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39	☐ A	☐ B	☒ C	☐ D	☐ E

PRACTICE QUESTIONS

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

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EDITION

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QUESTIONS

9

FORMAT

Limited Edition PDF

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9 practice questions for NBME® Subject Examination Program, Medical School Services (MSS), including International Foundations of Medicine (IFOM) **EMMED**, 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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QUESTION 1

SINGLE CHOICE

A 58-year-old man with hypertension and a 40-pack-year smoking history presents to the emergency department with crushing substernal chest pain radiating to the left arm that began 45 minutes ago while climbing stairs. He is diaphoretic, heart rate 104/min, blood pressure 148/92 mm Hg, respiratory rate 22/min, and oxygen saturation 96% on room air. An ECG shows 2-mm ST-segment elevation in leads II, III, and aVF. Which of the following is the most appropriate next step in management?

- ☐ A Administer aspirin, sublingual nitroglycerin, and obtain serial troponins
- ☒ B Administer aspirin and arrange for immediate reperfusion therapy
- ☐ C Order a chest CT angiography to rule out pulmonary embolism
- ☐ D Perform a transthoracic echocardiogram before initiating therapy

ANSWER B

WHY ST-segment elevation in leads II, III, and aVF is diagnostic of an acute inferior STEMI, and guideline-directed care is immediate reperfusion (PCI within 90 minutes or fibrinolysis if PCI is unavailable) along with adjunctive antiplatelet therapy such as aspirin. Serial troponins and CT angiography are not appropriate first steps when the ECG is already diagnostic, and echocardiography should not delay reperfusion.

QUESTION 2

SINGLE CHOICE

A 72-year-old woman with a history of atrial fibrillation presents with palpitations, dizziness, and hypotension (BP 82/54 mm Hg). The cardiac monitor shows an irregular narrow-complex tachycardia at a rate of 162/min with no discrete P waves. She is alert but appears ill. Which of the following is the most appropriate immediate intervention?

- ☐ A Administer intravenous metoprolol
- ☒ B Perform synchronized cardioversion at 120–200 J
- ☐ C Administer intravenous adenosine
- ☐ D Observe and obtain a 12-lead ECG

ANSWER B

WHY Atrial fibrillation with rapid ventricular response accompanied by signs of hemodynamic instability (hypotension, altered mental status, ischemic chest pain, or acute heart failure) is an indication for immediate synchronized electrical cardioversion. Rate-control agents such as metoprolol or diltiazem are inappropriate in unstable patients, and adenosine is ineffective for atrial fibrillation.

QUESTION 3

SINGLE CHOICE

A 64-year-old man is brought to the emergency department by his wife after she noticed right-sided facial droop, slurred speech, and right arm weakness that began 35 minutes ago. His blood glucose is 110 mg/dL and a non-contrast head CT shows no hemorrhage. Which of the following is the most appropriate next step?

- ☐ A Administer aspirin 325 mg orally
- ☒ B Administer intravenous alteplase
- ☐ C Obtain CT angiography of the head and neck
- ☐ D Admit for observation and obtain MRI

ANSWER B

WHY Within 4.5 hours of symptom onset, a patient with acute ischemic stroke and no contraindications on non-contrast CT (no hemorrhage) is a candidate for IV alteplase. Aspirin is withheld for 24 hours after thrombolytic administration, and CT angiography or MRI should not delay administration of alteplase in an otherwise eligible patient.

QUESTION 4

SINGLE CHOICE

A 27-year-old man is brought to the emergency department after a high-speed motorcycle collision. He is obtunded, has obvious bilateral femoral fractures, and his heart rate is 138/min, blood pressure is 78/52 mm Hg, and respiratory rate is 32/min. Two large-bore IV lines are established. Which of the following is the most appropriate next step in management?

- ☒ **A** Initiate massive transfusion protocol and begin balanced resuscitation with blood products
- ☐ **B** Infuse 2 L of isotonic crystalloid before giving any blood products
- ☐ **C** Wait for laboratory hemoglobin and coagulation results before transfusing
- ☐ **D** Apply pneumatic compression devices and observe

ANSWER A

WHY Hemorrhagic shock in a trauma patient with evidence of severe bleeding (tachycardia, hypotension, obtundation, bilateral femoral fractures) warrants immediate activation of a massive transfusion protocol with balanced 1:1:1 resuscitation (plasma, platelets, and packed red cells). Large-volume crystalloid resuscitation worsens trauma-induced coagulopathy and dilutes clotting factors, and waiting for laboratory results delays definitive care.

QUESTION 5

SINGLE CHOICE

A 34-year-old woman is brought to the emergency department after being found unresponsive at home with an empty bottle of acetaminophen nearby. Her vital signs are stable and she is now awake but nauseated. Her serum acetaminophen level is reported as 180 µg/mL at 4 hours after ingestion. Which of the following is the most appropriate next step in management?

- ☐ A Discharge home with return precautions after the level is found to be nontoxic
- ☒ B Begin N-acetylcysteine and admit for continued therapy
- ☐ C Administer activated charcoal and discharge after a 6-hour observation
- ☐ D Perform gastric lavage and observe

ANSWER B

WHY Using the Rumack-Matthew nomogram, an acetaminophen level of 180 µg/mL at 4 hours after ingestion is above the treatment line and indicates significant hepatotoxic risk. The standard of care is to begin N-acetylcysteine promptly and continue therapy throughout the course of hepatotoxicity.

QUESTION 6

SINGLE CHOICE

A 9-month-old boy with a 2-day history of upper respiratory symptoms is brought to the emergency department because of fever, barking cough, and inspiratory stridor that worsen at night. He is sitting upright, drooling, and his oxygen saturation is 96% on room air. A frontal neck radiograph shows the steeple sign. Which of the following is the most appropriate initial treatment?

- ☐ A Immediate endotracheal intubation
- ☒ B Nebulized racemic epinephrine and cool mist
- ☐ C Intravenous ceftriaxone
- ☐ D Heliox therapy and observation

ANSWER B

WHY The clinical and radiographic findings are diagnostic of croup (laryngotracheobronchitis). Standard initial therapy is nebulized racemic epinephrine, which provides transient symptomatic relief by reducing airway edema, and corticosteroids to reduce subglottic inflammation. Intubation is reserved for impending respiratory failure, antibiotics are not indicated in viral croup, and heliox is not standard therapy.

QUESTION 7

SINGLE CHOICE

A 28-year-old woman at 32 weeks gestation presents with sudden-onset severe constant abdominal pain, vaginal bleeding, and a board-like, tender uterus. Her blood pressure is 88/54 mm Hg and heart rate is 124/min. Fetal heart tones are absent. Which of the following is the most likely diagnosis?

- ☐ A Placenta previa
- ☒ B Abruptio placentae
- ☐ C Uterine rupture
- ☐ D Preterm labor

ANSWER B

WHY The classic presentation of abruptio placentae includes sudden, severe constant abdominal pain, vaginal bleeding, a tender, rigid ('board-like') uterus, and signs of maternal hemodynamic compromise from concealed hemorrhage, often with fetal distress or demise. Placenta previa typically presents with painless vaginal bleeding; uterine rupture presents with sudden pain, fetal distress, and often a palpable fetus outside the uterus in patients with prior uterine surgery; and preterm labor presents with regular painful contractions rather than constant pain and a rigid uterus.

QUESTION 8

SINGLE CHOICE

A 68-year-old man with a history of type 2 diabetes mellitus presents with fever, dysuria, and confusion. Vital signs are: temperature 39.2°C, heart rate 118/min, blood pressure 88/56 mm Hg, respiratory rate 24/min, and oxygen saturation 95% on room air. Lung examination is clear, and there is no rash. Which of the following is the most appropriate immediate intervention?

- ☒ **A** Obtain blood and urine cultures and start broad-spectrum antibiotics within 1 hour, plus give 30 mL/kg crystalloid for hypotension
- ☐ **B** Order a chest radiograph and urinalysis before starting antibiotics
- ☐ **C** Administer vasopressors as the first-line intervention
- ☐ **D** Discharge with oral antibiotics after a negative rapid strep test

ANSWER A

WHY This patient meets criteria for septic shock (qSOFA ≥ 2 with suspected infection, hypotension, and tachypnea) from a likely urinary source. Surviving Sepsis Campaign guidelines emphasize obtaining cultures and starting broad-spectrum antibiotics within 1 hour and giving an initial 30 mL/kg crystalloid bolus for hypotension or lactate ≥ 4 mmol/L. Vasopressors are added if hypotension persists despite adequate fluid resuscitation, not as the first step.

QUESTION 9

MULTIPLE CHOICE

A 52-year-old man with a history of alcohol use disorder presents with generalized weakness, nausea, and palpitations. His ECG shows flattened T waves with prominent U waves. Serum potassium is 2.5 mEq/L. Which of the following are appropriate components of initial management in the emergency department? (Choose two.)

- ☒ **A** Administer intravenous potassium chloride at 10 mEq/hour via a peripheral line with cardiac monitoring
- ☐ **B** Administer intravenous insulin with dextrose to drive potassium intracellularly
- ☒ **C** Administer intravenous magnesium sulfate if serum magnesium is low or normal
- ☐ **D** Discharge home with oral potassium supplementation and outpatient follow-up

ANSWER A • C

WHY Symptomatic or severe hypokalemia ($K^+ < 3.0$ mEq/L) with ECG changes warrants IV potassium replacement, typically 10–20 mEq/hour through a peripheral line with continuous cardiac monitoring. Hypomagnesemia frequently coexists and must be corrected because it impairs potassium repletion; IV magnesium is therefore given. Insulin-dextrose is used for hyperkalemia, not hypokalemia. Outpatient oral therapy alone is inappropriate for a patient with symptomatic hypokalemia and ECG changes.