

100

Saudi Board Questions

PART 2 · RECALLS, ANSWERED

The recalls I kept coming back to, each answered with the line from the book that settles it.

Dr. Abdullah Alfahal

GENERAL SURGERY · JEDDAH

2026



BEFORE THE HUNDRED

These pages come from something bigger.

Saudi Board Book is the whole of Part 2 General Surgery in one place, the way I built it for my own revision.

These hundred questions are a taste of it.



My chapters

Written from Sabiston, Schwartz and Cameron.



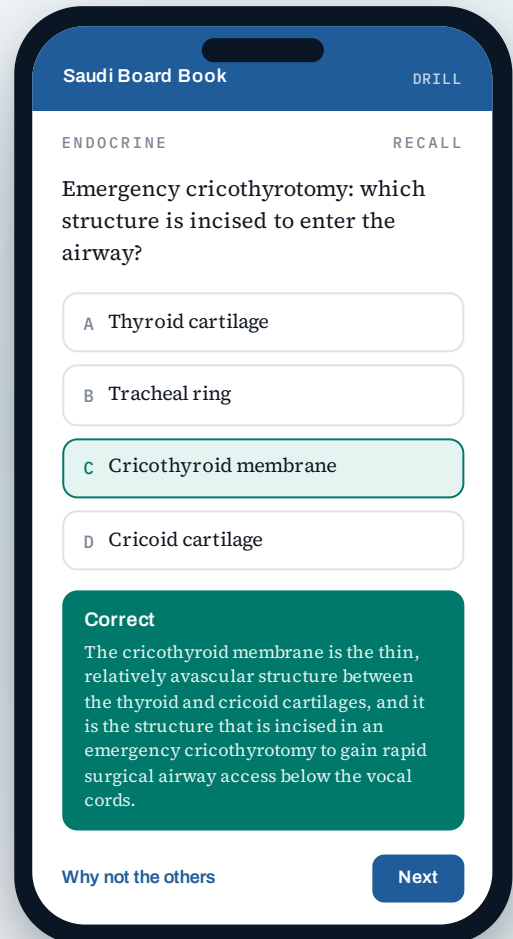
The recall bank

Sorted by chapter, answered and explained.



Drill until it sticks

What you miss comes back on its own.



Opening after the October sitting

www.saudiboardbook.com

Why these hundred

I am a general surgery resident in Jeddah, sitting Part 2 this October. While I prepared, some recalls kept coming back, paper after paper, year after year. These are a hundred of them.

I went through every answer with Sabiston, Schwartz and Cameron open. If the books disagreed, or if two options could both be right today, the question did not make it in. What is left is what I am taking into the exam myself.

HOW AN ANSWER READS

Q In acute pancreatitis, blood and fluid runs along falciform ligament to umbilical region, this is:

- A Caput Medusa C Turner's sign
B Cullen's sign D Chvostek's sign

Answer B · Cullen's sign

In acute pancreatitis, retroperitoneal blood and fluid can track along the falciform ligament to the umbilicus and cause periumbilical bruising. That is Cullen's sign. Tracking laterally to the flanks gives Grey Turner's sign. Both are uncommon and signal severe disease.

WHY NOT THE OTHERS

- A** Caput medusae is dilated periumbilical veins from portal hypertension. It is not blood tracking from retroperitoneal hemorrhage.
C Grey Turner's sign is flank discoloration from blood tracking laterally along the retroperitoneum. It does not follow the falciform ligament to the umbilicus.
D Chvostek's sign is a facial twitch of hypocalcemia. It has nothing to do with discoloration of the abdominal wall.

Schwartz 11e, p. 1444 "Rarely, pancreatic fluid and bleeding from the pancreas into the retroperitoneum may result in a bruise-like discoloration around the umbilicus (Cullen's sign) or in the flanks (Grey Turner's sign)."

- 1 The answer**
The letter, and the option in full.
- 2 The reasoning**
Why it is right, in a few lines.
- 3 Why not the others**
A reason for every wrong option. Most of the learning is here.
- 4 The book line**
The sentence that settles it, with the page. Open the book and read around it.
- Amber boxes**
A few lines from my own chapter notes.

No chapters

The questions come mixed, the way the exam hands them to you.

Left as remembered

Typos and missing ages included. That is how you will meet them.

Cover the answer

Pick a letter first. Right for the wrong reason counts as wrong.

Dr. Abdullah Alfahal

GENERAL SURGERY · JEDDAH

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- 1 A patient with known portal hypertension presents to the emergency room with esophageal bleeding. What is the next step?
- A Endoscopic treatment
 - B Portocaval shunt
 - C Sengstaken-Blakemore tube

Answer A · Endoscopic treatment

Once a patient with portal hypertension bleeds from the esophagus, early endoscopy within 12 hours is indicated to diagnose and control the bleeding source. It follows initial resuscitation and vasoactive therapy. A portacaval shunt is kept for failure of endoscopic and TIPS therapy. Sengstaken-Blakemore intubation is only a temporary measure when endoscopy is unavailable or fails.

WHY NOT THE OTHERS

- B An open portocaval shunt is major surgery for bleeding that has already failed endoscopic and pharmacologic control. It is not the first step.
- C A tamponade tube buys time in uncontrolled hemorrhage when endoscopy fails or is not immediately available. It is not the routine first step.

Sabiston 22e, p. 1269 "Early endoscopy, preferably within 12 hours of admission, with an attempt at control of bleeding is recommended. Patients should be started on vasoactive drugs early, and endoscopy with band ligation is performed after initial resuscitation."

- 2 A patient was treated recently for UTI presented with severe abdominal pain and diarrhea, X-Ray was performed and showed the whole colon was dilated, the patient was initially managed conservatively, however during admission he did not improve and colon dilatation was progressive, what is the most appropriate management?
- A Total Abdominal Colectomy + End Ileostomy
 - B Total Procto-colectomy + End Ileostomy
 - C Increase the dose of Antibiotics
 - D Shift to ICU for aggressive management

Answer A · Total Abdominal Colectomy + End Ileostomy

Toxic megacolon complicating *Clostridioides difficile* colitis that progresses despite maximal conservative therapy with bowel rest, antibiotics and decompression needs emergency surgery before perforation occurs. The standard operation is a total abdominal colectomy with end ileostomy, leaving the rectum in place. A full proctocolectomy is more than is needed in an emergency and carries higher morbidity. Escalating antibiotics or transferring to the ICU alone does nothing for ongoing colonic dilatation that is failing medical therapy.

WHY NOT THE OTHERS

- B Total proctocolectomy is not recommended as an emergency. Total abdominal colectomy with end ileostomy is preferred because the pelvic dissection is difficult and time-consuming in a critically ill patient.
- C The patient has already failed medical management with progressive dilation. That is the indication to move to surgery, not to escalate antibiotics.
- D ICU supportive care alone does not deal with progressive colonic dilation that has failed medical management and carries a risk of perforation. The indication is surgical.

*Cameron CST 14e, p. 193 "The 2015 practice parameters of the American Society of Colon and Rectal Surgeons for the management of *C. difficile* infection considered that the evidence for loop ileostomy formation in the management of toxic megacolon from *C. difficile* to be weak and strongly recommend the standard surgical approach in managing these patients, which is subtotal colectomy with end ileostomy."*

- 3 A 45-year-old male patient underwent a laparoscopic cholecystectomy. Histopathology showed a gallbladder that did not invade the muscularis propria. What is the treatment?
- A Observation
 - B Laparoscopic perihepatic lymphadenectomy and cystic duct excision without port site excision
 - C Laparoscopic perihepatic lymphadenectomy and cystic duct excision with port site excisions
 - D Open perihepatic lymphadenectomy and cystic duct excision with port site excisions

Answer A · Observation

A gallbladder cancer that has not invaded the muscularis propria is T1a disease. The risk of nodal spread is under about 3%, and simple cholecystectomy cures most patients. Once the cystic duct margin is confirmed negative, no further surgery is needed. Re-resection of the liver bed with lymphadenectomy is for T1b or deeper tumors.

WHY NOT THE OTHERS

- B Lymphadenectomy and bile duct excision are part of re-resection for T1b or deeper tumors. In T1a disease the nodal risk is very low and cholecystectomy alone is curative.
- C Port-site excision is no longer recommended because port-site recurrence reflects disseminated disease and excision does not improve survival. A T1a tumor needs no further surgery in any case.
- D Open re-resection is kept for T1b or deeper tumors, and port-site excision is no longer recommended. Neither is needed for T1a disease that cholecystectomy has cured.

Sabiston 22e, p. 1243 "With T1a lesions, in which the carcinoma penetrates the lamina propria but does not invade the muscle layer, cholecystectomy suffices for therapy."

- 4 During workup of a patient with neck mass, a 2x1cm left thyroid lesion was noted and FNA was done which showed Atypia of undetermined significance, which of the following corresponding Bethesda classification does this match to?
- A I
 - B II
 - C III
 - D IV

Answer C · III

Atypia of undetermined significance is Bethesda category III. The cytology is neither clearly benign nor a follicular neoplasm. It carries an intermediate risk of malignancy and is usually managed with repeat FNA, molecular testing or surveillance. Category IV, follicular neoplasm, carries a higher risk and is managed with molecular testing or diagnostic lobectomy. The category matters because it changes management.

WHY NOT THE OTHERS

- A Category I is a nondiagnostic or unsatisfactory sample, not atypia of undetermined significance.
- B Category II is benign cytology. It does not describe atypia.
- D Category IV is follicular neoplasm or suspicious for follicular neoplasm. It is a separate category from atypia of undetermined significance.

Cameron CST 14e, p. 835 "Category III nodules include nodule with atypia of undetermined significance (AUS) and follicular lesion of undetermined significance (FLUS)."

- 5 42 year-old male with long standing ulcerative colitis presents with obstructive jaundice. His total bilirubin 80 and his alkaline phosphatase 455. ERCP shows multiple biliary strictures and the liver biopsy shows cirrhosis. The most appropriate management is:
- A Endoscopic stent placement.
 - B Percutaneous stent placement.
 - C Liver transplant.
 - D Hepaticojejunostomy

Answer C · Liver transplant.

Long-standing ulcerative colitis with multiple biliary strictures on ERCP is primary sclerosing cholangitis. Once it has progressed to cirrhosis, stenting or bypass cannot restore liver function, and liver transplantation is the only lifesaving treatment.

WHY NOT THE OTHERS

- A An endoscopic stent deals with the stricture but not with the failing liver, which already shows cirrhosis on biopsy. Transplantation is the only lifesaving option.
- B Percutaneous stenting has the same limitation as endoscopic stenting. It treats the biliary obstruction, not the progressive liver dysfunction that the cirrhosis represents.
- D A biliary bypass treats a stricture, not a cirrhotic liver. In diffuse PSC there is no single stricture to bypass, and previous biliary surgery makes a later transplant more difficult.

Sabiston 22e, p. 1229 "Orthotopic liver transplantation appears to be the only lifesaving option for patients with progressive hepatic dysfunction from PSC."

- 6 A 65-year-old man post op known to hypertension and heart failure is on long-term loop diuretics. Labs show: Serum potassium: 2.8 mmol/L, He is asymptomatic, ECG is normal. What is the most appropriate next step in management?
- A Start potassium-sparing diuretic
 - B Give IV 60 mEq potassium chloride in one hour
 - C Give 40 mEq oral potassium chloride in divided doses
 - D No need to correct

Answer C · Give 40 mEq oral potassium chloride in divided doses

Symptoms and ECG changes decide the route and speed of potassium replacement. This man is asymptomatic with a normal ECG, so oral potassium chloride, 40 mEq in divided doses with a repeat level, is safe and effective. IV potassium is for symptomatic patients or those who cannot take it enterally. Even then it should run at no more than 10 mEq/h peripherally, or up to 40 mEq/h with cardiac monitoring.

WHY NOT THE OTHERS

- A A potassium-sparing diuretic helps prevent further losses over time, but it does not correct an existing potassium of 2.8 mmol/L. The deficit has to be replaced now.
- B 60 mEq in one hour is above the safe IV rate of up to 10 mEq/h peripherally, or 40 mEq/h with ECG monitoring, and it risks arrhythmia. This patient has no symptoms and can be replaced orally.
- D A potassium of 2.8 mmol/L in a heart-failure patient on a loop diuretic must be corrected to prevent arrhythmia, even without symptoms.

Schwartz 11e, p. 95 "Treatment for hypokalemia consists of potassium repletion, the rate of which is determined by the symptoms (Table 3-15). Oral repletion is adequate for mild, asymptomatic hypokalemia."

- 7 A trauma patient with severe head injury was intubated in MV in the ICU. Chest x-ray showed a diaphragmatic hernia in the left chest, repeated on Day 4, and showed the same finding. What is the plan?
- A Laparotomy
B Immediate thoracotomy
C Delayed thoracotomy
D Diagnostic Laparoscopy

Answer A · Laparotomy

Two chest x-rays taken days apart show the same diaphragmatic injury, so the diagnosis is settled. Acute diaphragmatic injuries are repaired through the abdomen. The defect can be reduced and closed from below, and associated intra-abdominal injuries usually need to be assessed at the same time. His severe head injury means repair can wait until he is stable enough for anesthesia, but that changes only the timing, not the route. A chest approach becomes appropriate only once organs have been herniated long enough to become adherent to the lung or pleura, and that is not the case here.

WHY NOT THE OTHERS

- B This defect is not repaired by thoracotomy. An immediate operation is also unwise before the head injury has been stabilized.
- C Delaying the operation does not make it a chest operation. The defect still needs closure through the abdomen, so a thoracotomy at any time is not the plan.
- D Diagnostic laparoscopy is for when the diagnosis is still in doubt, and here the hernia is already shown on two films. In a patient with a severe head injury the pneumoperitoneum can raise intracranial pressure, so open abdominal repair is the plan.

Cameron CST 14e, p. 1299 "Acute injuries should be repaired through an abdominal approach."

- 8 30-year-old female patient brought to the emergency as case of MVC in unstable condition. FAST was done and showed intraabdominal free fluid. Patient was taken to OR and found to have profuse bleeding from the liver. Pringle maneuver was bleeding was failed to be stopped What is the most possible source of bleeding?
- A Right hepatic artery
B Left hepatic artery
C Portal vein
D Hepatic vein

Answer D · Hepatic vein

The Pringle maneuver clamps the hepatoduodenal ligament and stops inflow from the hepatic artery and portal vein. Bleeding that continues with the clamp on is usually from the outflow, the hepatic veins or the retrohepatic vena cava, which the clamp does not control. Uncommonly, a replaced left hepatic artery running in the gastrohepatic ligament escapes the clamp, but a hepatic venous injury is the most likely source.

WHY NOT THE OTHERS

- A The Pringle maneuver occludes right hepatic artery inflow, so this artery is not the source of bleeding that persists despite the clamp.
- B A normally arising left hepatic artery runs in the hepatoduodenal ligament and is controlled by the Pringle maneuver. Only an uncommon replaced left hepatic artery escapes the clamp, so it is not the most likely source.
- C The Pringle maneuver occludes portal vein inflow, so the portal vein is not the source of bleeding that continues despite the clamp.

Schwartz 11e, p. 225 "Hemorrhage from hepatic artery and portal vein injuries will halt with the application of a vascular clamp across the portal triad, whereas bleeding from the hepatic veins and the retrohepatic vena cava will continue despite a Pringle maneuver."

- 9 A 56-year-old man with a history of end-stage renal disease on dialysis presents with epistaxis that has lasted for 2 hours. Labs: Hemoglobin: 10.2 g/dL Platelet count: 240,000/ μ L (normal) INR: 1.0 aPTT: normal, BUN: markedly elevated What is the best immediate treatment?
- A Desmopressin
B Cryoprecipitate
C Platelet transfusion
D Vitamin K

Answer A · Desmopressin

Platelet dysfunction is common in renal failure and can cause bleeding. Desmopressin, or DDAVP, is the first-line treatment because it improves platelet function.

WHY NOT THE OTHERS

- B Cryoprecipitate is a second-line option for uremic bleeding that persists despite desmopressin. It is not the immediate first step.
- C The platelet count is normal and the defect is functional, from uremia. Transfusing more platelets into the same uremic environment is not the first-line step.
- D The INR is normal, so there is no vitamin K-dependent factor deficiency to correct.

Sabiston 22e, p. 14 "Although chronic renal insufficiency does not affect platelet count, uremic platelet dysfunction is common. Desmopressin should be readily available and administered if medical bleeding from platelet dysfunction is encountered."

- 10 A 24 years male had Gunshot with left colon distal to splenic flexure through and through 3 cm defect minimal contamination, VS stable what is your you will do ?
- A Resection and anastomosis I
B Primary repair
C Colostomy

Answer B · Primary repair

This is a nondestructive colon injury, with a limited defect, no devascularized segment, minimal contamination and a stable patient, so it is closed primarily. Resection and anastomosis is for destructive injuries, meaning more than half the circumference or a devascularized segment. A colostomy is now kept mainly for destructive injuries in patients with ongoing shock, heavy transfusion or major comorbidity. A 3 cm, minimally contaminated wound in a stable young man fits neither, and primary repair avoids an unnecessary resection or stoma.

WHY NOT THE OTHERS

- A Resection and anastomosis is for destructive injuries, meaning more than half the circumference or a devascularized segment. A small, minimally contaminated defect in a stable patient is simply closed.
- C Fecal diversion is now reserved mainly for destructive injuries in patients with shock, heavy transfusion or major comorbidity. This stable patient with a small, minimally contaminated defect needs neither resection nor a stoma.

Sabiston 22e, p. 352 "This led to the development of surgical stratification for optimal outcomes in operative colon injury, recommending primary repair (one or two layers) in all nondestructive injuries, resection, and anastomosis for destructive injury in the healthy patient without extremis and diversion for destructive injury in the comorbid patient requiring resuscitation."

- 11** A 55-year-old female undergoes pancreaticoduodenectomy for adenocarcinoma of the pancreas. On day 7, she complains of increasing abdominal pain, nausea, and vomiting. What is the appropriate next step in management?

A CT abdomen
B ultrasound abdomen
C IV erythromycin
D MRI

Answer A · CT abdomen

New, increasing abdominal pain with nausea and vomiting a week after pancreaticoduodenectomy means an intra-abdominal complication until proven otherwise, such as a pancreatic fistula, anastomotic leak or abscess. Contrast-enhanced CT is the next step because it shows collections and leaks and allows guided drainage. Delayed gastric emptying is common after this operation, but it is treated with prokinetics only after CT has excluded a fistula or abscess as the cause.

WHY NOT THE OTHERS

- B** After this operation, bowel gas and the post-operative abdomen limit how well ultrasound can assess the deep anastomoses at risk.
C Treating delayed gastric emptying empirically skips the necessary workup. Imaging must first exclude a leak or collection as the cause of the pain and vomiting.
D MRI is slower to obtain and offers no advantage over CT for this acute postoperative assessment.

Cameron CST 14e, p. 599 "A CT examination is often helpful to rule out a subclinical pancreatic fistula or intraabdominal abscess as a cause of delayed gastric emptying."

- 12** A chronic alcoholic underwent hernia repair. Postoperatively, he developed agitation and neurological symptoms. What is the most appropriate treatment?

A Benzodiazepine
B Haloperidol
C Ketamine
D Propofol

Answer A · Benzodiazepine

Post-operative agitation in a chronic alcoholic is highly suspicious for alcohol withdrawal. The first-line treatment is a benzodiazepine, such as lorazepam or chlordiazepoxide.

WHY NOT THE OTHERS

- B** Haloperidol does not correct the underlying GABA-deficient withdrawal state and can lower the seizure threshold. It is not the treatment of choice for alcohol withdrawal delirium.
C Ketamine is used as a nonopioid analgesic and sedation adjunct. It is not a specific treatment for alcohol withdrawal.
D Propofol is kept for sedation of mechanically ventilated ICU patients. It is not first-line treatment for withdrawal agitation on a surgical ward.

Sabiston 22e, p. 142 "Gabapentin is used to prevent alcohol withdrawal and benzodiazepines are used to treat alcohol and benzodiazepine withdrawal."

- 13 30 years old man was involved in MVA, he was hemodynamically unstable. Exploration laparotomy shows actively bleeding multiple deep laceration of the right lobe of the liver. BP: 80/30 HR: 142 RR: 30 temp: 36.8 which of the following is the appropriate management?
- A Right hepatectomy
 - B Perihepatic packing
 - C Right hepatic artery ligation
 - D Individual ligation of bleeding vessels.

Answer B · Perihepatic packing

When the patient is unstable and the liver is bleeding actively from several deep lacerations, the first job is to stop the bleeding quickly. Perihepatic packing with manual compression controls most major liver bleeding, and it is faster and safer than resection or hunting for individual vessels in deep, bleeding liver tissue. Selective hepatic artery ligation, direct suture of bleeders through the laceration and resection are kept for bleeding that continues despite packing.

WHY NOT THE OTHERS

- A A formal right hepatectomy in a patient this unstable adds a long operation and blood loss that his physiology cannot tolerate. Definitive resection waits until damage control has stabilized him.
- C Ligating the right hepatic artery controls arterial inflow only. It does nothing for the venous and parenchymal bleeding from multiple deep lacerations, so the hemorrhage would go on.
- D Finding and tying individual vessels deep in actively bleeding liver is slow and hard in a patient this unstable. Direct ligation through the laceration is kept for bleeding that continues after packing.

Schwartz 11e, p. 225 "Initial control of hemorrhage is best accomplished using perihepatic packing and manual compression."

- 14 Which of the following tracer technique is safe to be performed in a pregnant patient with breast cancer?
- A Methylene Blue
 - B Tc99- Sulphur Colloid
 - C Isoflurane Blue

Answer B · Tc99- Sulphur Colloid

Sentinel node mapping in pregnancy is done with a radioisotope alone, such as Tc-99m sulfur colloid. The dose reaching the fetus is very low. Blue dyes are avoided. Isosulfan blue can cause maternal anaphylaxis, and the resulting hypotension endangers the fetus. Methylene blue has been linked to fetal harm, including intestinal atresia and neonatal methaemoglobinaemia.

WHY NOT THE OTHERS

- A Methylene blue is a blue dye, and blue dyes are avoided for sentinel node mapping in pregnancy because methylene blue can cause fetal methemoglobinemia. The radioisotope is used alone instead.
- C This option means isosulfan blue, which is sometimes miswritten as isoflurane blue. Blue dyes are contraindicated in pregnancy because isosulfan blue carries a real risk of anaphylaxis in the mother.

Schwartz 11e, p. 590 "SLN dissection appears to be safe in pregnancy when performed with radioisotope alone."

- 15 A 45-year-old female undergoes an abdominal US for the evaluation of non-specific abdominal pain. US reveals a 5 cm hyperechoic liver lesion. An MRI with gadolinium shows peripheral enhancement pattern. What is the most likely diagnosis?
- A Hepatic hemangioma
B Hepatic cyst
C Hepatic adenoma
D Focal nodular hyperplasia

Answer A · Hepatic hemangioma

Hemangioma is the most common benign liver lesion. On ultrasound it is a well-defined, homogeneous, hyperechoic mass. After contrast it shows discontinuous nodular enhancement at the periphery in the arterial phase, filling in towards the centre on later phases, and it is very bright on T2 MRI. Adenoma and FNH enhance brightly and diffusely in the arterial phase, and FNH often has a central scar. A simple cyst is anechoic and does not enhance.

WHY NOT THE OTHERS

- B A simple cyst is anechoic fluid and does not enhance at all on MRI. This lesion is hyperechoic and has a distinct enhancement pattern.
- C Adenoma typically enhances early across the whole lesion in the arterial phase, often heterogeneously, instead of filling in from the periphery. It is usually not markedly hyperechoic.
- D FNH typically shows uniform intense arterial enhancement with a central scar, not a peripheral nodular pattern.

Sabiston 22e, p. 1286 "CT and MRI are usually sufficient if a typical peripheral nodular enhancement pattern is seen."

- 16 An elderly patient with known to have CKD underwent cholecystectomy for acute cholecystitis, and the post-op patient complained of severe pain. What is the best pain control to be given?
- A Opioid
B Morphine
C Meperidine
D Hydromorphone

Answer D · Hydromorphone

In chronic kidney disease the choice of opioid matters. Morphine and meperidine both have active metabolites that are cleared by the kidney and accumulate. With morphine this causes prolonged sedation and respiratory depression, and with meperidine the metabolite normeperidine causes seizures. Hydromorphone is the safer choice, given at a reduced dose and with monitoring.

WHY NOT THE OTHERS

- A Opioid names only the drug class, not the agent. Some opioids have active metabolites that accumulate in renal impairment, and that difference is what matters for this patient.
- B Morphine is metabolized to an active glucuronide metabolite that accumulates when renal clearance is impaired. It risks prolonged sedation and respiratory depression.
- C Meperidine's metabolite, normeperidine, accumulates in renal impairment and can provoke CNS excitation and seizures. It is a poor choice in a patient with CKD.

Sabiston 22e, p. 63 "For moderate to severe pain in patients with renal dysfunction, fentanyl and hydromorphone are more suitable agents."

- 17 A 35-year-old man has been in ICU with severe pancreatitis, ventilator dependence and pneumonia for 2 weeks. He was on TPN. Labs: INR 2, APPT and platelets were normal. What of the following is most likely etiology?

A DIC
B Vitamin K deficiency
C Hemophilia
D Liver failure

Answer B · Vitamin K deficiency

This is vitamin K deficiency. The INR is prolonged on its own with a normal PTT and normal platelets, and that is the pattern of low vitamin K-dependent factors. Two weeks in ICU on antibiotics and parenteral nutrition without vitamin K removes both the direct intake and the gut flora that make it. DIC consumes clotting factors and platelets together, so the INR and PTT would both be prolonged and the platelets would fall, and none of that happened here. Hemophilia is congenital and would have presented earlier, and liver failure typically deranges more than the INR alone.

WHY NOT THE OTHERS

- A DIC uses up clotting factors and platelets together. Both the PT and PTT would be prolonged and the platelet count would drop, and this patient has none of that.
C Hemophilia is an inherited deficiency of a single factor. It prolongs the PTT, not the PT, so it does not fit an isolated rise in the PT and INR.
D Liver failure also prolongs the INR, but nothing here suggests the liver has failed. Two weeks of ICU care on TPN and antibiotics makes vitamin K depletion the far likelier cause of an isolated INR rise.

Sabiston 22e, p. 514 "Vitamin K deficiency limits the synthesis of prothrombin and factors VII, IX, and X. Vitamin K metabolism is impeded by antibiotics; patients who have chronic or recurrent infections need to have clotting parameters checked before surgical procedures are performed."

- 18 During LAR, intraoperative tachycardia and urine output <20 mL/hr. Most likely cause?

A Hypovolemia
B Hypokalemia
C Hypophosphatemia
D Hypocalcemia

Answer A · Hypovolemia

Tachycardia with oliguria during a long pelvic operation such as LAR most commonly reflects inadequate intravascular volume from blood loss, third-spacing and prolonged NPO status. The body answers hypovolemia with tachycardia and with renal vasoconstriction, which lowers urine output, to preserve central perfusion. Hypokalemia, hypophosphatemia and hypocalcemia can cause arrhythmias or weakness. They do not typically produce tachycardia and oliguria together the way volume depletion does.

WHY NOT THE OTHERS

- B Hypokalemia causes weakness and arrhythmia risk but does not itself produce tachycardia with oliguria. That combination suggests depleted intravascular volume.
C Hypophosphatemia is not linked to intraoperative tachycardia and oliguria.
D Hypocalcemia classically causes neuromuscular irritability or arrhythmia. It does not produce this combination of tachycardia and oliguria.

Cameron CST 14e, p. 1451 "Excessive thirst, dry mucous membranes, oliguria, poor skin turgor, tachycardia, hypotension, orthostasis, and abnormal mentation are all signs that a patient has moderate to severe low effective circulatory volume."

- 19 At laparotomy for bilious ascites 5 days after a laparoscopic cholecystectomy you find diffuse peritonitis and a complete transection of the hepatic duct. The best management is:
- A Peritoneal washing and immediate end-to-end repair.
 - B Delayed end-to-end repair.
 - C Immediate hepaticojejunostomy.
 - D External drainage with delayed hepaticojejunostomy.

Answer D · External drainage with delayed hepaticojejunostomy.

A complete hepatic duct transection found five days after surgery, with diffuse bile peritonitis, is managed first by controlling sepsis. Wash out the abdomen and drain the bile externally. Definitive reconstruction with a Roux-en-Y hepaticojejunostomy comes later, usually after 6 to 8 weeks, once sepsis and inflammation have resolved. Duct-to-duct repair of retracted, inflamed duct ends has a high stricture rate and is not appropriate here.

WHY NOT THE OTHERS

- A Repair in established bile peritonitis, with inflamed and retracted duct ends, has a high failure and stricture rate. The first aim is washout and drainage to control sepsis, with reconstruction later.
- B Delaying the repair is right. After a complete transection with a bile leak, though, the duct ends are usually retracted and damaged, so the reconstruction should be a Roux-en-Y hepaticojejunostomy. End-to-end repair is kept for a short injury whose ends meet without tension.
- C Reconstruction should wait until infection and periportal inflammation have resolved. It should not be done immediately in a patient with active peritonitis.

Cameron CST 14e, p. 489 "The definitive repair of a bile duct transection recognized in the postoperative period and controlled by external biliary drainage should not be planned until the patient has fully recovered from any sepsis or significant inflammation associated with a bile leak. In many cases, a period of 6 to 8 weeks is allowed before repair."

- 20 An elderly man, 2 days after undergoing a low anterior resection (LAR), is noted to have foul-smelling discharge from his abdominal drain. He is febrile (39 °C), tachycardic (HR 120/min), and hemodynamically unstable. What is the most appropriate next step in management?
- A CT abdomen with contrast
 - B Immediate re-exploration in the operating room
 - C Observation and supportive management
 - D Broad spectrum Antibiotic only

Answer B · Immediate re-exploration in the operating room

Fever, tachycardia, hemodynamic instability and foul drain output two days after a low anterior resection mean an anastomotic leak with severe sepsis. An unstable septic patient with an obvious leak needs resuscitation and a prompt return to the operating room for source control, usually washout with proximal diversion. Imaging, observation or antibiotics alone only delay the one step that controls the source.

WHY NOT THE OTHERS

- A A CT delays the re-exploration he needs to control the sepsis.
- C Observation allows the septic shock to continue and multi-organ failure to follow.
- D Antibiotics alone cannot control a leak. The anastomosis has to be dealt with.

Sabiston 22e, p. 139 "When the diagnosis of anastomotic leak is clinically obvious and the patient has peritonitis or severe sepsis, many surgeons will proceed with immediate exploratory laparotomy or diagnostic laparoscopy."

- 21 An elderly male presents to the ER with abdominal pain. He has a history of open right inguinal hernia repair 3 years ago. On examination, he is hemodynamically stable, but due to the presence of a surgical scar, proper clinical assessment of the groin is difficult. What is the next best step in management?
- A Open hernia repair
B Ultrasound abdomen/groin
C MRI pelvis
D Diagnostic laparoscopy

Answer B · Ultrasound abdomen/groin

When the physical exam is unreliable because of scarring or body habitus, ultrasound is an excellent tool. It is quick and non-invasive, and it can diagnose a hernia and assess for incarceration or strangulation.

WHY NOT THE OTHERS

- A Operating before the diagnosis is confirmed is premature. Examination cannot yet confirm a recurrence, so surgery is not the next step.
C CT or dynamic MRI is reserved for when ultrasound is negative or nondiagnostic. It is not the first test.
D Diagnostic laparoscopy is invasive. Noninvasive imaging with ultrasound has not even been tried yet, so laparoscopy is not next.

Sabiston 22e, p. 1097 "Ultrasound (US) is a useful adjunct in the setting of vague groin swelling or occult groin hernias. CT or dynamic MRI is useful when US is negative or nondiagnostic."

- 22 A 25-year-old man presents with a gunshot injury to the abdomen. Intraoperatively, he is found to have liver and bowel injuries. Despite attempts at hemostasis, the patient remains hemodynamically unstable and develops the "lethal triad" of trauma: coagulopathy, hypothermia, and acidosis. What is the most appropriate next step in management?
- A Liver packing and definitive bowel repair
B Liver resection with definitive bowel repair
C Stop the surgery immediately and shift the patient to ICU
D Liver packing with temporary abdominal closure

Answer D · Liver packing with temporary abdominal closure

The lethal triad calls for damage control surgery. Control the bleeding with packing, control the contamination, and get the patient to the ICU for resuscitation. The abdomen is left with a temporary closure.

WHY NOT THE OTHERS

- A Definitive bowel repair is deferred in damage control. The physiologic derangement of the lethal triad makes a prolonged definitive operation dangerous.
B Liver resection is a major, time-consuming definitive operation. It is contraindicated in a patient who is coagulopathic, hypothermic and acidotic.
C Abandoning the operation without packing to control the ongoing hemorrhage is not damage control. It leaves the bleeding uncontrolled.

Sabiston 22e, p. 356 "A reduction in mortality and morbidity was seen by abbreviating the laparotomy, performing only necessary surgical intervention (halt hemorrhage, control succus, and restore vascular continuity with shunts if required) followed by resuscitation and correction of physiologic derangements in the intensive care unit (ICU)."

23 After an episode of obstructive jaundice that resolves on its own. A patient has a CBD of 1 cm. What next to rule out choledocholithiasis?

- | | | | |
|---|------------|---|-------|
| A | MRCP. | C | ERCP. |
| B | HIDA scan. | D | PTC. |

Answer A · MRCP.

Jaundice that has settled, with a dilated 1 cm duct, puts this patient at intermediate risk of a common bile duct stone. That is suspicious enough to look, but not certain enough to go straight to an invasive procedure. MRCP images the whole biliary tree without instruments, radiation or risk of pancreatitis, and it detects duct stones with high accuracy. ERCP is kept for when a stone is found and needs removing.

WHY NOT THE OTHERS

- B** A HIDA scan assesses gallbladder emptying and acute cholecystitis. It is not used to rule out a common bile duct stone.
- C** ERCP is the invasive therapeutic step after a positive noninvasive study, not the first test to exclude a stone.
- D** PTC is invasive, with risks of bleeding and bile leak, and is kept for drainage when endoscopic access fails. It is not used to exclude a duct stone.

Cameron CST 14e, p. 482 “Magnetic resonance cholangiopancreatography (MRCP) is the best noninvasive imaging modality for identifying causes of biliary obstruction, characterizing biliary strictures, and detecting choledocholithiasis.”

WORTH MEMORISING

The blood supply of the bile duct is solely arterial — the single most important anatomical fact

- Unlike the hepatic parenchyma (dual portal + arterial supply), **the entire biliary tree is supplied by arteries alone**, making it uniquely susceptible to ischaemic injury and stricture.

from my Biliary chapter

24 Patient with prior Hx of obstetric induced Rectovaginal fistula presented to your clinic for management, upon exam you noticed a 2mm fistula that was 4CM away from the anal verge, what is the most appropriate management?

- A Endo-rectal advancement Flap
- B Open Repair
- C Ano-cutaneous Flap

Answer A · Endo-rectal advancement Flap

Obstetric rectovaginal fistulas are usually low and simple, and about half close on their own within 3 to 6 months, so repair is planned only once one persists. For a persistent small low fistula, the standard repair is the endorectal advancement flap. A flap of healthy mucosa, submucosa and circular muscle is advanced over the internal opening on the high-pressure rectal side, without dividing the sphincter. If there is also a sphincter defect with incontinence, an overlapping sphincteroplasty is added. Abdominal repair is kept for high fistulas, those after anastomotic leaks, and those from radiation or cancer.

WHY NOT THE OTHERS

- B Open abdominal repair is kept for high fistulas and for those after anastomotic leaks, radiation or cancer. A small, low, simple obstetric fistula is repaired locally from below.
- C An anocutaneous flap is advanced from perianal skin and suits an opening low in the anal canal. For a small fistula at this level the standard local repair is the endorectal advancement flap.

Cameron CST 14e, p. 321 "The endorectal advancement flap (ERAF) is the most standard treatment for low-lying simple posttraumatic RVFs."

25 A young child with a wound in the forearm stopped while going to the hospital. What is the initial step for hemostasis?

- | | |
|------------------------|----------------|
| A Vasoconstriction | D Prostacyclin |
| B Platelet aggregation | E Chemotaxis |
| C Myofibroblast | F Fibrin plug |

Answer A · Vasoconstriction

Vasoconstriction is the first step in the hemostatic response to a fresh wound. It limits blood loss before platelet plug formation and the coagulation cascade take effect.

WHY NOT THE OTHERS

- B Platelet aggregation forms the platelet plug in the second step of hemostasis, after vasoconstriction has already begun.
- C Myofibroblasts mediate wound contraction in the later proliferative and remodeling phases of healing. They are not part of the immediate hemostatic response to injury.
- D Prostacyclin is an endothelial vasodilator and platelet inhibitor that limits clot extension to uninjured vessel. It opposes the hemostatic response and does not start it.
- E Chemotaxis of inflammatory cells belongs to the inflammatory phase of wound healing, which follows hemostasis and does not start it.
- F Fibrin plug formation is the end product of the coagulation cascade. It comes after vasoconstriction and the platelet plug, not first.

Schwartz 11e, p. 4 "Vascular constriction is the initial response to vessel injury."

- 26 During workup of a patient with hypertension, he was found to be hypokalemic, Renin Aldosterone ratio was more than 1:30, CT Scan of abdomen revealed no adrenal masses, which of the following is the most appropriate next step in management?
- A Selective Venous Sampling
 - B Bilateral Adrenalectomy
 - C Medical Management

Answer A · Selective Venous Sampling

Hypertension with spontaneous hypokalemia and a raised aldosterone-to-renin ratio means primary aldosteronism. The next question is whether the source is one adrenal, which adrenalectomy cures, or both, which are treated medically. CT answers this only when it shows a clear unilateral lesion, and a normal CT does not exclude a small aldosteronoma because microadenomas are easily missed. Adrenal vein sampling comes next. It shows whether aldosterone secretion lateralizes to one side before you choose between surgery and medical therapy.

WHY NOT THE OTHERS

- B Bilateral adrenalectomy leaves the patient with lifelong adrenal insufficiency, and it is not how primary aldosteronism is treated. Bilateral hyperplasia is managed medically, and a unilateral source needs only a unilateral operation, which cannot be planned until lateralization is known.
- C Medical management is the fallback for confirmed bilateral hyperplasia. It is not the next step while adrenal vein sampling has not yet excluded a unilateral source that surgery could cure.

Sabiston 22e, p. 999 "Young patients with a unilateral cortical adrenal mass larger than 1 cm in diameter and a normal contralateral adrenal gland on CT can proceed directly to adrenalectomy, as their management is rarely changed by AVS results, whereas those without definitive CT localization undergo AVS."

- 27 A 40 years old man presents to your clinic with history of pain on defecation and red streaking with bowel movements. You perform anoscopy which feels tight and painful. The initial treatment for this patient is?
- A Stool softeners and nitrate paste
 - B Rubber band ligation
 - C Sclerotherapy
 - D Lateral subcutaneous internal sphincterotomy
 - E Infrared coagulation.

Answer A · Stool softeners and nitrate paste

Pain on defecation, bright red streaking and a tight, painful anal canal on examination make this an anal fissure. Initial treatment is medical: fiber and stool softeners to reduce trauma, warm sitz baths, and a topical nitrate or calcium-channel blocker to relax the internal sphincter and improve blood flow. Lateral internal sphincterotomy is kept for chronic fissures that fail medical therapy. Banding, sclerotherapy and infrared coagulation are treatments for hemorrhoids.

WHY NOT THE OTHERS

- B Rubber band ligation is inappropriate for a fissure and can make the pain worse.
- C Sclerotherapy is a treatment for hemorrhoids and is not used for fissures.
- D Lateral sphincterotomy is an operation, kept for fissures that fail medical therapy.
- E Infrared coagulation is an office treatment for internal hemorrhoids and has no role in anal fissure.

Schwartz 11e, p. 1313 "First-line therapy to minimize anal trauma includes bulk agents, stool softeners, and warm sitz baths."

- 28 A 73-year-old male presents with jaundice. Abdominal CT reveals a liver lesion in the hilum of the liver with duct dilatation. CA19-9 is elevated. What is the most likely diagnosis?
- A Cholangiocarcinoma
B Fibrolamellar HCC
C Liver adenoma
D HCC

Answer A · Cholangiocarcinoma

A mass at the hilum with intrahepatic duct dilatation, obstructive jaundice and a raised CA19-9 is typical of hilar cholangiocarcinoma, the Klatskin tumor. CA19-9 is the tumor marker most often raised in cholangiocarcinoma. HCC is a hypervascular parenchymal mass that usually raises AFP. Fibrolamellar HCC occurs in young patients and does not raise AFP, and neither of them usually obstructs the ductal confluence.

WHY NOT THE OTHERS

- B Fibrolamellar HCC is a distinct tumor of young patients without cirrhosis. It is not associated with hilar duct obstruction or a raised CA19-9.
- C Liver adenoma is a benign lesion. It is not associated with biliary duct dilatation, jaundice or a raised CA19-9.
- D Classic HCC is a hepatocellular tumor usually marked by AFP, not CA19-9. It does not typically present as a lesion obstructing the hilar ducts.

Schwartz 11e, p. 1377 "Hilar cholangiocarcinoma originates in the wall of the bile duct at the hepatic duct confluence and usually presents with obstructive jaundice rather than an actual liver mass."

- 29 A 65 years old otherwise healthy man, presented to the outpatient department with a history of PR bleeding for the last 3 months associated with change in bowel habits. On examination, he was pale, with normal abdominal and PR examination. Sigmoidoscopy revealed an ulcerating mass 50 cm from the anal verge with biopsy result of well differentiated adenocarcinoma. CT CAP was normal. Which of the following is the appropriate pre-operative investigation?
- A Colonoscopy
B Barium enema
C Trans-rectal US
D Upper GI endoscopy

Answer A · Colonoscopy

Sigmoidoscopy found the cancer, but it examines only the distal colon. Synchronous cancers occur in up to about 5% of patients and synchronous polyps are more common still, so the whole colon must be examined before resection, usually by colonoscopy. Any second lesion can then be biopsied or removed and included in the operative plan.

WHY NOT THE OTHERS

- B Barium enema is an older, less sensitive study and cannot biopsy or remove polyps. When colonoscopy cannot be completed, CT colonography is now the usual alternative.
- C Transrectal ultrasound stages rectal tumors. A mass 50 cm from the anal verge is well above the rectum, so it does not apply.
- D Upper GI endoscopy looks at the stomach and duodenum. It has no role in staging a distal colonic lesion in a patient with no upper GI symptoms.

Schwartz 11e, p. 1296 "The colon must be evaluated for synchronous tumors, usually by colonoscopy. Synchronous disease will be present in up to 5% of patients."

30 A young female presented with non-specific abdominal pain, her examination and labs were unremarkable, a CT Scan of abdomen showed a lesion in the head of pancreas that is solid with cystic degeneration, what is the most likely diagnosis?

- A Pseudopapillary
- B Adenocarcinoma
- C IPMN
- D Mucinous Cystic neoplasm

Answer A · Pseudopapillary

A solid pancreatic mass with cystic degeneration in a young woman fits a solid pseudopapillary neoplasm. It is a low-grade malignant tumor that typically occurs in young women, and it is treated with surgical resection.

WHY NOT THE OTHERS

- B** Pancreatic adenocarcinoma is a disease of older adults. It appears as a poorly defined, infiltrative solid mass, not a well-circumscribed solid lesion with cystic degeneration in a young woman.
- C** IPMN is a mucinous lesion that communicates with the duct and is typically seen at 60 to 70 years. It does not give a solid-cystic mass in a young woman.
- D** Mucinous cystic neoplasm is a septated, mucin-filled cyst that usually arises in the body or tail of the pancreas in middle-aged women. It is not a solid mass with cystic degeneration in the head of the pancreas.

Sabiston 22e, p. 1395 "SPN, or Frantz tumor, is a low-grade epithelial neoplasm primarily found in young females (25–35 years)."

31 Compartment after nail gun, he underwent laparotomy multiple resection , post operative in the ICU low UOP 10cc/hr, high peak airway pressure 50, hypotensive what is next:

- A Muscle relaxant
- B Decompressive laparotomy
- C Diuretic
- D Decrease IVF

Answer B · Decompressive laparotomy

After a laparotomy for multiple bowel injuries, oliguria, high peak airway pressures and hypotension together mean abdominal compartment syndrome. Raised intra-abdominal pressure compresses the vena cava, kidneys and diaphragm. It is defined as a sustained intra-abdominal pressure above 20 mmHg, measured through the bladder, with new organ dysfunction. Once organs are failing, the definitive treatment is emergency decompressive laparotomy, leaving the abdomen open under a temporary closure.

WHY NOT THE OTHERS

- A** Paralysis can transiently improve abdominal wall compliance and lower peak airway pressure while decompression is arranged. It does not reverse the reduced venous return and organ hypoperfusion once the syndrome has caused oliguria and hypotension, and if it fails, decompressive laparotomy is what is needed.
- C** The oliguria comes from renal hypoperfusion as raised intra-abdominal pressure compresses the renal vessels and parenchyma, not from volume overload. A diuretic does nothing to lower intra-abdominal pressure and can worsen the hypotension.
- D** The problem is compression of the vena cava and viscera by raised intra-abdominal pressure, not excess fluid. Cutting back intravenous fluids does nothing to relieve that pressure and leaves the hypotension and oliguria untreated.

Cameron CST 14e, p. 1377 "Definitive management for ACS is an emergent decompressive laparotomy."

32 A 60-year-old postmenopausal female presents with bone pain and fatigue. Labs: Ca 2.8 mmol/L (mildly elevated), 24-hour urine calcium 400 mg (mildly elevated). Which investigation will confirm the diagnosis?

- A PTH
- B PTH-related peptide
- C Phosphate/Ratio
- D Magnesium

Answer A · PTH

A postmenopausal woman with mild hypercalcemia, hypercalciuria, bone pain and fatigue should have a PTH level. It separates primary hyperparathyroidism, where PTH is elevated or inappropriately normal, from malignancy-associated hypercalcemia, where PTH is suppressed and PTHrP is elevated.

WHY NOT THE OTHERS

- B** PTH-related peptide is measured when PTH is suppressed and malignancy is suspected. It is not the confirmatory test for primary hyperparathyroidism, the commonest cause of mild hypercalcemia in an outpatient.
- C** An elevated chloride-to-phosphate ratio supports hyperparathyroidism but does not confirm it. The PTH level confirms it.
- D** Magnesium is not part of the diagnostic workup for hypercalcemia with an elevated urine calcium.

Schwartz 11e, p. 1669 “The presence of an elevated serum calcium and intact PTH or two-site PTH levels, without hypocalciuria, establishes the diagnosis of PHPT with virtual certainty.”

33 A super morbidly obese patient with a BMI of 70 is planned to undergo a staged duodenal switch procedure, which of the following is the second stage of the procedure?

- A Laparoscopic Sleeve Gastrectomy
- B Laparoscopic Roux-en-Y Gastric Bypass
- C Biliopancreatic diversion

Answer C · Biliopancreatic diversion

A duodenal switch with biliopancreatic diversion, DS-BPD, can be staged when the BMI is over 70, because as a single operation it would carry excessive perioperative risk. The first stage is a sleeve gastrectomy, built the same way as a standalone vertical sleeve gastrectomy. Only after the patient has lost weight over roughly 1 to 2 years is the malabsorptive part added, converting the sleeve into a full DS-BPD. That second, malabsorptive stage is the biliopancreatic diversion with duodenal switch, made by dividing the small bowel and forming the short common channel.

WHY NOT THE OTHERS

- A** Sleeve gastrectomy is the first stage of a staged duodenal switch in a super-obese patient. It gives the initial weight loss and lowers operative risk before the malabsorptive part is added later, so it comes first and does not complete the operation.
- B** Roux-en-Y gastric bypass is a separate, standalone bariatric operation with its own anatomy. It is not a component or stage of the duodenal switch with biliopancreatic diversion.

Cameron CST 14e, p. 126 “The first stage is similar to a VSG operation with the creation of a gastric sleeve. After approximately 1 to 2 years, patients can be revised to DS-BPD and the malabsorptive second stage performed.”

- 34 A 60 year-old female with liver cirrhosis and portal hypertension has an 8 mm gall bladder polyp. The best management is:
- A Serial ultrasound.
 - B Open cholecystectomy with lymph node dissection.
 - C Laparoscopic cholecystectomy.
 - D TIPS then laparoscopic cholecystectomy.

Answer A · Serial ultrasound.

Gallbladder polyps under 10 mm with no high-risk features carry a very low risk of cancer and are followed with serial ultrasound. High-risk features include primary sclerosing cholangitis, a sessile shape or growth on follow-up. Cirrhosis with portal hypertension makes cholecystectomy riskier, with bleeding from collateral veins and liver decompensation, and that strengthens the case for observation. Surgery is advised if the polyp reaches 10 mm, grows, or causes symptoms.

WHY NOT THE OTHERS

- B A radical cancer operation is not justified for an 8 mm polyp with no features of malignancy, and open surgery in a cirrhotic patient with portal hypertension is especially hazardous.
- C The polyp does not meet the threshold for removal. Cholecystectomy in cirrhosis with portal hypertension also carries extra risk of bleeding and decompensation.
- D TIPS carries real risks of encephalopathy and liver failure. It is not justified to prepare for an operation this polyp does not need.

Sabiston 22e, p. 1241 "Polyps smaller than 10 mm with no other risk factors and no ultrasonographic features suggesting malignant disease can be observed with serial ultrasonography."

- 35 A 25-year-old diabetic man presented to the emergency department with a history of severe throbbing anal pain for 5 days. Physical examination revealed a severely tender anal verge with no evidence of external pathology. Which of the following is the most appropriate next step in management?
- A Sigmoidoscopy under sedation
 - B Lubricated proctoscopic examination
 - C Examination under general anesthesia
 - D Computed tomography of pelvis and perineum

Answer C · Examination under general anesthesia

Severe throbbing anal pain with nothing to see externally in a diabetic is highly concerning for a deep perianal abscess, intersphincteric or supralelevator, that is not yet apparent on inspection. Diabetics are also at higher risk of rapidly progressive anorectal sepsis. The pain makes an adequate awake exam intolerable. Examination under anesthesia allows full digital, anoscopic and proctoscopic assessment, and any abscess found can be drained immediately. Imaging, or an exam the patient cannot tolerate, only delays the diagnosis.

WHY NOT THE OTHERS

- A Sigmoidoscopy looks at the proximal rectum, not disease at the anal verge, and any instrumented bedside exam worsens the pain.
- B Proctoscopy is a bedside instrumented exam this patient cannot tolerate. He needs examination under anesthesia.
- D A pelvic CT can miss a drainable collection, especially a small intersphincteric abscess, so it should not be relied on to exclude one. It also delays the examination and drainage this patient needs.

Cameron CST 14e, p. 300 "Patients who cannot tolerate an examination should undergo an examination under anesthesia (EUA)."

- 36 A 45 year female presented with 2 years hx of diaphoresis , shaking , mental disturbance and obtundation also she gave hx of seizure; CNS exam normal; Ct show 2x2 hypodense mass in tail of pancreas; Dx
- A insulinoma
B gastrinoma
C gluconoma
D carcinoid tumor

Answer A · insulinoma

Tremor, diaphoresis, confusion or obtundation, and seizure come from neuroglycopenia and catecholamine release in profound hypoglycemia. That is how insulinoma presents, especially with a hypodense mass in the pancreatic tail on imaging. Glucagonoma causes hyperglycemia with a necrolytic migratory rash and weight loss. Carcinoid tumors cause flushing, diarrhea and bronchospasm. Neither fits this patient's hypoglycemic-type symptoms.

WHY NOT THE OTHERS

- B Gastrinoma presents with refractory peptic ulcer disease, reflux and diarrhea from acid hypersecretion. It does not cause diaphoresis, seizures or obtundation.
- C Glucagonoma causes necrolytic migratory erythema, weight loss and diabetes. Its hyperglycemia is the opposite metabolic direction from this patient's hypoglycemic-type symptoms.
- D Carcinoid tumor produces flushing, diarrhea and bronchospasm. It does not cause neuroglycopenic symptoms like these.

Schwartz 11e, p. 1481 "Common symptoms include palpitations, trembling, diaphoresis, confusion or obtundation, and seizure, and family members may report that the patient has undergone a personality change."

- 37 A 50-year-old patient presents with a large, deep-seated abdominal mass. Imaging suggests a sarcoma with possible invasion into adjacent structures, but no distant metastasis is detected. The patient is otherwise fit for surgery. What is the most appropriate management?
- A Palliative care
B Neoadjuvant chemotherapy
C Radiotherapy
D Wide local excision with negative margins

Answer D · Wide local excision with negative margins

A fit patient with a localized abdominal or retroperitoneal sarcoma and no distant metastasis needs complete surgical resection with negative margins. These tumours are large and often abut or invade neighbouring organs, so the resection is en bloc, taking any involved adjacent structures with the tumour. A complete first operation gives the best chance of local control and survival. Chemotherapy and radiotherapy are used only in selected cases alongside surgery, never instead of it. Palliative care is for unresectable or metastatic disease.

WHY NOT THE OTHERS

- A Palliative care is reserved for unresectable or metastatic disease. This patient is fit and has no distant metastasis.
- B Surgery is the primary treatment for localized sarcoma. When resection is feasible, chemotherapy is not the primary answer.
- C Radiotherapy is at most a selective adjunct to resection for retroperitoneal sarcoma. On its own it does not control a resectable tumour in a fit patient.

Schwartz 11e, p. 1582 "Complete surgical resection is the most effective treatment for primary or recurrent retroperitoneal sarcoma (Fig. 36-9). En bloc resection often necessitates sacrificing contiguous structures such as the colon, kidney, spleen, pancreas, psoas muscle, small bowel, inferior vena cava, and aorta."

38 65 yr old c/o epigastric pain vomiting and weight loss for 2 days o/e unremarkable. EGD done showed gastric outlet obstruction .labs total bilirubin = 38, direct = 31, alk phosphate = 243 Next step in ttt:

- A US abdomen
- B CT abdomen
- C laparoscopy
- D laparotomy

Answer B · CT abdomen

In a 65-year-old, gastric outlet obstruction with a cholestatic picture and weight loss fits a periampullary or pancreatic head tumor blocking both the duodenum and the bile duct. Contrast CT comes next. It shows the mass, the level of obstruction, vascular involvement and metastases.

WHY NOT THE OTHERS

- A** Ultrasound can show a dilated bile duct, but it often misses a pancreatic head mass behind bowel gas and cannot stage it. With both duodenal and biliary obstruction, contrast CT answers the question in one study.
- C** Staging laparoscopy comes after CT has defined the lesion, to look for small peritoneal or liver metastases. It is not the first investigation.
- D** Laparotomy comes only after imaging has shown what the lesion is, whether it is resectable, and whether there are metastases. Operating blind risks an unnecessary or wrong operation.

Schwartz 11e, p. 1399 "CT is also the initial test of choice in evaluating patients with suspected malignancy of the gallbladder, the extrahepatic biliary system, or nearby organs such as the head of the pancreas."

39 A 37-year-old woman with recurrent incisions and drainage for breast abscesses presents with right breast pain and redness, examination reveals a tender right breast with an irregular mass, ultrasound shows a 3 x 2 cm collection, aspiration of abscess fluid shows chronic inflammation with granulomas. What is the next step in management?

- A Incision and drainage
- B Surgical excision
- C Culture for tuberculosis

Answer C · Culture for tuberculosis

Recurrent breast abscesses with granulomatous inflammation on aspiration fit granulomatous mastitis. Before treating it as idiopathic granulomatous mastitis, exclude infection by culturing the material for tuberculosis and fungi. Tuberculous mastitis needs antituberculous drugs, while the idiopathic form is treated with antibiotics, steroids or observation. Surgery at this stage tends to leave an open, poorly healing wound.

WHY NOT THE OTHERS

- A** Incision and drainage treats an abscess but does nothing to exclude an infectious granulomatous cause such as TB, which has to come before further management.
- B** Surgical excision is premature. Mycobacterial and fungal infection must be ruled out by culture first, and operating on active granulomatous mastitis tends to leave a poorly healing wound.

Sabiston 22e, p. 836 "Biopsy shows nonnecrotizing granulomatous lesions and should also be sent for culture and possibly analyzed to exclude fungal or mycobacterial infection and sarcoidosis, although cultures rarely grow anything."

- 40 A 50-year-old male with a crush injury has an unstable pelvic fracture. BP 80/40 despite 2 units pRBCs. FAST shows significant intraperitoneal free fluid. What is the next step?
- A Angioembolization
B Exploratory laparotomy
C External fixation of the pelvis
D REBOA placement

Answer B · Exploratory laparotomy

When a patient with a pelvic fracture stays unstable, the first question is whether the blood is in the abdomen. A positive FAST in an unstable patient means hemoperitoneum, and that needs a laparotomy now. A pelvic binder should already be on. If a pelvic hematoma is found, preperitoneal packing and external fixation can be done during the same operation. Angiography is for pelvic arterial bleeding once the abdomen has been excluded or controlled.

WHY NOT THE OTHERS

- A Angioembolization is for a pelvic arterial source once the abdomen has been excluded as the cause of the instability. Here the free intraperitoneal fluid on FAST means an intra-abdominal source, and that needs immediate operative control, not a trip to the interventional radiology suite.
- C External fixation reduces pelvic volume and helps tamponade pelvic bleeding, but it does nothing for the free intraperitoneal blood on FAST. That blood is the more immediate threat to life in an unstable patient.
- D REBOA is a temporizing bridge to definitive control in an exsanguinating patient, not a substitute for it. With a clear intraperitoneal source already seen on FAST, the definitive next step is to open the abdomen, not to place an aortic balloon and delay source control.

Cameron CST 14e, p. 1400 "In general terms, injuries resulting in class III or IV shock that are associated with a penetrating wound(s) or evidence of intraperitoneal blood on a FAST examination are best managed with emergency laparotomy."

- 41 Chronic schistosomiasis leads to periportal ('pipe-stem') fibrosis. What type of portal hypertension does this cause, and how does it differ from cirrhotic portal hypertension?
- A Presinusoidal portal hypertension (preserved hepatocellular/synthetic function)
B Sinusoidal portal hypertension, indistinguishable from cirrhosis
C Posthepatic (Budd-Chiari-type) portal hypertension
D No true portal hypertension occurs

Answer A · Presinusoidal portal hypertension (preserved hepatocellular/synthetic function)

Schistosomal ova lodge in the small portal venules and provoke a granulomatous reaction. This produces 'pipe-stem' fibrosis around the portal tracts while the sinusoids and hepatocytes are largely spared. The block is presinusoidal, so portal pressure rises but hepatocellular synthetic function stays comparatively preserved. In cirrhosis the sinusoidal architecture itself is destroyed, and liver failure accompanies the portal hypertension. Patients with schistosomiasis present with splenomegaly and variceal bleeding, usually with normal transaminases and little or no jaundice.

WHY NOT THE OTHERS

- B In schistosomiasis the sinusoids and hepatocytes are largely spared. In cirrhosis the sinusoidal architecture is destroyed and synthetic function fails, so the two are not indistinguishable.
- C Budd-Chiari-type portal hypertension comes from obstruction of hepatic venous outflow. That is an entirely different anatomic level from periportal fibrosis caused by ova deposition.
- D Pipe-stem fibrosis does cause a real and often severe rise in portal pressure, with varices and splenomegaly. True portal hypertension is present.

Schwartz 11e, p. 1371 "Schistosomiasis has three stages of clinical symptomatology: the first includes itching after the entry of cercariae through the skin; the second includes fever, urticaria, and eosinophilia; and the third involves hepatic fibrosis followed by presinusoidal portal hypertension. During this third phase, the liver shrinks, the spleen enlarges, and the patient may develop complications of portal hypertension while hepatic function is maintained."

- 42 A 77-year-old patient had operative embolectomy for a cold left hand. What is the next step in evaluation of this patient?
- A MRA of subclavian artery
 - B Duplex examination of the carotid arteries
 - C Echocardiogram
 - D Cardiac catheterization
 - E chest x-ray

Answer C · Echocardiogram

After embolectomy for an acute embolic event such as a cold hand, the standard next step is to search for the source of the embolus. After an ECG, echocardiography is the key study to identify a cardiac source.

WHY NOT THE OTHERS

- A Subclavian lesions are an uncommon source of arm emboli. In a 77-year-old the heart is by far the likeliest source, so it is examined first.
- B Duplex of the carotid arteries looks at the wrong anatomical region.
- D Cardiac catheterization is invasive and is not a screening test for an embolic source.
- E A chest x-ray does not identify the cardiac source of an embolus.

Schwartz 11e, p. 954 "An electrocardiogram (ECG) will diagnose atrial fibrillation. A transthoracic or transesophageal echocardiogram should be performed looking for a cardiac source."

- 43 A neonate is delivered by SVD and develops cyanosis and choking during feeding. X-ray shows a coiled (kinked) NG tube in the upper oesophagus and a GASLESS abdomen. Diagnosis?
- A Oesophageal atresia WITHOUT a distal tracheo-oesophageal fistula (Type A)
 - B Oesophageal atresia WITH a distal tracheo-oesophageal fistula (Type C)
 - C Isolated H-type tracheo-oesophageal fistula
 - D Duodenal atresia

Answer A · Oesophageal atresia WITHOUT a distal tracheo-oesophageal fistula (Type A)

Choking and cyanosis with feeding, with a tube that coils in the upper oesophagus, means oesophageal atresia. The gasless abdomen tells you the type. With a distal tracheo-oesophageal fistula, air passes from the trachea into the stomach whenever the baby cries or coughs, so the abdomen fills with gas. No gas below the diaphragm means there is no distal fistula. Duodenal atresia gives a double bubble, and the tube passes normally into the stomach.

WHY NOT THE OTHERS

- B A distal fistula lets air pass from the airway into the stomach and bowel each time the baby cries or coughs, so the abdomen is distended and full of gas on X-ray. A gasless abdomen argues against a distal fistula.
- C With an isolated fistula and no atresia the oesophagus is continuous, so a feeding tube passes freely into the stomach. The tube coils only when the oesophagus ends in a blind upper pouch, and that does not happen with an isolated fistula.
- D Duodenal atresia causes bilious vomiting with an intact, normally sited oesophagus and stomach, and the X-ray shows a double bubble from the distended stomach and proximal duodenum. The oesophagus is unaffected, so a feeding tube passes normally into the stomach and does not coil in the upper oesophagus.

Sabiston 22e, p. 1952 "The presence of intra-abdominal gas confirms TEF. However, an infant demonstrating absent GI air radiographically after failing a nasogastric tube insertion is likely suffering from isolated EA."

- 44 A 62-year-old patient taking clopidogrel after PCI is scheduled for surgery. The anesthesiologist wants to assess the antiplatelet effect of clopidogrel preoperatively. Which test is most appropriate?
- A PT/INR
B Fibrinogen
C PTT
D Thromboelastography

Answer D · Thromboelastography

Clopidogrel blocks the platelet ADP receptor, P2Y₁₂, so its effect can only be measured with a platelet function test. TEG with platelet mapping measures platelet aggregation in response to ADP and shows the degree of inhibition. PT, INR, PTT and fibrinogen measure clotting factors, not platelets, and stay normal on clopidogrel.

WHY NOT THE OTHERS

- A PT and INR reflect the extrinsic and common coagulation factor pathways. They are unaffected by platelet ADP-receptor blockade and will not detect the antiplatelet effect of clopidogrel.
- B A fibrinogen level measures the substrate available for clot formation, not platelet function. It tells you nothing about the degree of ADP-receptor blockade from clopidogrel.
- C PTT assesses the intrinsic and common coagulation pathways. Like PT and INR, it does not reflect platelet aggregation, so it will not show the antiplatelet effect of clopidogrel.

Cameron CST 14e, p. 1608 "The TEG platelet mapping assay evaluates platelet aggregation in the presence of adenosine diphosphate or arachidonic acid. It is used to assess the inhibitory effect of antiplatelet therapy with medications like aspirin and clopidogrel."

- 45 In contrast to ulcerative colitis, Crohn's disease:
- A is not associated with increased cancer risk
B may spare the rectum
C more commonly associated with sclerosing cholangitis
D is more commonly associated with toxic megacolon

Answer B · may spare the rectum

Ulcerative colitis starts in the rectum and extends proximally without gaps, so the rectum is almost always involved. Crohn colitis is segmental with skip lesions, and the rectum can be spared. Rectal sparing favors Crohn disease, and in surgery it can allow colectomy with ileorectal anastomosis. Primary sclerosing cholangitis and toxic megacolon are more typical of ulcerative colitis, and long-standing Crohn colitis still raises colorectal cancer risk.

WHY NOT THE OTHERS

- A Crohn colitis does carry an increased colorectal cancer risk when the colon is chronically involved.
- C Primary sclerosing cholangitis is more strongly associated with ulcerative colitis than with Crohn's disease.
- D Toxic megacolon is classically linked to ulcerative colitis because of its diffuse, continuous colonic inflammation. It can occur in Crohn colitis, but it is not the more common association of the two.

Schwartz 11e, p. 1285 "Unlike ulcerative colitis, Crohn's colitis may be segmental, and rectal sparing is often observed."

46 Fibrolamellar HCC, young age female 10*15, hypervascular non-enhancing central scar, management:

- A TACE
- B transplant
- C resection
- D observation, imaging 3 month

Answer C · resection

Fibrolamellar HCC arises in young patients with a normal, non-cirrhotic liver, so even a very large tumor can usually be removed with an adequate liver remnant. Complete surgical resection is the treatment of choice and offers long-term survival in most patients. Size alone is not a contraindication.

WHY NOT THE OTHERS

- A** TACE is a palliative or bridging therapy, used when resection or transplantation is not feasible. It is not the primary treatment for a young patient with a resectable lesion and no cirrhosis.
- B** Fibrolamellar HCC occurs in a healthy, non-cirrhotic liver that tolerates major resection. Transplantation is kept for tumors that cannot be resected and is not used first for a resectable lesion.
- D** A resectable hypervascular mass in a surgical candidate should be resected, not followed with serial imaging. Watching it risks letting the tumor progress when curative resection is achievable now.

Sabiston 22e, p. 1292 "In general, fibrolamellar HCC has a better prognosis than HCC, probably related to high resectability rates, lack of chronic liver disease, and a more indolent course (see Table 89.9). Long-term survival can be expected in approximately 50% to 75% of patients after complete resection, but recurrence is common and occurs in at least 80% of patients."

47 A 50-year-old male, presented with frequent vomiting for 3 days, examination revealed distended epigastrium with positive succussion splash. Which of the following metabolic derangement he is likely to have?

- A Hyperkalemia
- B Hyperchloremia
- C Acidic urine
- D Hypercalcemia

Answer C · Acidic urine

Vomiting from gastric outlet obstruction causes severe potassium and chloride depletion. Eventually the kidney preferentially reabsorbs Na⁺ in exchange for H⁺, because K⁺ has become scarce. The result is a paradoxically acidic urine despite a systemic metabolic alkalosis.

WHY NOT THE OTHERS

- A** Prolonged vomiting causes hypokalemia, not hyperkalemia.
- B** Losing gastric fluid causes hypochloremia, a low chloride, not hyperchloremia.
- D** Vomiting disturbs chloride, potassium and acid-base balance. It does not cause hypercalcemia.

Schwartz 11e, p. 93 "The resulting hypokalemia leads to the excretion of hydrogen ions in the face of alkalosis, a paradoxical aciduria."

- 50 A 40-year-old woman presents with severe epigastric abdominal pain and is admitted for acute pancreatitis. Abdominal ultrasound shows gallstones without evidence of choledocholithiasis. After 3 days, her symptoms have resolved, and she is tolerating a regular diet. Laboratory parameters are normal. What is the next step in the management of this patient?
- A Discharge home with expectant management
 - B Cholecystectomy
 - C ERCP
 - D Cholecystectomy after 6 weeks

Answer B · Cholecystectomy

This is mild gallstone pancreatitis that has settled, with no evidence of a stone in the common bile duct. Cholecystectomy during the same admission, before discharge, prevents recurrent pancreatitis. Waiting weeks exposes her to a further attack. Delay is only for severe or necrotizing pancreatitis, and ERCP is only for cholangitis or persistent duct obstruction.

WHY NOT THE OTHERS

- A Discharging her without removing the gallbladder leaves the stones in place and risks a recurrent attack before an outpatient operation can be done.
- C Her ultrasound shows no evidence of choledocholithiasis, so there is no indication for duct clearance.
- D Delaying surgery by six weeks needlessly risks a further attack of pancreatitis while she waits.

Sabiston 22e, p. 1227 "To prevent a future episode of gallstone pancreatitis, a cholecystectomy is warranted before discharge for mild to moderate cases and cholecystectomy should be delayed for patients with severe or complicated disease including necrotizing pancreatitis."

WORTH MEMORISING

The examiner's three levers

Sex and age place the lesion (young woman → SPN; perimenopausal woman → MCN; older either sex → IPMN or SCN). **Duct communication** separates IPMN from MCN. **Symptoms and nodules** decide operate-versus-observe. Almost every question in the collections is one of these three levers wearing a different clinical costume.

from my Pancreas chapter

- 51 Patient s/p LAR for rectal cancer 4 year ago on follow up showed single Adrenal mets no other site of met, what next
- A Adrenalectomy
B pallative chemo
C Radiotherapy
D Ablative therapy

Answer A · Adrenalectomy

A single adrenal deposit appearing years after the primary was removed, with no disease elsewhere, is isolated metastatic disease that can be completely removed. In a fit patient, adrenalectomy offers the best chance of long-term survival and is the preferred treatment. Chemotherapy may be added around the operation but does not replace it. Radiotherapy and ablation are local alternatives for patients who cannot or will not have surgery. Before operating, confirm with whole-body imaging that the deposit is solitary, and exclude a functioning adrenal tumor such as pheochromocytoma biochemically.

WHY NOT THE OTHERS

- B Palliative chemotherapy alone is for widespread or unresectable disease. It cannot give the durable control that removing an isolated, resectable deposit offers.
- C Radiotherapy, including stereotactic radiotherapy, is an alternative local treatment for patients who cannot or will not have surgery. It is not the first choice for a fit patient with a resectable solitary adrenal deposit.
- D Ablation is kept for patients who are unfit for resection or otherwise not candidates for it. When surgery is feasible, it is not the first-line step.

Schwartz 11e, p. 1697 "Resection of solitary adrenal metastases in patients with a history of nonadrenal cancer has been demonstrated to lead to prolonged patient survival."

- 52 A young male with leukemia presents with RLQ pain. He is febrile with low WBC count. CT scan shows inflammation and thickening of the right colon and fat stranding. What is the best management?
- A IV antibiotics, bowel rest, and hydration
B Appendectomy
C Right hemicolectomy
D Right hemicolectomy with ileostomy and mucous fistula

Answer A · IV antibiotics, bowel rest, and hydration

A febrile leukemia patient with a low WBC, RLQ pain and a CT showing right colon and cecal inflammation with fat stranding has neutropenic enterocolitis, or typhlitis. Initial management is bowel rest and broad-spectrum antibiotics. Surgery is reserved for perforation, generalized peritonitis or clinical deterioration, and this patient has none of these.

WHY NOT THE OTHERS

- B This is typhlitis, not appendicitis. Appendectomy does not treat the diffuse colonic process and is not indicated without a localized appendiceal problem.
- C Right hemicolectomy is reserved for perforation, uncontrolled bleeding, or deterioration despite medical therapy. It is not the initial approach in a patient who appears stable.
- D Resection with a stoma is too aggressive as a first step. The bowel is edematous and friable, and the patient has not failed conservative therapy.

Schwartz 11e, p. 1324 "Some patients will respond to bowel rest, broad-spectrum antibiotics, parenteral nutrition, and granulocyte infusion or colony-stimulating factors."

- 53 A 52 year old man undergoing elective anterior resection for sigmoid adenocarcinoma. Which of the following reduces the surgical site infection
- A Oral antibiotics & probiotics
 - B Mechanical bowel preparation
 - C Oral antibiotics & mechanical bowel preparation
 - D Intravenous long acting antibiotics

Answer C · Oral antibiotics & mechanical bowel preparation

For an elective colorectal resection such as an anterior resection for sigmoid adenocarcinoma, mechanical bowel preparation combined with oral antibiotics lowers the risk of surgical site infection more than mechanical preparation alone. Large administrative database studies have linked this combination with a very low rate of postoperative infectious complications. Current guidance recommends the combined regimen before elective colorectal surgery, not mechanical preparation by itself.

WHY NOT THE OTHERS

- A Probiotics are not part of the regimen that large studies have shown to lower surgical site infection before colorectal resection. The combination with demonstrated benefit pairs oral antibiotics with mechanical bowel preparation.
- B Mechanical bowel preparation alone does not reduce surgical site infection. The benefit comes when oral antibiotics are added.
- D Intravenous antibiotic prophylaxis is already standard for every colorectal resection. What lowers wound infection further on top of it is oral antibiotics given with mechanical bowel preparation, and continuing intravenous antibiotics after surgery gives no extra protection.

Sabiston 22e, p. 1443 "Mechanical bowel preparation and oral antibiotics are used before colorectal surgery to reduce the risk of SSIs and complications."

- 54 Pt post hernia repair with mesh complaining of wound site pain and fever, What's the most common cause?
- A E-coli
 - B Staphylococcus Aureus
 - C Bacteroids
 - D Clostridium Pervingis

Answer B · Staphylococcus Aureus

Hernia repair is a clean operation, so wound and mesh infections come mainly from skin flora. Staphylococcus aureus, often methicillin-resistant, is the most common organism. It forms biofilm on mesh, which makes it hard to clear. Gram-negative and anaerobic organisms are found less often.

WHY NOT THE OTHERS

- A E. coli is the commonest gram-negative organism in mesh infection, but it is found far less often than Staphylococcus aureus.
- C Bacteroides is an anaerobic gut organism associated with intra-abdominal contamination. It is not the most common organism in a routine hernia wound infection.
- D Clostridium perfringens causes gas gangrene in heavily contaminated or devitalized tissue. It is not the typical organism in an ordinary wound infection after hernia repair.

Sabiston 22e, p. 1076 "The most common microbe indicated in mesh infection is Staphylococcus aureus, which can be found in 64% of cultures, and 42% of those are methicillin-resistant S. aureus."

- 55 A 28-year-old man has massive external bleeding from the proximal thigh after an RTA. Bleeding continues despite direct pressure. What is the most appropriate next step?
- A Apply a tourniquet
 - B Immediate surgical control of bleeding
 - C CT angiography
 - D Continue blood transfusion only

Answer A · Apply a tourniquet

Massive external bleeding from a limb that continues despite direct pressure needs a tourniquet, applied high and tight above the wound. It takes seconds and stops the bleeding while resuscitation continues. Definitive surgical control, imaging and transfusion all come after the hemorrhage is controlled.

WHY NOT THE OTHERS

- B Surgical control is the definitive step once the patient reaches the operating room. The immediate action for extremity bleeding that pressure has not stopped is a tourniquet.
- C A CT angiogram delays direct control of ongoing, visible hemorrhage and is not indicated before the bleeding has been controlled.
- D Transfusion replaces lost volume but does not stop the bleeding. The source must be controlled first.

Sabiston 22e, p. 316 "Tourniquet application is recommended if extremity bleeding is not rapidly controlled with pressure, if "spurting" arterial hemorrhage is visualized, or if a complete or near-complete amputation is present."

- 56 47M ICU for severe pneumonia; sudden distended abdomen + watery diarrhea >4/day (C. difficile). Next step?
- A Stool PCR/toxin analysis
 - B Serum antigen
 - C Blood culture
 - D Empiric loperamide

Answer A · Stool PCR/toxin analysis

C. difficile infection is diagnosed by stool testing, either NAAT for the toxin genes or a toxin antigen assay. That is the next step in a patient with new diarrhea and abdominal distention. Antiperistaltic agents are specifically avoided in suspected CDI. There is no established serum antigen test for C. difficile.

WHY NOT THE OTHERS

- B Serum testing for C. difficile is not standard. The diagnosis is made from stool, not blood.
- C Blood cultures are not used for C. difficile. They are appropriate only if bacteremia is suspected.
- D Antimotility agents increase the risk of toxic megacolon in C. difficile and must never be used empirically.

Cameron CST 14e, p. 1588 "Diagnosis is established with either a positive nucleic acid amplification test (NAAT) for the toxin A and B gene or a positive stool test of C. difficile toxin antigens."

57 A patient with a ruptured AAA is hypotensive on the way to theatre. What is his ASA classification?

- A ASA III
- B ASA IV
- C ASA V
- D ASA VI

Answer C · ASA V

ASA V describes a moribund patient who is not expected to survive without the operation. A ruptured abdominal aortic aneurysm with hypotension is the standard example, since death is expected without immediate repair. Because the operation is an emergency, the class carries the suffix E and is written ASA VE.

WHY NOT THE OTHERS

- A** ASA III is severe systemic disease that is not an immediate threat to life. A patient already hypotensive from a ruptured aneurysm on the way to theatre is far sicker, with imminent risk of death without operation.
- B** ASA IV is severe systemic disease that is a constant threat to life, such as ongoing cardiac ischaemia or sepsis. This patient is in active haemorrhagic shock from a ruptured aneurysm, and death is imminent without immediate surgery, which places him in ASA V.
- D** ASA VI is reserved for a declared brain-dead patient whose organs are being harvested for donation. It does not describe a hypotensive patient being taken emergently to theatre for a ruptured aneurysm.

Sabiston 22e, p. e47 "In the most familiar form, it uses five tiers of classification, ranging from ASA class I, assigned to a normal healthy patient, to ASA class V, summarizing a moribund patient who is not expected to survive without the operation."

58 Copious anal bleeding occurring 3 hours after hemorrhoidectomy is best managed by:

- A Rubber band ligation at site of bleeding
- B Rectal packing with epinephrine gauze
- C Suture ligation
- D Ice packs
- E Foley catheter balloon decompression

Answer C · Suture ligation

Heavy bleeding within hours of a hemorrhoidectomy usually comes from a pedicle or suture line that has not been secured. Take the patient back to the operating room for examination under anaesthesia and oversee the bleeding site and the suture lines. Suture ligation is definitive. Banding, packing, ice or a balloon do not secure the vessel.

WHY NOT THE OTHERS

- A** Rubber band ligation is inappropriate for active bleeding and for post-operative hemorrhage.
- B** Rectal packing helps with oozing, but bleeding from a specific large vessel is controlled by suturing.
- D** Ice packs may ease swelling and discomfort, but they do nothing to control copious bleeding from a surgical pedicle.
- E** An inflated balloon can tamponade the anal canal as a temporary measure, but it does not secure the bleeding vessel. Significant early bleeding needs a return to theatre and suture ligation.

Schwartz 11e, p. 1312 "Bleeding may occur in the immediate postoperative period (often in the recovery room) as a result of inadequate ligation of the vascular pedicle. This type of hemorrhage mandates an urgent return to the operating room where suture ligation of the bleeding vessel will often solve the problem."

- 59 A patient underwent liver transplant. Biopsy shows lymphocytic infiltration and obliteration of bile ducts (vanishing bile duct syndrome). What is the most likely diagnosis and management?
- A Acute cellular rejection - steroids
 - B Chronic rejection - retransplantation or immunosuppression adjustment
 - C Primary non-function - urgent retransplant
 - D Biliary stricture - ERCP

Answer B · Chronic rejection - retransplantation or immunosuppression adjustment

Loss of bile ducts on biopsy, called ductopenia or vanishing bile duct syndrome, is the characteristic finding of chronic rejection of a liver graft. Acute cellular rejection shows portal inflammation, bile duct injury and endotheliitis, and it responds to steroids and higher immunosuppression. Chronic rejection with duct loss responds poorly. Immunosuppression can be adjusted, but it often ends in retransplantation.

WHY NOT THE OTHERS

- A Acute cellular rejection shows portal inflammation and endotheliitis and typically responds to steroids. A diffuse lymphocytic infiltrate with actual obliteration of bile ducts is a chronic, ductopenic process that behaves differently and is generally not steroid-responsive.
- C Primary non-function is a graft that never works, failing in the first days after transplantation. It is not a later biopsy diagnosis of lymphocytic bile duct destruction.
- D A mechanical biliary stricture is a focal narrowing treated with endoscopic stenting or dilation. It does not give a diffuse lymphocytic infiltrate with bile duct loss on biopsy, so ERCP would neither explain nor treat this histology.

Sabiston 22e, p. 599 "Appropriately, the term chronic rejection has been substituted with more descriptive terms: interstitial fibrosis and tubular atrophy (previously chronic allograft nephropathy) for kidneys, chronic coronary vasculopathy for hearts, vanishing bile duct syndrome for livers, and bronchiolitis obliterans for lungs."

- 60 Young female was discharge home by day 2 post Roux-en-y gastric bypass. 1 month later, she presented with intermittent vomiting. 6 months later, she developed vomiting with bilateral symmetrical lower limb weakness. Work up showed no anatomical abnormality. What is the most likely the cause?
- A Folic acid
 - B vitamin B1
 - C Vitamin B6
 - D Vitamin B12

Answer B · vitamin B1

Persistent vomiting after gastric bypass quickly uses up thiamine, vitamin B1, because the body holds only a few weeks' supply. Deficiency causes dry beriberi, a symmetric peripheral neuropathy with lower limb weakness. It can progress to Wernicke encephalopathy, so thiamine is given before any glucose-containing fluid.

WHY NOT THE OTHERS

- A Folate deficiency typically causes megaloblastic anemia and glossitis. It does not give vomiting followed by bilateral symmetric lower limb weakness.
- C Vitamin B6 deficiency is linked to certain drugs such as isoniazid and causes peripheral neuropathy and dermatitis. It is not the vitamin tied to protracted vomiting after surgery.
- D Vitamin B12 deficiency is common after gastric bypass and can also cause lower limb weakness, but liver stores last much longer and it develops slowly, with no link to vomiting. Thiamine stores last only weeks, and protracted vomiting uses them up quickly.

Cameron CST 14e, p. 128 "Vitamin B1 deficiency also can occur in patients with protracted vomiting after surgery, and they may experience extremity paresthesias, confusion, and nystagmus."

- 61 Post lap chole. Her path says “adenoCA that extends to but does not involve the muscle layer of the gallbladder.” PLAN?
- A Observe
 - B Resect gallbladder fossa and regional nodes
 - C Chemo
 - D rads

Answer A · Observe

Cancer that reaches the lamina propria but does not invade the muscle layer is a T1a gallbladder cancer. The risk of nodal spread is under 3%. A simple cholecystectomy with a negative cystic duct margin is adequate treatment, so she is observed. Re-resection of the liver bed with regional nodes is for T1b tumours, which invade the muscle, and for deeper tumours.

WHY NOT THE OTHERS

- B Radical re-resection of the gallbladder fossa and nodes is reserved for lesions deeper than T1a. This tumour extends to the muscle layer but does not invade it.
- C Adjuvant chemotherapy is not indicated after complete removal of a T1a gallbladder cancer. Cholecystectomy alone is adequate treatment.
- D Radiotherapy is not indicated after complete removal of a T1a gallbladder cancer. Cholecystectomy alone is adequate treatment.

Sabiston 22e, p. 1243 “With T1a lesions, in which the carcinoma penetrates the lamina propria but does not invade the muscle layer, cholecystectomy suffices for therapy.”

- 62 A 40-year-old man presents with progressive dysphagia to both solids and liquids for 3 years. He has undergone multiple endoscopic balloon dilatations with no significant relief. His symptoms persist and manometry confirms achalasia. What is the definitive treatment for this patient?
- A Esophagectomy
 - B Heller myotomy with partial fundoplication
 - C Balloon dilatation
 - D Stent

Answer B · Heller myotomy with partial fundoplication

Achalasia confirmed on manometry that has failed repeated pneumatic dilation needs a myotomy. A laparoscopic Heller myotomy divides the lower esophageal sphincter muscle and gives durable relief. Adding a partial fundoplication prevents the reflux that a myotomy alone causes, without worsening swallowing. Repeating a dilation that has already failed offers little, and stents have no role in achalasia. Esophagectomy is reserved for end-stage disease with a massively dilated, non-functioning esophagus.

WHY NOT THE OTHERS

- A Oesophagectomy is reserved for end-stage achalasia with a massively dilated, tortuous, non-functional oesophagus after myotomy, and often per-oral endoscopic myotomy, has failed. This patient has had only pneumatic dilatation and has not yet had a myotomy.
- C This patient has already had multiple pneumatic dilatations without lasting benefit, so repeating them is unlikely to succeed. Once dilatation has failed, myotomy gives more durable relief.
- D Oesophageal stenting has no established role in achalasia. Stents are used to palliate malignant oesophageal obstruction or for selected perforations, not for a primary motility disorder.

Schwartz 11e, p. 1068 “The best treatment for achalasia is a laparoscopic Heller myotomy and partial fundoplication.”

63 The left adrenal vein drains into the left renal vein. The right adrenal vein drains into the:

- A Right renal vein
- B Right phrenic vein
- C Inferior vena cava
- D Inferior mesenteric vein
- E Splenic vein

Answer C · Inferior vena cava

The right adrenal vein is short and drains directly into the back of the inferior vena cava. That is what makes right adrenalectomy hazardous. The left adrenal vein is longer and drains into the left renal vein.

WHY NOT THE OTHERS

- A** The right adrenal vein is short and enters the inferior vena cava directly. It is the left adrenal vein that drains into the renal vein.
- B** The inferior phrenic vein joins the left adrenal vein before it reaches the left renal vein. The right adrenal vein does not drain into it.
- D** The inferior mesenteric vein is part of the portal system and has no recognized connection to adrenal venous drainage.
- E** The splenic vein drains the spleen and receives the pancreatic and short gastric veins, and often the inferior mesenteric vein. It does not receive the adrenal veins.

Sabiston 22e, p. 988 "The right adrenal vein is typically as short as it is wide (0.5 cm) and drains directly into the vena cava."

64 A 40-year-old female presents with vomiting and obstipation for 1 day. She denies any medical or surgical history. O/E: distended abdomen. Labs are unremarkable. AXR shows a markedly dilated, kidney-shaped loop of bowel with haustral markings projecting from the RLQ to the LUQ. What is the best management?

- A Right hemicolectomy with primary anastomosis
- B Cecostomy
- C Initial endoscopic detorsion followed by right hemicolectomy
- D Operative detorsion and cecopexy

Answer A · Right hemicolectomy with primary anastomosis

A dilated, kidney-shaped loop with haustra, running from the right lower quadrant toward the left upper quadrant, is a cecal volvulus. Unlike sigmoid volvulus, it is not treated by endoscopic detorsion, which rarely succeeds and can miss ischaemia. The treatment is operative. Resection of the cecum and right colon with primary anastomosis is preferred over detorsion with cecopexy or cecostomy, even when the bowel looks viable, because it removes the mobile segment and prevents recurrence.

WHY NOT THE OTHERS

- B** Cecostomy leaves the redundant, torsion-prone cecum in place, so the risk of recurrence or ongoing ischemia stays high.
- C** Endoscopic detorsion rarely succeeds in a cecal volvulus, unlike a sigmoid volvulus, and it can miss colonic ischemia, so it is not recommended. The treatment is operative.
- D** Detorsion with cecopexy alone carries a substantial recurrence rate compared with resection. Resection is the preferred definitive treatment in a patient fit for surgery.

Cameron CST 14e, p. 214 "Distillation of the current data favors ileocecectomy with primary anastomosis for patients with acute cecal volvulus, even when bowel appears viable."

- 65 A 33 year old lady who is post-partum presented with right breast pain and redness. On examination: a fluctuant with thinning of the skin, what is the most appropriate management?
- A Aspiration
 - B Incision & Drainage
 - C IV Abx

Answer B · Incision & Drainage

Ultrasound-guided aspiration with antibiotics is generally the first-line treatment for a breast abscess. Operative drainage is kept for abscesses that fail repeated aspiration or that have a specific indication for incision and drainage, and thinning or necrosis of the overlying skin is one of those indications. This patient has a fluctuant collection with thinned skin, so incision and drainage is the most appropriate management.

WHY NOT THE OTHERS

- A Needle aspiration is the right first step for an uncomplicated fluctuant breast abscess. Once the overlying skin has thinned, the impending skin necrosis or spontaneous rupture is itself a specific indication for formal drainage, not repeated aspiration.
- C Antibiotics alone cannot evacuate a fluctuant collection that has already formed. The abscess cavity needs source control, and thin skin is a specific indication for operative drainage, not antibiotics as sole therapy.

Schwartz 11e, p. 550 "Operative drainage is now reserved for those cases that do not resolve with repeated aspiration and antibiotic therapy or cases in which there is some other indication for incision and drainage (e.g., thinning or necrosis of the overlying skin)."

- 66 Patient 50 years old with long term GERD on PPI on EGD showed Esophageal metaplasia what next step:
- A fundiblication
 - B Continue PPI
 - C Esophagectomy
 - D Ablation therapy endoscopic

Answer B · Continue PPI

Metaplasia without dysplasia on biopsy is non-dysplastic Barrett's esophagus. Manage it by controlling the reflux with continued proton pump inhibitor therapy and lifestyle measures, plus surveillance endoscopy to detect progression to dysplasia. Ablation is for dysplasia, esophagectomy is for cancer, and fundoplication is for reflux that medical therapy does not control.

WHY NOT THE OTHERS

- A Fundoplication is for reflux symptoms or quality of life that medical therapy does not control. It has not been shown to prevent progression to cancer, it fails more often in Barrett's, and surveillance is still needed afterwards.
- C Esophagectomy is reserved for invasive cancer beyond the mucosa, or for dysplasia and early cancer that cannot be controlled endoscopically. It has no place in metaplasia without dysplasia.
- D Endoscopic ablation is indicated for dysplasia, not for metaplasia without dysplasia. Here acid suppression is the right next step.

Cameron CST 14e, p. 21 "The overriding principle in managing a patient with non-dysplastic BE is treatment of underlying GERD. This will accomplish not only symptom control but also protect the esophageal mucosa from repetitive reflux injury. Medical therapy with once-daily dosing of proton pump inhibitors (PPIs) is the recommended first-line therapy in addition to diet and lifestyle modifications."

- 67 Surgical resident taking consent for elective surgery, he mentioned the procedure and the possible complications. What else should he mention
- A Alternative treatment options
 - B Number of same procedures that done before
 - C Duration of surgery

Answer A · Alternative treatment options

Informed consent requires disclosure of the proposed procedure, its risks and benefits, and the alternative treatment options. This resident covered the procedure and its complications but did not give the patient the alternatives.

WHY NOT THE OTHERS

- B How many times the surgeon has personally done the procedure is not a required element of valid informed consent. Consent centers on the diagnosis, the proposed treatment, its risks and benefits, and reasonable alternatives.
- C The expected length of the operation is practical scheduling information. It is not a core disclosure element of informed consent, which focuses on diagnosis, risks, benefits, and alternatives to the proposed treatment.

Sabiston 22e, p. e215 "Once we have determined that the patient has the capacity to make decisions, for informed consent to be valid, the patient must have the opportunity to hear the risks, benefits, and alternatives to the recommended operation."

- 68 A young woman (<35 years) with unilateral pitting oedema involving the dorsum of the foot. Diagnosis?
- A Lymphoedema praecox
 - B Lymphoedema tarda
 - C Secondary lymphoedema
 - D Congenital lymphoedema

Answer A · Lymphoedema praecox

Primary lymphoedema is classified by age at onset. Lymphoedema praecox starts before 35, usually around puberty and mostly in women. It is typically unilateral in the lower limb and begins at the foot, as in this patient. Congenital lymphoedema appears within the first two years of life and lymphoedema tarda after 35. Secondary lymphoedema needs a cause such as surgery, radiation, infection or tumour.

WHY NOT THE OTHERS

- B Lymphoedema tarda presents after age 35, and this woman is under 35.
- C Secondary lymphoedema requires a known cause such as surgery, infection or malignancy, and none is mentioned.
- D Congenital lymphoedema, Milroy disease, appears within the first two years of life and is usually bilateral. It does not first present in a young adult woman.

Cameron CST 14e, p. 1205 "Lymphedema praecox or Meige disease (65–85% of primary lymphedema) is seen before the age of 35, typically at puberty. It predominantly affects females (4:1 ratio to males), is unilateral, and involves the lower extremities."

consequences of terminal-ileal loss

- **<100 cm ileal resection** → bile-acid pool still adequate; excess bile acids spill into colon → **choleric (bile-salt) diarrhea**, responds to **cholestyramine**.
- **>100 cm ileal resection** → hepatic synthesis cannot keep up → bile-acid pool depleted → **fat malabsorption / steatorrhea**; cholestyramine worsens it. Also **B₁₂ deficiency** and **enteric hyperoxaluria** → **oxalate renal stones** (unabsorbed fat binds calcium, freeing oxalate for colonic absorption) and increased **gallstone** risk.

from my Small Intestine chapter

69 Appendiceal carcinoid 0.8cm at tip, no mesoappendiceal invasion, no nodes. Management?

- | | |
|-------------------------------------|---------------------|
| A Appendectomy alone / surveillance | C Chemotherapy |
| B Right hemicolectomy | D Radiation therapy |

Answer A · Appendectomy alone / surveillance

This tumor is 0.8 cm at the tip of the appendix, with no mesoappendiceal invasion and no nodes. That puts it in the under 1 cm group, for which a negative-margin appendectomy alone is adequate treatment. Right hemicolectomy is reserved for larger tumors or those with adverse features.

WHY NOT THE OTHERS

- B** Right hemicolectomy is unnecessary for a small appendiceal carcinoid confined to the appendix.
- C** Chemotherapy is not indicated for localized disease under 1 cm.
- D** Radiation therapy is not indicated for appendiceal carcinoid.

Schwartz 11e, p. 1338 "For lesions that are less than 1 cm (95% of all lesions), a negative margin appendectomy is adequate."

70 In acute pancreatitis, blood and fluid runs along falciform ligament to umbilical region, this is:

- | | |
|-----------------|-------------------|
| A Caput Medusa | C Turner's sign |
| B Cullen's sign | D Chvostek's sign |

Answer B · Cullen's sign

In acute pancreatitis, retroperitoneal blood and fluid can track along the falciform ligament to the umbilicus and cause periumbilical bruising. That is Cullen's sign. Tracking laterally to the flanks gives Grey Turner's sign. Both are uncommon and signal severe disease.

WHY NOT THE OTHERS

- A** Caput medusae is dilated periumbilical veins from portal hypertension. It is not blood tracking from retroperitoneal hemorrhage.
- C** Grey Turner's sign is flank discoloration from blood tracking laterally along the retroperitoneum. It does not follow the falciform ligament to the umbilicus.
- D** Chvostek's sign is a facial twitch of hypocalcemia. It has nothing to do with discoloration of the abdominal wall.

Schwartz 11e, p. 1444 "Rarely, pancreatic fluid and bleeding from the pancreas into the retroperitoneum may result in a bruise-like discoloration around the umbilicus (Cullen's sign) or in the flanks (Grey Turner's sign)."

71 Upper GI bleeding, initial management after resuscitation.

- A Upper endoscopy
- B Sengstaken-Blakemore tube
- C Octreotide infusion
- D TIPS

Answer A · Upper endoscopy

Once an upper GI bleed has been resuscitated and any coagulopathy corrected, the next step is upper endoscopy. It finds the source and treats it at the same sitting. It should be done within 24 hours for most patients, and sooner, within 12 hours, when varices are suspected. Balloon tamponade and TIPS are rescue measures for variceal bleeding that endoscopy cannot control. Octreotide is an adjunct and does not replace endoscopy.

WHY NOT THE OTHERS

- B** Balloon tamponade is a temporizing measure for uncontrolled variceal hemorrhage when endoscopic therapy fails or is unavailable. It is not a first-line step after resuscitation.
- C** Octreotide is a useful adjunct when variceal bleeding is suspected. It does not replace endoscopy, which both diagnoses and treats the bleed.
- D** TIPS is a salvage procedure for variceal bleeding that has not responded to endoscopic and drug therapy. It is not an initial step.

Sabiston 22e, p. 1546 "As a general rule, the management of UGIB should be primarily medical (gastroenterology) and should begin with an upper endoscopy."

72 A 20 year old male sickler with LUQ pain and Fever and high WBC. CT Attached: multiloculated splenic abscess; management:

- A Splenectomy
- B Conservative
- C P.Drainage
- D angioembolization

Answer A · Splenectomy

Sickle cell disease predisposes to splenic abscess through infarction of the spleen. A unilocular abscess can usually be treated with antibiotics and percutaneous drainage. A multiloculated abscess cannot be drained adequately by catheters, so the treatment is splenectomy with antibiotics.

WHY NOT THE OTHERS

- B** Antibiotics alone rarely clear a multiloculated splenic abscess. The pus needs source control, and delay risks rupture and sepsis.
- C** Percutaneous drainage is the treatment for a unilocular abscess, not a multiloculated one.
- D** Angioembolization is used for bleeding, not for an infected abscess cavity.

Sabiston 22e, p. 914 "Unilocular abscesses are often amenable to percutaneous drainage, along with antibiotics, with high success rates. Multilocular lesions, however, are usually treated with splenectomy, drainage of the left upper quadrant, and antibiotics."

73 A 30-year-old male presented to the ER with trauma to his hand. Examination: he was not able to flex the interphalangeal joint of his thumb. What is the nerve-injured?

- | | | | |
|---|--------|---|------------------|
| A | Median | C | Ulnar |
| B | Radial | D | Musculocutaneous |

Answer A · Median

Only flexor pollicis longus flexes the interphalangeal joint of the thumb, and it is supplied by the anterior interosseous branch of the median nerve. So loss of thumb IP flexion points to a median nerve injury.

WHY NOT THE OTHERS

- B** The radial nerve extends the wrist, thumb and fingers. It plays no part in thumb IP flexion.
- C** The ulnar nerve supplies the interossei, hypothenar muscles and adductor pollicis, not flexor pollicis longus.
- D** The musculocutaneous nerve supplies biceps, brachialis and coracobrachialis and has no motor branches in the forearm or hand.

Sabiston 22e, p. 1993 “Testing FPL with thumb interphalangeal (IP) flexion against resistance and FDS and FDP of index finger with resisted flexion can delineate median pathology in the wrist versus more proximally.”

74 A 62-year-old male with no history of cirrhosis or chronic hepatitis presents with weight loss, abdominal discomfort, and jaundice. Abdominal CT scan shows a hypervascular liver mass with dilated intrahepatic bile ducts. Laboratory tests reveal normal AFP and elevated CA 19-9. Biopsy shows adenocarcinoma. What is the most appropriate next step?

- A Chemotherapy
B Liver MRI
C Resection
D Look for primary

Answer D · Look for primary

Adenocarcinoma in a liver mass may be an intrahepatic cholangiocarcinoma or a metastasis from the gut, pancreas or elsewhere, and histology often cannot tell them apart. A normal AFP argues against hepatocellular carcinoma, and a raised CA 19-9 is seen with both biliary and other gastrointestinal primaries. Before chemotherapy or resection is planned, an extrahepatic primary must be excluded, for example with endoscopy, colonoscopy and imaging of the chest, abdomen and pelvis. Treatment depends on where the cancer started.

WHY NOT THE OTHERS

- A** Chemotherapy is premature before you know whether this is a resectable localized process or metastatic disease from an unidentified primary. The regimen depends on that answer.
- B** CT has already characterised the mass. More liver imaging helps plan resection later but does not tell you whether this adenocarcinoma is primary or metastatic.
- C** Resecting before an extrahepatic primary is excluded risks operating on what is actually a metastasis, which liver resection alone would not adequately treat.

Schwartz 11e, p. 1377 "A biopsy specimen from the cholangiocarcinoma will show adenocarcinoma, but pathologists are often unable to differentiate metastatic adenocarcinoma to the liver from primary bile duct adenocarcinoma. Therefore, a search for a primary site should be undertaken in cases in which an incidentally discovered liver lesion is proven to be an adenocarcinoma on biopsy."

75 A patient has T3N0M0 sigmoid adenocarcinoma (Stage II). What is the best management?

- A Chemotherapy alone
- B Radiation therapy
- C Endoscopic mucosal resection
- D Sigmoidectomy + regional lymph-node resection

Answer D · Sigmoidectomy + regional lymph-node resection

Stage II T3N0M0 sigmoid cancer is localized and resectable, so surgical resection is the basis of curative treatment. That means a sigmoid colectomy with removal of the regional lymph nodes along the feeding vessels. Adjuvant chemotherapy is considered only for high-risk stage II disease and does not replace the operation.

WHY NOT THE OTHERS

- A Chemotherapy alone leaves the primary tumor in place. It does not substitute for resecting a localized, resectable colon cancer.
- B Radiation has no routine role in colon cancer. The sigmoid is intraperitoneal and mobile, unlike the fixed rectum where pelvic radiation is used.
- C Endoscopic mucosal resection is limited to lesions confined to the mucosa or superficial submucosa. It cannot remove a T3 tumor that has grown through the muscularis propria, and it does not clear the regional nodes.

Cameron CST 14e, p. 259 "For early-stage CRC (stages I–III), surgical resection remains the basis of curative treatment."

76 Which inhalational (volatile) anaesthetic agent does NOT trigger malignant hyperthermia?

- A Nitrous oxide
- B Sevoflurane
- C Isoflurane
- D Desflurane

Answer A · Nitrous oxide

Succinylcholine and all the halogenated volatile agents, including sevoflurane, isoflurane, desflurane and halothane, can trigger malignant hyperthermia in susceptible patients. Nitrous oxide is not a halogenated volatile agent, does not trigger it and can be used safely. In a susceptible patient, give total intravenous anaesthesia with propofol and opioids, nitrous oxide if wanted, and non-depolarising muscle relaxants. Avoid every volatile agent and succinylcholine, and keep dantrolene immediately available.

WHY NOT THE OTHERS

- B Sevoflurane is a halogenated volatile anaesthetic. Like every volatile agent, it can trigger malignant hyperthermia in susceptible patients.
- C Isoflurane is a halogenated volatile anaesthetic. Like every volatile agent, it can trigger malignant hyperthermia in susceptible patients.
- D Desflurane is a halogenated volatile anaesthetic. Like every volatile agent, it can trigger malignant hyperthermia in susceptible patients.

Sabiston 22e, p. 40 "Nitrous oxide is not a volatile anesthetic, as it exists as a gas at normal barometric pressure, but it is administered via inhalation. It has been used for anesthetic purposes for over 150 years and remains popular to this day. It is not a triggering agent for MH."

- 77 A patient receives a pRBC transfusion. Shortly afterward, he develops fever, hypotension, and dark-colored urine. Which is the most likely mechanism?
- A Preformed IgM antibodies
 - B IgG-mediated delayed reaction
 - C IgE-mediated reaction
 - D Anti-TNF mechanism

Answer A · Preformed IgM antibodies

Fever, hypotension and dark urine soon after a red cell transfusion mean an acute hemolytic reaction, usually from ABO-incompatible blood, and the dark urine is hemoglobinuria. The recipient's naturally occurring anti-A or anti-B antibodies are IgM. They bind the donor cells at once and fix complement, destroying them inside the vessels. A delayed hemolytic reaction is IgG-mediated and appears 2 to 10 days later with anemia and jaundice, not acute shock.

WHY NOT THE OTHERS

- B** A delayed hemolytic reaction from IgG antibody is an anamnestic response that typically develops days after transfusion. It presents with anemia and indirect hyperbilirubinemia, not fever, hypotension and hemoglobinuria within minutes.
- C** IgE-mediated transfusion reactions are allergic, with rash and itching from soluble constituents of the transfusion. They do not destroy red cells inside the vessels, so they would not be expected to cause hemoglobinuria or dark urine.
- D** No anti-TNF antibody mechanism is recognized among transfusion reactions. The antibodies involved are directed against red cell antigens or donor leukocyte and HLA antigens, not against TNF.

Sabiston 22e, p. 592 "Naturally occurring antibodies, however, are generally IgM antibodies with low affinity and are generally thought to bind to a broad array of carbohydrate epitopes found on many common bacterial pathogens. Natural antibody is responsible for ABO blood group antigen responses and discordant xenograft rejection"

- 78** A 72-year-old female with a history of hypertension, peripheral vascular disease, and chronic kidney disease presents to the ED with sudden crampy lower abdominal pain and bloody diarrhea that started 6 hours ago. Her medications include aspirin and lisinopril. O/E: heart rate of 98 bpm, blood pressure of 130/85 mmHg, and oxygen saturation of 96% on room air. Abdominal exam shows mild tenderness over the LLQ without guarding or rebound tenderness. Bowel sounds are hypoactive. DRE reveals maroon-colored stool. Laboratory studies show: Hb 11.2, WBC 14, Lactate 2.5. Abdominal CT scan demonstrates segmental thickening of the colon, primarily affecting the splenic flexure. What is the most likely diagnosis?
- A Diverticulitis
B Ulcerative colitis
C Acute mesenteric ischemia
D Ischemic colitis

Answer D · Ischemic colitis

An older patient with vascular disease who develops sudden crampy lower abdominal pain and then bloody diarrhoea, with only mild tenderness and segmental colonic thickening at the splenic flexure, has ischemic colitis. The splenic flexure is a watershed between the superior and inferior mesenteric circulations. Acute mesenteric ischemia usually involves the small bowel and gives severe pain out of proportion to the examination.

WHY NOT THE OTHERS

- A** Diverticulitis presents with localized inflammatory findings and is not an acute vascular event. It does not typically produce sudden bloody diarrhea in a watershed distribution.
- B** Ulcerative colitis is a chronic relapsing disease that typically starts in the rectum and extends proximally. It does not come on acutely and confined to the splenic flexure in a patient with vascular risk factors.
- C** Acute mesenteric ischemia typically causes pain out of proportion to a benign exam and involves the small bowel or right colon in the SMA territory. It does not give isolated mild tenderness with changes at the splenic flexure.

Sabiston 22e, p. 1478 "Presenting symptoms usually include sudden abdominal pain and cramping, tenesmus, and bloody diarrhea or hematochezia. The combination of these symptoms is present in close to 50% of the patients, with the pain usually beginning before the bleeding."

- 79 A 5-year-old child has a midline neck mass near the hyoid bone that moves upward on tongue protrusion. Which procedure minimizes recurrence?
- A Simple cystectomy
 - B Total thyroidectomy
 - C En bloc resection of the thyrohyoid membrane
 - D Sistrunk operation

Answer D · Sistrunk operation

A midline neck mass near the hyoid that moves up with tongue protrusion is a thyroglossal duct cyst. The tract runs through or close to the central hyoid toward the foramen caecum. Only the Sistrunk operation minimises recurrence. It removes the cyst, the whole tract and the central part of the hyoid, with a core of tongue base if the tract goes above the hyoid. Simple cystectomy leaves the tract behind and recurs often.

WHY NOT THE OTHERS

- A Simple cystectomy leaves the tract and the hyoid segment behind and has a high recurrence rate.
- B This is thyroglossal duct tissue, not the orthotopic thyroid gland, so removing the thyroid itself is not indicated.
- C This is not the operation for a thyroglossal remnant. It does not clear the tract through the hyoid to the tongue base.

Schwartz 11e, p. 649 "Treatment involves removal of the cyst, the tract, and the central portion of the hyoid (Sistrunk procedure), often with a small portion of the base of tongue if the tract extends above the hyoid."

- 80 Crush thigh injury. What will be the most abnormality?

- A Hypercalcemia
- B Hyperkalemia
- C Hypernatremia
- D Hyperglycemia

Answer B · Hyperkalemia

A crush injury to the thigh damages a large mass of skeletal muscle and releases its intracellular contents into the circulation: potassium, myoglobin and phosphate. Hyperkalemia is the earliest and most dangerous of these abnormalities. Calcium typically falls, as it is deposited in the injured muscle and bound by the released phosphate, so hypercalcemia does not fit. Sodium and glucose are not the characteristic derangements of muscle breakdown.

WHY NOT THE OTHERS

- A Hypercalcemia is not a recognized effect of crush injury. Muscle injury more often lowers calcium through deposition in damaged tissue.
- C Hypernatremia is not linked to crush injury.
- D Hyperglycemia may occur as a stress response, but it is not the characteristic metabolic effect of crush injury. That is the potassium released from damaged muscle.

Schwartz 11e, p. 89 "Hemolysis, rhabdomyolysis, and crush injuries can disrupt cell membranes and release intracellular potassium into the ECF."

- 81 A woman on OCP for 7 years with RUQ pain. CT shows a hypervascular mass with a central scar on the arterial phase. Diagnosis?
- A Focal nodular hyperplasia C Hepatic adenoma
B Haemangioma D Fibrolamellar HCC

Answer A · Focal nodular hyperplasia

A hypervascular liver mass with a central scar in the arterial phase is the typical appearance of FNH, whatever the OCP history. FNH is a hyperplastic response to an anomalous feeding artery, not a true neoplasm. The OCP history suggests adenoma, but adenoma has no central scar and usually enhances heterogeneously, often with fat or haemorrhage. Haemangioma shows peripheral nodular enhancement that fills in centripetally. Fibrolamellar HCC can have a scar, but it is usually calcified and does not enhance, it sits in a large heterogeneous mass, and it has no OCP link.

WHY NOT THE OTHERS

- B Hemangioma shows peripheral nodular enhancement with progressive centripetal fill-in, not a central scar with uniform arterial hyperenhancement.
- C The OCP history tempts you toward adenoma, but adenoma has no central scar and its arterial enhancement is usually heterogeneous, often with fat or haemorrhage.
- D Fibrolamellar HCC can show a scar, but it is typically calcified and non-enhancing, within an otherwise malignant and often symptomatic mass. This lesion has a benign, hyperenhancing pattern.

Sabiston 22e, p. 1285 “FNH typically shows strong hypervascularity in the arterial phase of CT or MRI with a central nonenhancing scar.”

- 82 A 40-year-old male developed massive vomiting for 4 days due to gastric outlet obstruction. What is the fluid for replacement?
- A Normal saline C 5% Dextrose
B Ringer's lactate D D5 ½ NS

Answer A · Normal saline

Vomiting from gastric outlet obstruction loses gastric fluid rich in hydrogen and chloride. The result is a hypochloremic, hypokalemic metabolic alkalosis with a volume deficit. Replace the deficit with isotonic normal saline, which supplies the chloride needed to correct the alkalosis. Add potassium once urine output is adequate.

WHY NOT THE OTHERS

- B Ringer's lactate is relatively low in chloride, and its lactate is converted to bicarbonate. It makes the alkalosis worse instead of correcting it.
- C 5% dextrose supplies no sodium or chloride. It does not replace the losses or correct the alkalosis, and it risks worsening hyponatremia.
- D D5 half-normal saline is hypotonic and carries only half the sodium and chloride of normal saline. It does not restore the volume deficit or supply enough chloride to correct the alkalosis.

Schwartz 11e, p. 93 “Treatment includes replacement of the volume deficit with isotonic saline and then potassium replacement once adequate urine output is achieved.”

- 83 A 55-year-old female with a history of diverticulosis presents with LLQ pain, fever, and constipation for 2 days. O/E: abdomen is distended with tenderness in the LLQ but no signs of peritonitis. Abdominal CT scan shows colonic wall thickening with pericolic fat stranding and a 2-cm fluid collection. Which of the following is the next step in management?
- A Percutaneous drainage of the abscess
 - B Immediate surgical resection
 - C Intravenous antibiotics and bowel rest
 - D Colonoscopy to confirm the diagnosis

Answer C · Intravenous antibiotics and bowel rest

This is modified Hinchey Ib diverticulitis, a small pericolic or mesocolic abscess with no peritonitis. The 2-cm collection is below the 3 cm threshold for drainage, so she needs IV antibiotics with bowel rest, not percutaneous drainage.

WHY NOT THE OTHERS

- A A 2-cm collection is below the size threshold generally used to justify percutaneous drainage. Small collections resolve with antibiotics alone.
- B There is no peritonitis and medical treatment has not failed. A small abscess like this is complicated diverticulitis that is managed without surgery at first, so immediate resection is not indicated.
- D Colonoscopy in the acute inflammatory phase carries an unacceptable risk of perforation, and CT has already established the diagnosis.

Cameron CST 14e, p. 183 "Complicated diverticulitis that is accompanied by either a mesocolonic (stage Ib) or more distant abscess formation (stage II) occurs in 15% to 40% of acute diverticulitis patients. It can be treated nonoperatively with antibiotics in an outpatient setting in stable patients with abscesses ≤3 cm in size."

- 84 A patient is being evaluated for CBD exploration or PTC due to a suspected CBD clip injury after cholecystectomy. What imaging best delineates the injury before definitive repair?
- A Percutaneous transhepatic cholangiography
 - B Abdominal ultrasound alone
 - C Non-contrast CT abdomen
 - D Plain abdominal X-ray

Answer A · Percutaneous transhepatic cholangiography

A clip across the common bile duct must be mapped by cholangiography before any repair. Above all, the level of the injury relative to the hepatic duct confluence must be known. Percutaneous transhepatic cholangiography shows the intrahepatic ducts above the obstruction, pinpoints the level of injury and can decompress the obstructed system with a drain. MRCP is the noninvasive alternative. Ultrasound, non-contrast CT and plain films cannot define the injury.

WHY NOT THE OTHERS

- B Ultrasound can suggest ductal dilation but lacks the resolution to map the level and length of a clip injury. A definitive repair plan needs that map.
- C Without contrast, CT does not outline the biliary tree well enough to show the site or extent of a duct injury.
- D A plain film cannot show the soft-tissue detail of the biliary tree needed to localize a bile duct injury.

Sabiston 22e, p. 1238 "However, PTC will demonstrate the intrahepatic biliary tree, identify the location of the injury, provide drainage of bile, and possibly even allow the leak to close (Fig. 88.39)."

- 85 A female patient presented with stool coming from her vagina (rectovaginal fistula) after delivery by 5 days. What is the best way to treat her?
- A Conservative management
 - B Advancement flap repair
 - C Fistulectomy

Answer A · Conservative management

Five days after delivery, a rectovaginal fistula sits in acutely inflamed, oedematous obstetric tissue. Up to half of these fistulas heal on their own as the inflammation settles. The standard approach is conservative management with local care and review, waiting 3 to 6 months before any repair. Operating on freshly injured tissue has a high failure rate.

WHY NOT THE OTHERS

- B** Advancement flap repair is the usual operation for a persistent low fistula, but only after waiting 3 to 6 months. Done days after delivery, the inflamed tissue is likely to break down.
- C** Fistulectomy is also a definitive operation and is premature this early. Conservative follow-up is the recommended first step for an obstetric rectovaginal fistula.

Schwartz 11e, p. 1318 "Because up to 50% of fistulas caused by obstetric injury heal spontaneously, it is prudent to wait 3 to 6 months before embarking on surgical repair in these patients."

- 86 A 28-year-old male has a 2 cm hard lateral neck mass. Biopsy shows normal-appearing thyroid tissue. What is the most likely diagnosis?
- A Thyroglossal duct cyst
 - B Lateral aberrant thyroid
 - C Metastatic papillary thyroid cancer
 - D Branchial cyst

Answer C · Metastatic papillary thyroid cancer

Normal-appearing thyroid tissue in a lateral neck mass, separate from the thyroid, almost always means a cervical lymph node replaced by metastatic well-differentiated thyroid cancer, usually papillary. Nodal metastases are common in young adults with papillary cancer and may be the first sign of disease, so the thyroid must be assessed for the primary.

WHY NOT THE OTHERS

- A** A thyroglossal duct cyst sits in the midline and rises with tongue protrusion or swallowing. It is not a lateral neck mass.
- B** Lateral aberrant thyroid as a separate entity is an outdated concept. Normal-appearing thyroid tissue in a lateral node represents metastasis, not ectopic thyroid tissue.
- D** A branchial cyst is typically a soft, fluctuant cystic mass along the anterior border of the sternocleidomastoid. It is not a hard mass containing thyroid follicular tissue on biopsy.

Schwartz 11e, p. 1647 "Lymph node metastases are common, especially in children and young adults, and may be the presenting complaint. "Lateral aberrant thyroid" almost always denotes a cervical lymph node that has been invaded by metastatic cancer."

87 A patient with a deep-seated abdominal mass keeps going with sarcoma. What best imaging?

- A CT with IV contrast
- B CT without contrast
- C MRI
- D PET scan

Answer A · CT with IV contrast

The choice depends on where the sarcoma is. Contrast-enhanced CT is used for abdominal and retroperitoneal soft tissue sarcomas, and MRI is overwhelmingly the most useful study for extremity sarcomas. A deep abdominal mass falls in the CT with contrast group.

WHY NOT THE OTHERS

- B CT without contrast gives inadequate soft tissue characterization and density measurement.
- C MRI is the study of choice for extremity sarcomas and a problem-solving tool for selected pelvic lesions. For abdominal and retroperitoneal sarcomas the standard is contrast-enhanced CT, which also stages the chest and abdomen at the same time.
- D PET is not the first study for characterising a suspected sarcoma. Contrast-enhanced cross-sectional imaging comes first, and PET is kept for selected staging or problem-solving questions.

Cameron CST 14e, p. 918 "Contrast-enhanced CT is highly effective in the evaluation of abdominal or retroperitoneal sarcomas. In the extremities, however, MRI is overwhelmingly the most useful imaging modality for workup of a soft tissue mass."

88 A patient is given fentanyl and midazolam postoperatively. In the recovery room, he has a respiratory rate of 12/min, SpO₂ 90%, pH 7.20, and elevated PaCO₂. What is the most likely cause of this condition?

- A Respiratory depression
- B Inadequate analgesia
- C Metabolic alkalosis
- D Pulmonary embolism

Answer A · Respiratory depression

Fentanyl and midazolam together depress the central drive to breathe. He hypoventilates, carbon dioxide builds up, and he develops an acute respiratory acidosis with a pH of 7.20 and a raised PaCO₂. Oxygen saturation falls. This is postoperative respiratory depression from combined opioid and sedative use.

WHY NOT THE OTHERS

- B Undertreated pain typically drives tachypnea and hyperventilation with a low PaCO₂. This patient has the opposite, a slow respiratory rate and a rising PaCO₂.
- C Metabolic alkalosis gives an elevated pH and elevated bicarbonate. This patient is acidemic at pH 7.20 with an elevated PaCO₂, which fits a respiratory process, not a metabolic one.
- D Pulmonary embolism classically produces tachypnea with hypocapnia from hyperventilation. This patient is hypoventilating and hypercapnic.

Sabiston 22e, p. 60 "Hypoventilation resulting in hypercapnia can result from airway obstruction; central respiratory depression caused by anesthetic agents and/or opioids, hypothermia, CNS injury; or restriction of ventilation secondary to muscle relaxants, abdominal distension, and electrolyte abnormalities."

WORTH MEMORISING

The single most-repeated Board fact here

The most common cause of common bile duct (CBD) injury during laparoscopic cholecystectomy is **misidentification of the anatomy** – mistaking the common hepatic/bile duct for the cystic duct. Not bleeding, not equipment. And postoperative strictures occur in <1% of all cholecystectomies.

from my Biliary chapter

89 56M alcohol/cirrhosis; EGD shows non-bleeding varices. Which reduces risk of complications (primary prophylaxis)?

- A Vitamin K
- B Octreotide
- C Vasopressin
- D Nonselective beta-blocker

Answer D · Nonselective beta-blocker

For a cirrhotic patient whose varices have never bled, primary prophylaxis is either a nonselective beta-blocker or endoscopic band ligation. The beta-blocker, propranolol, nadolol or carvedilol, works by lowering portal pressure. Beta-blockade cuts the risk of a first bleed by roughly half and also lowers bleeding mortality. Of the options offered, only the nonselective beta-blocker prevents bleeding.

WHY NOT THE OTHERS

- A Vitamin K corrects coagulopathy but does not prevent variceal bleeding.
- B Octreotide is a short-term infusion used during active variceal haemorrhage. It has no role in long-term prevention of a first bleed.
- C Vasopressin, like terlipressin, is used only in acute variceal bleeding. Its vasoconstrictive side effects make it unsuitable for long-term prophylaxis.

Schwartz 11e, p. 1367 "Current measures aimed at preventing variceal bleeding include the administration of nonselective β -blockers and prophylactic endoscopic surveillance with variceal band ligation."

90 A patient with PUD presents with significant upper GI bleeding. Initial endoscopic hemostasis performed, but 5 hours later develops recurrent bleeding and becomes unstable (BP ~80/40-50). Taken urgently to OR. Most appropriate surgical management?

- A Simple suturing of the bleeding vessel
- B Truncal vagotomy with pyloroplasty and oversewing of the bleeding artery
- C Distal gastrectomy
- D Highly selective vagotomy

Answer A · Simple suturing of the bleeding vessel

A patient who rebleeds after endoscopic hemostasis and is in shock needs the quickest operation that stops the bleeding. Expose the ulcer and oversew the bleeding vessel. A posterior duodenal ulcer is reached through a duodenotomy or pyloroduodenotomy. Follow with acid suppression and H. pylori treatment, and biopsy an oversewn gastric ulcer. Vagotomy adds operative time and is kept for stable patients, and gastric resection should not be done in a patient in shock.

WHY NOT THE OTHERS

- B Vagotomy and pyloroplasty add operative time. In a patient in shock, speed of hemostasis comes first.
- C Gastric resection carries a higher operative mortality and should not be done in a patient in shock. Oversewing controls the bleeding with less risk.
- D Highly selective vagotomy does not stop the bleeding and adds operative time.

Schwartz 11e, p. 1133 "Once the surgeon is unequivocally convinced that hemostasis is secure, a pyloroplasty can be performed. If the patient is stable, vagotomy may be considered if the surgeon is experienced and the vagotomy straightforward."

- 93 Patient who is post-partum and breast feeding presented with swollen and painful right breast, which of the following is the most likely organism to be isolated?
- A Staph Aureus
 - B Beta Hemolytic Strept
 - C Pseudomonas

Answer A · Staph Aureus

Lactational mastitis and breast abscess are mostly caused by *Staphylococcus aureus*, which enters through a cracked or fissured nipple, usually in the first weeks of breastfeeding. Streptococci are the other common organisms. Staphylococcal infection is the typical cause of a localised, deep, swollen and painful breast infection that can progress to an abscess, so *S. aureus* is the most likely organism to be isolated.

WHY NOT THE OTHERS

- B Streptococci are the second common cause of breast infection, but they usually cause a diffuse superficial cellulitis. Staphylococci are the commoner cause of lactational infection and of a localised, swollen, painful breast that can progress to abscess.
- C *Pseudomonas* is a gram-negative organism of burns, chronic wounds and hospital-acquired infection. It is not normal skin flora and is not the organism that enters through a cracked nipple to cause a lactational breast infection.

Schwartz 11e, p. 550 "Typically breast abscesses are seen in staphylococcal infections and present with point tenderness, erythema, and hyperthermia."

- 94 Immediately after skin closure at the end of a Whipple procedure, the scrub nurse reports that the sponge/gauze count is incorrect. What is the most appropriate next step?
- A Immediately re-open the entire wound
 - B Obtain an intra-operative portable abdominal X-ray before finishing/leaving the OR
 - C Document and proceed to recovery, re-count on the ward
 - D Call for an urgent CT abdomen post-operatively

Answer B · Obtain an intra-operative portable abdominal X-ray before finishing/leaving the OR

A retained item after a known incorrect count usually happens because the discrepancy is dismissed or no radiograph is taken before the patient leaves the operating room. With the wound closed and the count still wrong, keep the patient on the table and take an intraoperative radiograph to look for the missing item. If it is seen, reopen the wound and retrieve it.

WHY NOT THE OTHERS

- A Reopening the whole wound blindly adds unnecessary surgical trauma and exploration time. A portable film taken while the patient is still anaesthetised and positioned can direct the surgeon straight to the site.
- C Recounting on the ward loses the window when the patient is still anaesthetised, relaxed and positioned for immediate re-exploration. The item may then be missed until it causes a later complication.
- D A postoperative CT means the patient has already left the operating room, giving up the safest and easiest chance to re-explore on the same table. A plain portable film, not CT, is also the right first study to localise a retained item.

Schwartz 11e, p. 411 "Having stronger institutional policies in place in case of an incorrect count (such as requiring a mandatory radiograph while the patient is still in the OR) can avoid conflict among caregivers and mitigate the likelihood of a retained surgical item occurring as a result of a known incorrect count."

- 95 30 years old nurse presents with intermittent diaphoresis, trembling and palpitations. Her fasting blood sugar is 50 mg/dL. C peptide is low, and insulin is high. Which of the following is the next step in management?
- A CT abdomen
 - B Endoscopic US
 - C Octreotide scan
 - D Psychiatric counseling
 - E MRI

Answer D · Psychiatric counseling

An insulinoma secretes insulin and C-peptide together, so both are high. High insulin with low C-peptide means the insulin is coming from outside the body. A nurse with access to insulin is injecting it. Imaging to find a tumour is not indicated, and management is to confront the diagnosis sensitively and refer for psychiatric care.

WHY NOT THE OTHERS

- A CT abdomen is used to localize an endogenous insulin-secreting tumor. Once the biochemistry shows exogenous insulin, that tumor is excluded.
- B Endoscopic ultrasound localizes an insulinoma. It is unnecessary once endogenous insulin secretion has been ruled out.
- C An octreotide scan localizes neuroendocrine tumors that express somatostatin receptors. It has no role when exogenous insulin use is the likely explanation.
- E MRI is another study for localizing a tumor. It is pointless once high insulin with low C-peptide argues against a pancreatic tumor.

Schwartz 11e, p. 1481 "C-peptide levels should also be elevated and rule out the unusual case of surreptitious administration of insulin or oral hypoglycemic agents because excess endogenous insulin production leads to excess C-peptide."

- 96 A 50-year-old female with cardiomyopathy and atrial fibrillation presents with sudden severe colicky abdominal pain. Her temperature is 37.5 C, and her abdomen is not distended but mildly tender. WBCs count is 12000. What is the MOST likely diagnosis?
- A Leaking abdominal aortic aneurysm
 - B Mesenteric artery embolism
 - C Mesenteric venous thrombosis
 - D Acute pancreatitis
 - E Peptic ulcer perforation

Answer B · Mesenteric artery embolism

This woman has cardiomyopathy and atrial fibrillation, both embolic risk factors. She also has severe pain with only mild tenderness, the pain out of proportion to examination that is typical of acute mesenteric ischemia. Together these make mesenteric artery embolism the most likely of the listed diagnoses.

WHY NOT THE OTHERS

- A A leaking AAA typically presents with epigastric or back pain and signs of shock.
- C Mesenteric venous thrombosis usually comes on more gradually, over days, and is linked to hypercoagulable states or portal hypertension. It is not linked to an embolic cardiac source such as atrial fibrillation.
- D Acute pancreatitis gives constant epigastric pain radiating to the back with a raised lipase. It has no link to an embolic source such as atrial fibrillation.
- E A perforated peptic ulcer produces acute peritoneal signs with rigidity. Her abdomen is only mildly tender.

Cameron CST 14e, p. 1160 "The hallmark physical examination finding of AMI is abdominal pain out of proportion to the examination. An elevated index of suspicion is required in patients with atrial fibrillation, mechanical heart valves, peripheral vascular disease, a history of thromboembolic events, or recent myocardial infarction with mural thrombus."

- 97 A patient has 10 days of fever, productive cough and pleuritic symptoms. Imaging shows a loculated pleural empyema. What is the appropriate operative approach when tube drainage is unlikely to achieve source control?
- A Observation
 - B VATS drainage/debridement +/- decortication
 - C Immediate pneumonectomy
 - D Thoracentesis only

Answer B · VATS drainage/debridement +/- decortication

A chest tube cannot clear a loculated empyema because the pus sits in separate walled-off pockets. Complex, loculated collections usually need surgery. Early VATS breaks down the loculations, removes the pus and fibrin, and peels any rind off the lung so it can re-expand. It also shortens hospital stay. Open decortication is kept for cases VATS cannot complete.

WHY NOT THE OTHERS

- A Observing a loculated empyema without drainage lets the sepsis continue.
- C Pneumonectomy removes lung tissue and does nothing to treat an infected pleural space. This problem is solved by draining the pleura and, if needed, peeling the rind off the lung.
- D Thoracentesis alone is not enough for a loculated empyema.

Sabiston 22e, p. 1798 "Early VATS for complex effusions has been shown to reduce hospital length of stay and provide good lung expansion."

- 98 A middle-aged man with a long history of gastroesophageal reflux disease (GERD) undergoes upper GI endoscopy. Biopsy shows intestinal metaplasia. What is the most likely diagnosis?
- A Esophageal squamous cell carcinoma
 - B Esophageal candidiasis
 - C Barrett's esophagus
 - D Achalasia

Answer C · Barrett's esophagus

Intestinal metaplasia on biopsy of the esophagus in a patient with long-standing GERD is Barrett's esophagus. That is the definition of the condition.

WHY NOT THE OTHERS

- A Squamous cell carcinoma arises from malignant transformation of squamous epithelium. It is linked to smoking and alcohol, not to a benign metaplastic change seen on biopsy.
- B Candidiasis shows fungal elements and inflammatory changes on biopsy, not glandular intestinal metaplasia. It is not a consequence of chronic reflux.
- D Achalasia is a motor disorder of the lower sphincter and esophageal body. It does not alter the mucosal lining to produce intestinal metaplasia.

Cameron CST 14e, p. 19 "Barrett's esophagus (BE) is defined as metaplastic change of the epithelial lining of the distal esophagus from normal stratified squamous epithelium to intestinal columnar epithelium containing goblet cells."

99 Neurogenic shock is characterized by the presence of:

- A Cool, moist skin
- B Increased cardiac output
- C Decreased peripheral vascular resistance
- D Decreased blood volume

Answer C · Decreased peripheral vascular resistance

Neurogenic shock is characterized by decreased peripheral vascular resistance, caused by loss of sympathetic vasomotor tone. Cardiac output is reduced, not increased.

WHY NOT THE OTHERS

- A Cool, moist skin reflects compensatory peripheral vasoconstriction, as seen in hypovolemic or cardiogenic shock. Neurogenic shock loses that vasoconstrictor tone, so the skin is characteristically warm, not cool and clammy.
- B Loss of sympathetic input reduces venous return and cardiac output. Loss of cardioaccelerator input to the heart also prevents the compensatory tachycardia that would otherwise help raise output.
- D Neurogenic shock is not caused by an actual loss of circulating blood volume. The volume is redistributed into a dilated venous system after loss of vasoconstrictor tone, and total blood volume is preserved.

Schwartz 11e, p. 151 "Acute spinal cord injury may result in bradycardia, hypotension, cardiac dysrhythmias, reduced cardiac output, and decreased peripheral vascular resistance."

100 Patient known case of DM, Day 2 post hemorrhoidectomy/band ligation of hemorrhoid, presented with perianal pain and fever and inability to void. BP 110/70 Hr 112 RR 18 temp 39.2 Labs showed leukocytosis WBC 21.2, the most likely diagnosis is:

- A Submucosal abscess
- B Necrotizing infection
- C Acute prostatitis
- D Rectal perforation

Answer B · Necrotizing infection

Fever, urinary retention and worsening perianal pain after hemorrhoidectomy or banding are the warning pattern of necrotizing pelvic sepsis. This diabetic patient also has tachycardia and a white count of 21. It is rare but life-threatening and needs urgent examination under anesthesia with debridement.

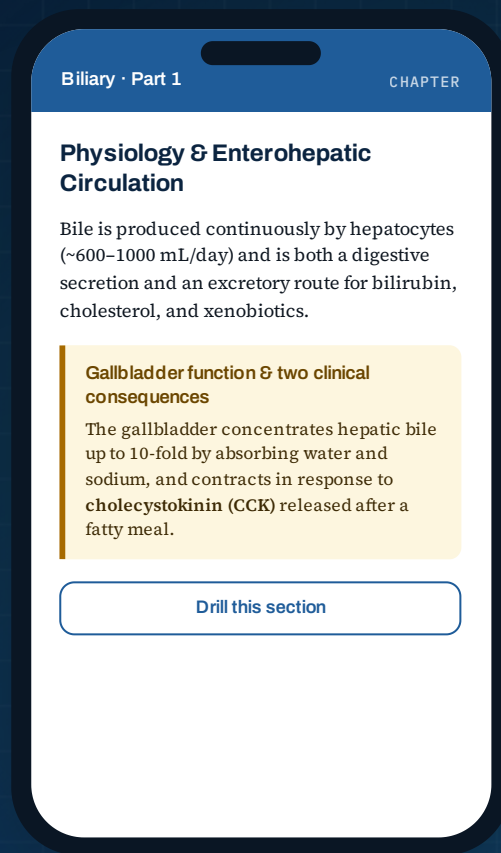
WHY NOT THE OTHERS

- A A submucosal abscess is a localized collection causing local pain and swelling. It does not explain urinary retention with a temperature of 39°C, tachycardia and a white count over 20 two days after surgery.
- C Prostatitis can cause fever and retention. After hemorrhoid surgery, though, fever with retention and worsening perianal pain must be treated as necrotizing pelvic sepsis until proven otherwise.
- D Perforation is not the usual complication of banding or hemorrhoidectomy. The infection that follows these procedures spreads through the perineal and pelvic soft tissues.

Sabiston 22e, p. 1521 "A rare, but feared, complication of hemorrhoidectomy is pelvic sepsis. It can develop after excisional hemorrhoidectomy or office-based procedures. Patients with urinary retention (dysfunction), worsening anal or pelvic pain, or fever must be evaluated emergently for this potentially life-threatening complication."

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