitis (LPSP)
E. Serum IgG4 levels are a reliable marker of disease recurrence

Answers will be posted 2 weeks after the course

A 50-year-old-man with alcoholic chronic pancreatitis presented with chronic abdominal pain requiring daily narcotic analgesics. He did not have a history of diabetes mellitus and denied any weight loss or steatorrhea. A pancreas-protocol CT scan demonstrated dense calcification in the pancreatic head and a focal stricture in the main pancreatic duct with upstream duct dilation measuring 7 mm.

Which of the following is the next best step in management?

A. Surgical consultation to consider pancreatic ductal drainage procedure
B. Pancreatic enzyme replacement therapy
C. ERCP and pancreatic duct stenting
D. Total pancreatectomy and auto islet transplantation
E. Celiac plexus block

Answers will be posted 2 weeks after the course

A 29-year-old, gravida 2, para 1 woman, who is currently 20 weeks pregnant, is admitted with right upper quadrant pain. She endorses a three week history of intermittent, severe, right upper quadrant pain with significant post-prandial worsening. The pain is associated with nausea and occasional emesis. On exam, she has a gravid abdomen and tenderness to palpation in the right upper quadrant. Murphy’s sign is negative. An abdominal ultrasound (shown below on the right) is performed and demonstrates a contracted gallbladder with a small amount sludge, prominent common bile duct with a large stone, and negative sonographic Murphy’s sign. An ERCP is recommended for further management.

Pregnant patients undergoing ERCP are at higher risk for which of the following complications?

A. Fetal malformation
B. Post-ERCP pancreatitis
C. Cholangitis
D. Oversedation
E. Perforation

A 46-year-old woman without any significant past medical history presents for evaluation of intermittent right upper quadrant pain occurring over the past 3 years. The pain has no relation to food intake and is not associated with any other symptoms. An ultrasound is performed for further evaluation. This demonstrates a normal appearing gallbladder without evidence of cholelithiasis. Three gallbladder polyps measuring 4 mm, 6 mm, and 19 mm are noted.

Which one of the following would you advise?

A. Surgical referral for cholecystectomy  
B. Repeat ultrasound in 6 months  
C. Repeat ultrasound in one year  
D. No further evaluation  
E. Endoscopic ultrasound for further characterization

Answers will be posted 2 weeks after the course

A 76-year-old woman presents to your clinic six weeks after an episode of acute pancreatitis secondary to gallstones. During her initial course, she was discharged after 7 days of hospitalization when she was successfully transitioned to oral intake after a few days of nasojejunal tube feeding. She denies any fevers, nausea, vomiting or abdominal pain now. Her appetite is normal and she has maintained her weight. Past medical history is significant for significant coronary artery disease and mild cognitive impairment. Vitals: temperature 37.4 C, heart rate 84 beats/min, blood pressure 108/68 mm Hg, respiratory rate 12 breaths/min, and oxygen saturation 98%. On physical exam, abdomen is soft and non-tender. Laboratory work is notable for Hemoglobin of 12.6%, WBC 8.8 X 10^3 /µL, creatinine 1.0 mg/dL, BUN 19 mg/dL, alkaline phosphatase 88 U/L, AST 25 U/L, ALT 28 U/L, total bilirubin 0.8 mg/dL, and albumin 3.9 g/dL. Abdominal computed-tomography with IV contrast is shown below.

Which of the following is the next best step in management?
A. Initiate antibiotics
B. CT-guided drain placement
C. Endoscopic necrosectomy
D. Observation
E. Surgical necrosectomy

Answers will be posted 2 weeks after the course
A 56 year old man is referred for evaluation of “spots” in the pancreas that were incidentally found on CT scan performed in the ER after a motor vehicle accident. He was found to have suffered only minor bruises which have resolved and currently he is asymptomatic. He is worried about pancreatic cancer after reviewing the CT results with his primary care physician. The physical exam is unremarkable. Labs show the following- Hemoglobin 14.2 g/dL, Platelets 232 X 10³ /µL, AST 36 U/L, alkaline phosphatase 98 U/L, Ca-19-9 18 U/mL. MRCP is performed which is shown below.

Which of the following is the next best step?

A. Referral for surgical resection
B. Reassurance and follow up with interval imaging
C. Cholecystectomy
D. No follow up is necessary

Answers will be posted 2 weeks after the course

A 41-year-old woman presents with severe upper abdominal pain that began 1 day earlier and was associated with nausea and vomiting. Her vitals reveal temperature of 38.4°C, heart rate of 112 beats/min, blood pressure of 108/68 mm Hg, respiratory rate of 12 breaths/min, and oxygen saturation 98%. On physical exam, her epigastrium is minimally tender to deep palpation. Laboratory work is notable for hematocrit 49.6%, WBC 12.8 x 10^9/L, creatinine 1.2 mg/dL, BUN 32 mg/dL, ALP 56 U/L, AST 45 U/L, ALT 38 U/L, total bilirubin 0.8 mg/dL, and lipase 648 U/L. Blood cultures are pending. Abdominal computed-tomography is shown below.

Which of the following will likely provide the most benefit for this patient’s condition?

A. Nasojejunal feeding
B. Fluid resuscitation
C. Broad-spectrum antibiotics
D. Glucocorticoids
E. Observation

Answers will be posted 2 weeks after the course

A 35-year-old man comes to the emergency department because of severe abdominal pain for the past 10 hours. He reported waking up in tremendous pain. Although he denies any similar pain in the past, he reported experiencing burning epigastric pain for the past 8 months. The previous episodes have been relieved by eating. His blood pressure is 100/70 mm Hg, pulse is 90/min, and respirations are 28/min. His abdomen appears flat, rigid, and "board-like". Imaging obtained in the ED is noted below. The most appropriate next step in evaluating his abdominal pain is which of the following?

A. Auscultation of the abdomen
B. Deep, slow palpation with rapid release
C. Light palpation at point of maximal tenderness
D. Shifting dullness evaluation
E. Percussion at point of maximal tenderness

Answers will be posted 2 weeks after the course

A 25-year-old nulliparous woman presents with complaints of post-prandial abdominal pain, nausea and diarrhea. She has no history of perianal abscesses. An abdominal examination reveals tenderness in the right lower quadrant without rebound. Rectal examination is normal. MR enterography revealed the findings shown on the right. She is eager to become pregnant.

What is the next best step in her management?

A. Methotrexate  
B. Azathioprine  
C. Certolizumab  
D. Methotrexate plus certolizumab  
E. Azathioprine plus certolizumab
A 60-year-old woman with diabetes, hypertension and COPD presents with 3 months of watery diarrhea. Her medications include lisinopril, hydrochlorothiazide, metformin and an albuterol inhaler. She undergoes colonoscopy with random biopsies, and a representative section is shown on the right.

Which of the following is recommended?

A. Loperamide
B. Bismuth salicylate
C. Prednisone
D. Cholestyramine
E. Budesonide

Answers will be posted 2 weeks after the course.
An 86-year-old man presents with a three-month history of worsening nausea, vomiting, and 20-pound weight loss. He is admitted for concerns of a partial small bowel obstruction and CT abdomen shows the findings noted here. What is the likely etiology of his symptoms?

A. Infectious gastroenteritis
B. Acute mesenteric thrombosis
C. Medication side effect
D. Paraneoplastic dysmotility
E. Adhesive small bowel obstruction

Answers will be posted 2 weeks after the course.

American Journal of Roentgenology. 1973;119: 332-334. 10.2214/ajr.119.2.332
A 21-year-old man developed a three-week history of progressive abdominal distension, nausea, vomiting, and a 25-pound weight loss. A CT abdomen demonstrated folding of the cecum anterior to the ascending colon. He is hemodynamically stable without evidence of acute peritonitis. He has not had a bowel movement for three days and has not passed flatus. What is the best management option for this condition?

A. Initiate oral vancomycin and IV metronidazole
B. Surgical resection
C. Place cecostomy tube
D. Administer neostigmine
E. Cecopexy
A 26-year-old male with a recent diagnosis of primary sclerosing cholangitis and pancolonic ulcerative colitis is advised to undergo his first surveillance colonoscopy. Which of the following is the most appropriate method of surveillance:

a. Colonoscopy using standard white light colonoscopy with greater than 32 random biopsies
b. Colonoscopy using standard white light colonoscopy with targeted biopsies
c. Virtual chromoendoscopy utilizing narrow band imaging with greater than 32 random biopsies and/or targeted biopsies
d. Dye-based chromoendoscopy with methylene blue or indigo carmine with greater than 32 random biopsies and/or targeted biopsies

Answers will be posted 2 weeks after the course
A 22-year-old woman with a 2 year history of Crohn’s disease with ileocolonic and perianal distribution presents to your office as a new patient. She is currently on infliximab and azathioprine and is having 2 formed bowel movements daily with no abdominal pain. You send her to the immunization clinic to update her immunizations. Which of the following immunizations is **contraindicated** in this patient?

a. 13 valent pneumococcal vaccine  
b. 23 valent pneumococcal vaccine  
c. Human papilloma virus vaccine  
d. Varicella vaccine
A 53-year-old woman with prior appendectomy presented to the Emergency Department with acute onset right lower quadrant abdominal pain. An abdominopelvic computed tomography (CT) scan shows thickening in the proximal ascending colon. A subsequent colonoscopy revealed a large mass in the ascending colon involving more than 50% of the colon circumference (image). Endoscopic biopsies showed moderately differentiated adenocarcinoma. Which of the following is the most appropriate next step?

A. Repeat colonoscopy for endoscopic mucosal resection of the lesion.
B. CT scan of the chest.
C. Consultation with colorectal surgery for right hemicolectomy
D. PET scan from the orbits to thighs.
E. Measure serum CEA.

Answers will be posted 2 weeks after the course
A 70-year-old community dwelling man develops acute watery diarrhea, weakness, and rigors. Upon admission to the local hospital, stool PCR is positive for *Clostridium difficile*. Physical examination is significant for tachycardia and lower abdominal tenderness without rebound or guarding. Laboratory studies show a leukocytosis of 16,900/L, creatinine of 1.2 mg/dL, and albumin 4.2 g/dL. He is treated with oral vancomycin 125 mg four times daily for two days without significant change in clinical status. On hospital day 3, intravenous metronidazole 500 mg three times daily is added. He is able to tolerate oral medications and small volumes of a clear liquid diet. On hospital day 4 his vital signs are normal, and the leukocytosis has resolved, but due to abdominal distention and passage of only small liquid bowel movements a CT scan of the abdomen is obtained. A representative image is shown. Which of the following is the most appropriate next step?

A. Continue oral vancomycin at the current dose and discontinue intravenous metronidazole.
B. Discontinue oral vancomycin and intravenous metronidazole and start oral fidaxomicin.
C. Continue current therapy and add vancomycin enemas 500 mg in 100 mL three times daily.
D. Arrange for colonoscopy for retrograde fecal microbiota transplant.
E. Surgical consultation for urgent colectomy.
A 19-year-old man with a long history of recurrent bacterial infections involving ears, sinuses, and lungs is referred to you for a chronic diarrhea evaluation. His diarrhea is watery and it began many years ago, but it has been getting worse over the last 6 months. The diarrhea coincides with episodes of abdominal pain. He has a negative family history for colon cancer. His stool was tested negative for infection twice in the past 6 months. Colonoscopy reveals normal colon with multiple lesions in the terminal ileum which were biopsied. The biopsies revealed markedly hyperplastic, mitotically active germinal centers and well-defined lymphocyte mantles found in the lamina propria.

What is your next step in management?

A. Check serum immunoglobulins (IgG and IgA or IgM)
B. Genetic testing
C. Gluten-free diet
D. Colorectal surgery consult

63 year-old woman with a history of long standing pan-ulcerative colitis and PSC undergoes chromoendoscopy for colon cancer surveillance. The lesion shown in the picture below was identified during the procedure.

What is the next best step in management of this patient?

A. Targeted biopsies to exclude dysplasia
B. Refer to colorectal surgery for total colectomy with ileal pouch anal anastomosis (IPAA)
C. Attempt to remove the lesion by endoscopic mucosal resection
D. Optimize the treatment and repeat the chromoendoscopy in 3 months
E. High definition colonoscopy with random biopsy in 1 year
A 32 year old woman with ulcerative pancolitis on infliximab is admitted with abdominal pain, diarrhea, and fevers over the past 2-3 days. Her ulcerative colitis has been well-controlled. She denies recent hospitalization, sick contacts, or recent antibiotic therapy. Her vitals show T 38.3, HR 92, BP 132/70, RR 16, and O2 99% on room air. An abdominal exam reveals mild tenderness to palpation diffusely, but no peritoneal signs. Labs show a leukocytosis to 16,000 cells/mm³ and albumin of 2.8 g/dL, but normal electrolytes and creatinine. Her C-reactive protein is mildly elevated. An abdominal x-ray is normal. Stool studies for enteric pathogens are sent and a flexible sigmoidoscopy with biopsies is obtained and shown below. *Clostridium difficile* testing returns positive. She has no history of *Clostridium difficile* infection.

Which of the following is the next best step in management?

A. Oral metronidazole 500 mg every 8 hours
B. Oral vancomycin 125 mg every 6 hours
C. Surgical consultation for urgent colectomy
D. Fidaxomicin 200 mg every 12 hours
E. Fecal microbiota transplantation

Answers will be posted 2 weeks after the course


A 68 year old man undergoes colonoscopy for colon cancer screening. He has not had abdominal pain, weight loss, melena, hematochezia, or a change in bowel habits. Colonoscopy revealed a 20 mm nodular polyp in the sigmoid colon shown below. The polyp was fully removed endoscopically first using a snare with electrocautery and then a cold snare. Later that night, he presented to the emergency department with intermittent chills and left-lower quadrant abdominal pain. Vitals were T 38.1, HR 90, BP 130/80, RR 18, and O2 98% on room air. Labs were notable for a WBC count of 13,000. A CT scan was obtained demonstrating thickening at the sigmoid colon with associated fat stranding and no intraperitoneal air.

Which of the following is the next best step in management for this patient's condition?

A. Surgery consultation  
B. Repeat colonoscopy  
C. Contrast enema  
D. IV fluids, NPO, and broad-spectrum antibiotics  
E. Observation

Answers will be posted 2 weeks after the course