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PRACTICE QUESTIONS

**NBME® Subject Examination Program, Medical School Services (MSS),
including International Foundations of Medicine (IFOM)**

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QUESTIONS

9

FORMAT

Limited Edition PDF

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What this is

9 practice questions for NBME® Subject Examination Program, Medical School Services (MSS), including International Foundations of Medicine (IFOM) **SURGY**, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

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Send us three things and we will check it:

- the exam code, **SURGY**
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1

SINGLE CHOICE

A 68-year-old man is scheduled for elective open abdominal aortic aneurysm repair. He has a history of myocardial infarction 2 months ago, hypertension, and type 2 diabetes mellitus. His medications include metoprolol, lisinopril, metformin, and aspirin. Which of the following is the most appropriate next step in preoperative cardiac risk stratification?

- ☐ A Cancel surgery because recent MI is an absolute contraindication to noncardiac surgery
- ☐ B Proceed directly to surgery without further cardiac testing because the surgery is emergent
- ☒ C Obtain a 12-lead ECG and assess functional capacity to determine need for further testing such as stress imaging or coronary angiography
- ☐ D Stop aspirin and metformin immediately and proceed to surgery without cardiology consultation

ANSWER C

WHY Recent MI (<6 weeks) is a known cardiac risk factor but not an absolute contraindication to noncardiac surgery; rather, it warrants further evaluation. ACC/AHA perioperative guidelines recommend baseline ECG and assessment of functional capacity (METs), with additional stress testing or cardiology consultation for patients with poor functional capacity or high-risk surgery such as open AAA repair. The other options are incorrect because recent MI is not an absolute contraindication, this is elective (not emergent) surgery, and metformin/aspirin management requires specific perioperative protocols but does not eliminate the need for risk assessment.

QUESTION 2

SINGLE CHOICE

A 24-year-old man presents to the emergency department after being stabbed in the abdomen. He is hypotensive (BP 80/50 mmHg), tachycardic (HR 130), and has a base deficit of 10 mEq/L on arterial blood gas. After 2 liters of lactated Ringer's solution, his vitals have not improved. Which of the following is the most appropriate next step in management?

- ☐ A Administer a third liter of crystalloid and reassess
- ☒ B Begin massive transfusion protocol with balanced ratio (1:1:1) of plasma, platelets, and packed red blood cells and proceed to operative intervention
- ☐ C Switch to 0.45% normal saline to reduce interstitial edema
- ☐ D Give 100 mL of 3% hypertonic saline to improve hemodynamics

ANSWER B

WHY This patient demonstrates ongoing hemorrhagic shock with persistent hypotension despite initial crystalloid resuscitation and evidence of tissue hypoperfusion (elevated base deficit). Continued crystalloid alone leads to dilutional coagulopathy. Current trauma resuscitation principles favor early balanced blood product transfusion (massive transfusion protocol) and definitive surgical hemorrhage control. Switching fluid tonicity or giving more crystalloid does not address the underlying bleeding.

QUESTION 3

SINGLE CHOICE

For elective colorectal surgery, which of the following is the most effective evidence-based strategy to reduce surgical site infection?

- ☐ A Prolonged postoperative antibiotic therapy for 7 days
- ☒ B Single-dose preoperative antibiotics given within 60 minutes of skin incision plus mechanical bowel preparation with oral antibiotics
- ☐ C Perioperative normothermia only without bowel preparation
- ☐ D Delayed antibiotic administration until after fascial closure

ANSWER B

WHY Surgical Care Improvement Project (SCIP) and current guidelines recommend prophylactic antibiotics within 60 minutes of skin incision (timing-dependent on half-life of agent) and discontinuation within 24 hours after surgery for most procedures. For elective colorectal surgery, combined mechanical bowel preparation with oral antibiotic prophylaxis significantly reduces SSI compared to either alone or no preparation. Prolonged antibiotics, omitting bowel prep, and post-closure antibiotics are not supported by evidence and may promote resistance.

QUESTION 4

SINGLE CHOICE

A 55-year-old man presents with progressive dysphagia to both solids and liquids over 6 months, along with regurgitation of undigested food and a 10-pound weight loss. Barium swallow shows a dilated esophagus with a tapered, bird-beak narrowing at the gastroesophageal junction. What is the most likely diagnosis?

- ☐ A Esophageal squamous cell carcinoma
- ☒ B Achalasia
- ☐ C Diffuse esophageal spasm
- ☐ D Zenker's diverticulum

ANSWER B

WHY The classic triad of progressive dysphagia to both solids and liquids, regurgitation, and weight loss combined with the bird-beak appearance on barium swallow is characteristic of achalasia, which results from failure of lower esophageal sphincter relaxation and aperistalsis. Squamous cell carcinoma typically presents with progressive dysphagia to solids first then liquids, with an irregular mucosal lesion. Diffuse esophageal spasm shows a corkscrew esophagus. Zenker's diverticulum causes oropharyngeal dysphagia and halitosis.

QUESTION 5

SINGLE CHOICE

Following a high-speed motor vehicle collision, a hemodynamically unstable patient with a positive Focused Assessment with Sonography for Trauma (FAST) exam is taken to the operating room. Which of the following is the most appropriate initial surgical approach for suspected intra-abdominal hemorrhage?

- ☐ A Laparoscopic exploration for diagnostic purposes
- ☒ B Midline exploratory laparotomy from xiphoid to pubis
- ☐ C Right subcostal (Kocher) incision
- ☐ D Pfannenstiel incision to access the pelvis

ANSWER B

WHY A hemodynamically unstable trauma patient with a positive FAST requires emergent exploratory laparotomy via a midline incision extending from the xiphoid process to the pubic symphysis, providing the widest and most rapid access to all four quadrants of the abdomen. Laparoscopy is contraindicated in hemodynamic instability. Kocher incision is used for elective hepatobiliary/pancreatic surgery, and Pfannenstiel incision is for pelvic organ surgery (e.g., cesarean, prostatectomy), not for trauma exploration.

QUESTION 6

SINGLE CHOICE

A 70-year-old man presents with a 2-day history of severe pain in his right groin, nausea, and a tender, non-reducible bulge below the inguinal ligament. He has a fever of 38.5°C and leukocytosis. Which of the following is the most appropriate definitive management?

- ☐ A Elective outpatient hernia repair after resolution of symptoms
- ☐ B Manual reduction in the emergency department and discharge with outpatient follow-up
- ☒ C Emergent surgical exploration and repair of the incarcerated femoral hernia with possible bowel resection
- ☐ D Observation with antibiotics and bowel rest

ANSWER C

WHY A non-reducible groin mass below the inguinal ligament in an elderly woman-like distribution (femoral hernia more common in women, but the location below the inguinal ligament is key) suggests an incarcerated femoral hernia. Femoral hernias have a high risk of strangulation and require emergent surgical repair. Signs of systemic infection (fever, leukocytosis) suggest strangulation with possible bowel ischemia, mandating exploration with possible bowel resection. Manual reduction should not be attempted when strangulation is suspected, and observation is inappropriate.

QUESTION 7

SINGLE CHOICE

A 52-year-old woman undergoes screening mammography that reveals a spiculated mass with associated microcalcifications. Core needle biopsy demonstrates invasive ductal carcinoma that is estrogen receptor positive, progesterone receptor positive, and HER2 negative. Which of the following is the most appropriate initial treatment for early-stage (T2N1M0) disease?

- ☐ A Mastectomy with immediate reconstruction only
- ☐ B Neoadjuvant chemotherapy followed by surgery
- ☒ C Breast-conserving surgery (lumpectomy) with sentinel lymph node biopsy followed by radiation therapy and adjuvant endocrine therapy
- ☐ D Hormonal therapy alone without surgery

ANSWER C

WHY Early-stage hormone receptor-positive/HER2-negative breast cancer is typically managed with breast-conserving therapy (lumpectomy with negative margins plus whole-breast radiation) when feasible, along with sentinel lymph node biopsy for clinically node-negative disease, followed by adjuvant endocrine therapy (e.g., aromatase inhibitor in postmenopausal women). Neoadjuvant chemotherapy is reserved for locally advanced or triple-negative/HER2-positive disease. Mastectomy is reserved for cases where breast conservation is not feasible or patient preference. Hormonal therapy alone is inadequate as primary treatment for invasive cancer.

QUESTION 8

SINGLE CHOICE

A patient develops a wound on postoperative day 5 after laparotomy with serosanguinous drainage and palpable bowel loops protruding through the fascial defect. What is the most appropriate initial management?

- ☐ A Apply a sterile dressing and schedule elective repair in 6 weeks
- ☒ B Cover exposed bowel with saline-soaked gauze and obtain urgent surgical consultation for return to the operating room
- ☐ C Perform bedside primary closure with suture
- ☐ D Place a vacuum-assisted closure (VAC) device over the protruding bowel

ANSWER B

WHY Evisceration (exposed bowel through a dehiscence fascial wound) is a surgical emergency requiring immediate coverage of exposed viscera with warm saline-soaked gauze and emergent return to the operating room for fascial reclosure. VAC therapy and bedside primary closure are inappropriate over exposed bowel in the acute setting. Definitive management also requires investigation of underlying causes (e.g., infection, malnutrition, steroid use).

QUESTION 9

SINGLE CHOICE

A 62-year-old man is scheduled for an elective right hemicolectomy for colon cancer. His past medical history includes type 2 diabetes mellitus, hypertension, and stable angina. His medications include metformin, lisinopril, and atenolol. On the morning of surgery, his blood pressure is 138/82 mm Hg, heart rate 72 beats/min, and fingerstick glucose is 162 mg/dL. Which of the following is the most appropriate preoperative management of his metformin?

- ☐ A Continue metformin throughout the perioperative period
- ☒ B Discontinue metformin on the morning of surgery and resume 24 hours postoperatively if renal function is normal
- ☐ C Discontinue metformin 7 days before surgery
- ☐ D Discontinue metformin and replace with subcutaneous insulin sliding scale the day before surgery

ANSWER B

WHY Metformin should be held on the day of surgery (and generally for 24–48 hours perioperatively) because of the risk of lactic acidosis in the setting of potential perioperative renal dysfunction, hypoxemia, or hemodynamic instability. It is resumed once renal function is confirmed normal. Continuing it risks lactic acidosis; stopping it a week before is unnecessary; and routine conversion to insulin sliding scale for an elective procedure with a glucose of 162 mg/dL is not standard.