1. A 70-year old White Male who is from a nursing home and bedridden presents to the emergency room with abdominal distension. Xray of the abdomen showed massive dilation of the colon. You diagnosed the patient with colonic pseudo-obstruction (Ogilvie syndrome). Your initial management is:
   A. Take the patient to the operating room for an exploratory laparotomy with resection of the involved portion of colon
   B. Administer neostigmine
   C. Observation
   D. Place a nasogastric tube and give enemas

2. The Amsterdam criteria II for Hereditary nonpolyposis colorectal cancer (HNPCC), or Lynch Syndrome, includes all of the following except:
   A. One must be a first degree relative the other two
   B. At least one of the relatives with colorectal diagnosed before the age of 50
   C. At least two successive generations are involved
   D. There must be multiple polyps found on colonoscopy

3. Which of the following statement is true about CEA?
   A. It is always found to be high in individuals with colorectal cancer
   B. It serves as a useful screening tool for colorectal cancer
   C. It is helpful in detecting recurrence after surgical resection
   D. It is found specifically on colonic tissue

4. In regards to colonic diverticula, Which of the following is NOT true?
   A. They are true diverticula
   B. They are pulsion diverticula
   C. They most commonly involve the sigmoid colon
   D. They are more common in Western countries

5. A 65-year old Hispanic male presents to the Emergency Department with abdominal pain, bloody diarrhea and was diagnosed with ischemic colitis on endoscopy. Which segment of the colon is mostly commonly involved?
   A. Ascending
   B. Transverse
   C. Splenic Fleture
   D. Sigmoid
   E. Rectum
6. A 50-year old African American female underwent splenectomy for Idiopathic Thrombocytopenic Purpura and she developed post-splenectomy sepsis. Which of the following is NOT true?
   A. Splenectomy increases levels of IgM
   B. Splenectomy decreases clearance of bacteria from the blood
   C. Splenectomy decreases opsonic activity
   D. None of the above

7. Which of the following NOT true about splenic abscess?
   A. High mortality with death rates ranging from 40-100%
   B. It can be a result of trauma
   C. The most common organism are staphylococci and nonenteric streptococci species
   D. The finding of gas in the spleen on plain abdominal x-ray is pathognomonic

8. Which of the following is true regarding hereditary spherocystosis?
   A. It is the most common congenital hemolytic anemia
   B. It is transmitted as an autosomal recessive trait
   C. The spleen is enlarged in less than 50% of the time
   D. Splenectomy is only indicated when patients are symptomatic

9. What is the most common cause of splenic vein thrombosis?
   A. Acute or chronic pancreatitis
   B. Trauma
   C. Pancreatic Cancer
   D. Idiopathic

10. The first line therapy for hairy cell leukemia is:
    A. Steroids
    B. Splenectomy
    C. Purine nucleoside analogs
    D. Plasma exchange

11. Regarding the anatomy of esophagus, which one of the following questions is CORRECT:
    a- it originates at the level of C1
    b- it originates behind the cricoid cartilage
    c- the narrowest part of the esophagus is at the level of diaphragm
    d- the distance between the incisor teeth and GE junction is 25cm
12. Which is NOT an etiology for GERD:
   a- transient Lower esophageal sphincter (LES) relaxations
   b- decrease in length of LES
   c- decrease in pressure of LES
   d- increase in gastric acid production

13. Which one of the following items is NOT seen in Achalasia:
   a- dysphagia to liquids
   b- regurgitation
   c- increased of esophageal peristalsis on manometry
   d- absence of esophageal relaxation in response to swallowing

14. Where is the location of Zenker diverticulum:
   a- above the LES
   b- above diaphragm
   c- above cricoid cartilage
   d- above upper esophageal sphincter

15. Which item is NOT a therapeutic option for treatment of GERD:
   a- dietary modifications
   b- proton pump inhibitors
   c- laparoscopic Heller myotomy and partial fundoplication
   d- H2 blockers

16. Which one is CORRECT regarding the appendix:
   a- in majority of patients, appendix is found retro-cecally
   b- appendix is a true diverticulum
   c- appendix is more atrophic in children
   d- appendectomy in children increases the risk of colon cancers later in life

17. Which item is NOT a culprit in development of acute appendicitis:
   a- acute obstruction of the lumen by lymphoid hyperplasia
   b- infections
   c- parasites
   d- trauma

18. Which item is CORRECT regarding the presentation of acute appendicitis:
   a- majority of cases present after 4-5 days
   b- pain may start as peri-umbilical and localize in RUQ as disease progress
   c- generalized guarding and rebound tenderness in seen in all cases
   d- high fever is common in kids with appendicitis
19. A 26 year old healthy female presents to ER with 1 day history of severe RLQ abdominal pain, nausea, vomiting and vaginal bleeding. Examination of the abdomen demonstrates localized guarding and rebound tenderness in RLQ. Which one of the following studies is OF LEAST significance in this case:
   a- beta HCG
   b- CT scan of abdomen
   c- Urinalysis
   d- US of liver/gallbladder

20. Which one of the following items is NOT commonly seen as a complication of acute appendicitis:
   a- peritonitis
   b- localized abscess
   c- recurrent disease
   d- perforation

21. A 68 yo male presents to emergency room complaining of bright red blood per rectum and a feeling of rectal fullness. His vital signs are: BP 165/90, HR 87, Temp 98.6, SpO2 95%. Physical exam reveals a large bulge in the anus. Anoscopy reveals hemorrhoids with minor active bleeding. In order to diagnose this patient with external vs internal hemorrhoids you must decide if the bulge is present in the rectum or in the anal mucosa. What is the name of the junction of the colorectal and anal mucosa and thus is an important determinant in the diagnosis of these hemorrhoids?
   a. Arcuate line
   b. Anal line
   c. Pectinate verge
   d. Dentate line
   e. Anal verge

22. A 55 yo F underwent colonoscopy and was found to have a rectal mass in the superior portion of the rectum. Biopsies taken during colonoscopy were positive for invasive adenocarcinoma. The patient was scheduled for surgical resection of the superior portion of the rectum and sigmoid colon. Which of the following correlates to the blood supply of the anorectum that the surgeon must be aware of when performing this operation?
   a. Sigmoidal branches via inferior mesenteric artery, superior and middle rectal arteries via the internal iliac artery, inferior rectal artery via the pudendal artery
   b. Sigmoidal branches and superior rectal arteries via inferior mesenteric artery, middle and inferior rectal arteries via internal iliac artery
   c. Sigmoidal branches and superior rectal arteries via inferior mesenteric artery, middle rectal artery via internal iliac artery, inferior rectal artery via pudendal artery
   d. Sigmoidal branches via superior mesenteric artery, superior rectal artery via the inferior mesenteric artery, middle rectal artery via internal iliac artery, inferior rectal artery via pudendal artery
23. A 45 yo M comes to clinic complaining of painful defecation with slight amount of blood on the tissue after wiping. Patients states that he had a solid bowel movement 1 week ago and felt an extreme tearing sensation during that time. Since then every bowel movement feels like he is passing sharp shards of glass out with his feces. Rectal exam is extremely painful but the rectum is of normal caliber. The internal sphincter is in spasm. What is the most likely diagnosis?
   a. Internal hemorrhoids
   b. Anal stenosis
   c. External hemorrhoids
   d. Perianal abscess
   e. Anal fissure

24. A 20 yo M with a history of Crohn’s disease presents to his primary care physician complaining of increasing diarrhea and buttock pain for the last week. Patient has been febrile, with Tmax 102F this AM. He has had severe pain in his R buttock relieved by bloody purulent discharge during bowel movements along with continual mucopurulent discharge between bowel movements. On physical exam the patient exhibits an erythematous 3 cm area near the anus that expresses pus with a foul odor upon palpation. Rectal examination is extremely painful around that location. What is his most likely diagnosis?
   a. Perianal abscess
   b. Anal fissure
   c. Fistula in ano
   d. Anal stenosis
   e. Anal ulcer

25. 18 yo M comes to the clinic complaining of a bulge on the midline over his coccyx. Patient thinks he can feel small pits in the bulge. Physical exam shows a 4cm longitudinal bulge overlying the gluteal cleft and coccyx with several small pus pockets in the skin pores. Profuse perspiration is noted in this location. What is the most likely diagnosis?
   a. Gluteal abscess
   b. Infected sebaceous cyst
   c. Pilonidal cyst
   d. Carbuncle
   e. Pressure ulcer

26. 55 yo F presents to the clinic with complaints of fecal incontinence after undergoing surgery for an anal fissure. Since immediately post operatively the patient has been unable to withhold her bowel movements despite feeling the urge to defecate. What is the most likely source of her underlying condition?
   a. Internal anal sphincter
27. A 43 year old female presents to your clinic with complaints of episodic abdominal pain which begins abruptly and subsides gradually. Symptoms have been present for the past couple of months, however during her most recent episode which occurred last night, the pain caused the patient to curl up in bed and vomit. She describes the pain being in the right upper quadrant with radiation to right shoulder and sometimes the tip of the scapula. Her symptoms are most likely associated with which of the following diagnosis?
   a. Duodenal ulcer
   b. Acute pancreatitis
   c. Cholangitis
   d. Biliary colic
   e. Myocardial infarction

28. A 79 year old male with a past medical history significant for diabetes presents to the emergency room with a complaint of acute right-sided abdominal and epigastric pain, nausea, and vomiting. Abdominal examination revealed a fullness at the point of maximal tenderness in the right upper quadrant below the costal margin. Although there was voluntary guarding of the entire right side of the abdomen, rebound and percussion tenderness were absent. CBC revealed a white blood count of 15.1 with 91% neutrophils. Plain abdominal radiographs demonstrate gallbladder distension, a circumferential gallbladder wall gas lucency, and an intraluminal air-fluid level. You diagnose the patient with emphysematous cholecystitis. The most commonly implicated organism in emphysematous cholecystitis is which of the following?
   a. Clostridium perfringens
   b. Escherichia coli
   c. Bacteroides fragilis
   d. Serratia plymuthica
   e. Enterococcus faecalis

29. A 42 year old female presents to clinic because intermittent fevers and chills. The patient states she complains of itching, especially in her extremities and noticed that her urine has been darker than normal. Vitals signs taken at clinic include a Temp: 101.2 BP: 138/96 HR: 83 RR: 16 Upon physical examination the patient eyes are icteric and patient is toxic looking. There is mild tenderness in the right upper quadrant. Labs are obtained which demonstrates a white blood cell count of 20.2 and Total bilirubin of 3 mg/dL. Mild elevations of AST and ALT are present. The most likely cause of this patient’s cholangitis is which of the following?
   a. Chronic pancreatitis
   b. Duodenal diverticulum
   c. Congenital cyst
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d. Parasitic invasion
e. Choledocholithiasis

30. A 57 year old female presents to the clinic with for evaluation of abdominal pain of 3 months duration. She states for the past 3 months, she has experienced episodes of abdominal pain associated with some nausea and vomiting. On physical examination there is tenderness to palpation of the right upper quadrant. While palpating the right subcostal region, the patient has a sudden inspiratory arrest during deep breathing. The most likely diagnosis is which of the following?
   a. Acute peptic ulcer disease
   b. Acute pancreatitis
   c. Acute cholecystitis
   d. Acute appendicitis
   e. Fitz-Hugh-Curtis Syndrome

31. A 36 year old obese female patient presents to the emergency room for nausea and vomiting and abdominal pain. She states that she has had several of these episodes in the past especially after eating a large meal. Which of the following is both the most sensitive and specific in detecting gallbladder stones and dilatation of bile ducts?
   a. Radionuclide scan
   b. Endoscopic retrograde cholangiopancreatography
   c. Percutaneous Transhepatic Cholangiography
   d. Ultrasound
   e. Oral cholecystography

32. A 32 year old female presents to clinic for her yearly check-up. The patient states that she has been doing well but has been stress taking care of her four children by herself. Just recently she started to experience some abrupt abdominal pain, two –three hours after eating a meal. She states she does not take any medication to relieve the pain as it resolves on its own. Which of the following is the major physiologic stimulus for postprandial gallbladder contraction?
   a. HCO3
   b. Secretin
   c. Cholecystokinin
   d. VIP
   e. Motilin

33. What lies within the triangle of Calot
   a. Cystic duct
   b. Cystic artery
   c. Calot’s node
   d. Cbd
34. 69 y/o male had an incidental finding in CT showing a neoplasm associated with the tail of the pancreas. After further work up he elects to have surgery to have it removed. The blood supply of the pancreas is derived from which of the following?
   a) GDA, SMA, splenic
   b) GDA, L gastric, IMA
   c) L Gastric, IMA, SMA
   d) GDA, IMA, Splenic

35. 8 m/o male is brought to the hospital because he developed bilious vomiting shortly after feeding. On exam his belly is tympanic in the epigastric area. He is not jaundice. X ray shows a classic “double bubble sign” and no air in rest of small bowel. Which of the following is true?
   A) the diagnosis is pyloric stenosis
   B) the child should undergo surgery to remove the pancreatic head
   C) this condition is due to pancreatic tissue that encircles the descending duodenum causing obstruction
   D) the first step in management should be duodenojejunostomy bypassing obstructed segment followed by electrolyte replacement

36. Mr. C. Sitchen A 34 y/o Male presents to the ER in Huntington WV with 4hr of abdominal pain that is rated to be 10/10 that radiates through to his back. It is constant and associated with nausea and vomiting. He has not been febrile and has had this type of pain before just not as severe. He states he had been at a BBQ the previous night. He Drinks 8-12 liquor drinks a week. He smokes 2 ppd. His only surgical history is orchiectomy preformed 1 year prior. Vitals HR 105 RR 13 BP 130/72 o2 sat 98% room air. Laboratory work up shows a WBC -17, blood glucose 275, amylase-900 and lipase-1500. LDH 300 ast 300 alt 150. What is not a cause of this condition;
   A) gallstones
   B) Hypercalcemia
   c) protein deficiency
   D) ETOH
   E) Smoking
37. The patient in the previous question is admitted to the hospital for treatment. How many ranson criteria does he have:

A) 2  
B) 3  
C) 4  
D) 5

38. Which is correct regarding Chronic pancreatitis:

A) gallstones causes most of the cases  
B) calcification of the pancreas seen on x ray is uncommon  
c) it always is associated with abdominal pain  
D) alcohol contributes to most of the cases

39. Which vitamin deficiency most likely happened in total gastrectomy patient?

A: Vitamin B1  
B: Vitamin B6  
C: Vitamin B12  
D: Vitamin C  
E: Vitamin K

40. What kind of cell type in stomach secrete pepsinogen?

A: Parietal cells  
B: Chief cells  
C: Global cells  
D: G cells  
E: Brunner’s gland
41. Most common cause of massive upper gastrointestinal hemorrhage is?

A: Peptic ulcer  
B: Esophageal varices  
C: Gastric cancer  
D: Gastritis  
E: Hemobilia

42. How Omeprazole affect H+ release in stomach?

A: Blocks H/Na ATPase in chief cells membrane  
B: Blocks H/K ATPase in chief cells membrane  
C: Blocks H/Na ATPase in parietal cells membrane  
D: Blocks H/K ATPase in parietal cells membrane  
E: Blocks gastrin secretion from gastrin cells

43. Where is the most common location of gastric ulcer?

A: Antrum  
B: Stomach body  
C: Lesser curvature  
D: Greater curvature  
E: Prepylorus

44. One 58 years old female, with history of hysterectomy 5 years ago, present 2 days history of abdominal pain and distension, nausea and vomiting. No flatus and bowel movement for 2 days, what’s the most proper test you order first?

A: Abdomen ultrasound  
B: Upright KUB  
C: Flat KUB
45. The most commonly involved sites for Crohn’s disease is:
A: Duodenum and proximal jejunum
B: terminal ileum and cecum
C: Ascending colon
D: descending colon and rectum
E: Perianal area

46. Which LEAST likely occurred in a patient with terminal ileum resection?
A: Microcytic hypochromic anemia
B: Kidney stone
C: Gallstone
D: Steatorrhea
E: magaloblastic anemia

47. The most common cause of obstruction of small intestine in adults is?
A: External hernia
B: Cancer
C: Adhension
D: Intussusceptum
E: Bowel volvulus

48. One 64 years old male, present to ER with 2 days history of small bowel obstruction symptoms. CT showed small intussusception segment of terminal ileum into cecum. What’s the most proper treatment
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plan:
A: Barium enema to release intussusception
B: Serial abdominal exam
C: Colonoscopy
D: Schedule urgent surgery
E: Small bowel follow through study

49. What is the anatomy landmark to differential between direct and indirect inguinal hernia?
A: External abdominal oblique
B: Internal abdominal oblique
C: Inguinal ligment
D: Cooper’s ligment
E: Inferior epigastric vessels

50. What is Richter’s hernia?
A: Incarcerated Meckel’s diverticulum
B: Hernia content can not to return
C: Noncircumferential incarceration of nonmesenteric bowel wall
D: Ovary present to hernia sac
E: Hernia through linea semilunaris of rectus muscle

51. A femoral hernia is medial to what structure?
A: Cooper’s ligament
B: Inguinal ligament
C: Femoral vein
D: Lymphatics
E: Inferior epigastric vessels
52. A 52 years old obese female, presents a painful bulge in size of golf ball in left side medial thigh inferior to inguinal ligament. The bulge started 12 hours ago after she had severe cough. She has persistent pain in that area. She feels nausea, but no vomiting. On physical examination, the bulge is tender and hard. Overlying skin is purplish. WBC 14. What’s the most proper next step?

A: Treat infection with iv antibiotics and observation
B: I&D the abscess at bedside
C: Needle biopsy the bulge
D: Schedule emergent surgery
E: Treat with NGT and iv fluid for small bowel obstruction

53. What is the boundary of Hesselbach triangle?

A: Inguinal ligament, inferior epigastric vessels, rectal border of rectal muscle
B: Inguinal ligament, inferior epigastric vessels, conjoined tendon
C: Inguinal ligament, conjoined tendon, rectal border of rectal muscle
D: Conjoined tendon, inferior epigastric vessels, rectal border of rectal muscle
E: Conjoined tendon, Cooper’s ligament, rectal border of rectal muscle

54. A 50 year old man is about to undergo a laparoscopic colon resection for cancer. Which of the following will reduce his postoperative pulmonary complications from 50% to 10%?

A) Running 2 miles per day for 2 weeks prior to surgery.
B) Stop smoking 6 weeks prior to surgery.
C) Lose 10 pounds prior to surgery.
D) A preoperative chest xray and EKG.

55. A 61 year old female underwent an emergent exploratory laparotomy for perforated diverticulitis. On postoperative day 2 the intern rounding takes down her dressing and much to her dismay finds the wound opened with a portion of small bowel exposed. What is the incidence of dehiscence following laparotomy?

A) 1-3%
B) 5-10%
C) 12-15%
D) 22-26%

56. In order to prevent dehiscence the single most important factor is:

A) Preoperative nutrition
B) Adequacy of closure
C) Using the smallest possible absorbable suture
D) Placing staples in the skin every ½ centimeter

57. A 38 year old lady is post operative day 2 for hysterectomy. What is the most common pulmonary complication encountered following abdominal surgery?
   A) Atelectasis
   B) Pulmonary embolus
   C) Pneumothorax
   D) Pneumonia

58. A 85 year old cachectic male nursing home patient is post operative day 10 for exploratory laparotomy for sigmoid volvulus. He was extubated postoperative day 1 but had nausea and vomiting for which a nasogastric tube was left in place for several days prior to return of bowel function. Today he complains of pain in his left jaw. What is the likely diagnosis?
   A) Dental abscess
   B) Tonsilitis
   C) Strep throat
   D) Parotitis

59. A 26 year old female medical student is about to undergo breast augmentation at the Mayo Clinic. When discussing the operation with her surgeon she attempts to impress him with her knowledge. She describes the steps of wound healing. Which of these is the correct order that will impress the surgeon?
   A) Coagulation/inflammation, fibroplasia, matrix deposition, angiogenesis, epithelialization, collagen maturation, wound contraction
   B) Angiogenesis, collagen maturation, coagulation/inflammation, fibroplasia, matrix deposition, wound contraction, epithelialization
   C) Epithelialization, angiogenesis, collagen maturation, fibroplasia, matrix deposition, wound contraction, coagulation/inflammation
   D) Angiogenesis, collagen maturation, coagulation/inflammation, fibroplasia, matrix deposition, epithelialization, wound contraction

60. A very skilled surgeon performs 4 operations in a single day: an esophagectomy, a Bilroth II, a small bowel resection with handsewn anastamosis and a small bowel resection with stapled anastamosis. Which anastamosis is most likely to leak if all were performed technically well?
   A) Esophagectomy
   B) Bilroth II
   C) Small bowel resection with handsewn anastamosis
   D) Small bowel resection stapled anastamosis

61. A 60 year old female undergoes a colon resection for cancer. The procedure is considered clean contaminated. What is the anticipated rate of postoperative wound infection?
   A) 1-3%
   B) 6-15%
   C) 18-22%
   D) 30-35%
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62. A 60 year old male is undergoing an aortobifem for severe vascular disease. The surgeon is about to perform the anastamosis and asks which suture material you would recommend for the anastamosis of the graft and the aorta. Which is the appropriate suture?
   A) Silk  
   B) Catgut  
   C) Synthetic nonabsorbable  
   D) Synthetic absorbable

63. After undergoing an emergent exploratory laparotomy for a gunshot wound to the abdomen a healthy male is recovering on the surgical ward. Which cell is responsible for the secretion of the collagens and proteoglycans of connective tissue that hold his wound together?
   A) Macrophages  
   B) Endothelial cells  
   C) Platelets  
   D) Fibroblasts

64. A 25 year old female presents to the office for evaluation of thyroidectomy for hyperthyroidism. She refuses medical management as she fears the medications would interfere with her 3 planned pregnancies in the coming years. All of the following are symptoms of hyperthyroidism EXCEPT:
   A) Heat intolerance  
   B) Increased bowel frequency  
   C) Tachycardia  
   D) Weight gain with decreased appetite

65. A 36 year old female presents to your clinic with an enlarged thyroid gland. You diagnose her with Hashimoto thyroiditis. Thyroidectomy is the appropriate management for Hashimoto thyroiditis when all of the following occur except:
   A) Marked blood pressure symptoms  
   B) Suspicion of a malignant tumor  
   C) Weight gain for failure to thrive  
   D) Cosmetic enhancement

66. A 32 year old male present to your office with a small firm mass in the right lobe of the thyroid. Following work up the patient is diagnosed with papillary adenocarcinoma of the thyroid. All of the following are accurate regarding this diagnosis EXCEPT:
   A) This cancer usually occurs in young adults  
   B) This cancer grows very rapidly  
   C) This cancer metastasizes through lymphatics  
   D) This cancer is compatible with long life expectancy even in the presence of metastases
67. A 47 year old female presents to the emergency department with parasthesias, muscle cramps, lethargy and tetany. She is quickly diagnosed with hypoparathyroidism. What is the most likely cause of her condition?
   A) Thyroidectomy performed yesterday at another facility
   B) I 131(radioiodine) therapy for Graves disease
   C) Autoimmune adrenocortical insufficiency
   D) Ingestion of large quantities of alcohol

68. A 41 year old male presents to the emergency department in thyroid storm. It is felt the patient must undergo emergent thyroidectomy. All of the following are indicated prior to the procedure EXCEPT:
   A) Administration of Lugol iodine solution
   B) Administration of Beta adrenergic blocking agent propranolol
   C) Administration of benzodiazepine lorazepam
   D) Administration of propylthiouracil