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PRACTICE QUESTIONS

CFPC - The College of Family Physicians of Canada / Le Collège des médecins de famille du Canada

EME

Examination of Added Competence in Emergency Medicine

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for CFPC - The College of Family Physicians of Canada / Le Collège des médecins de famille du Canada **EME**, 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.

If something looks wrong

Send us three things and we will check it:

- the exam code, **EME**
- 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 28-year-old male presents to the emergency department after a high-speed motor vehicle collision. He is unresponsive, with a heart rate of 130 bpm, blood pressure of 78/40 mmHg, and a respiratory rate of 32. According to ATLS principles, what is the most appropriate first step in management?

- ☐ A Immediately obtain a CT scan of the head and abdomen.
- ☒ B Establish airway with cervical spine protection and assess breathing.
- ☐ C Insert two large-bore intravenous lines and initiate crystalloid resuscitation.
- ☐ D Perform a focused assessment with sonography for trauma (FAST) scan.

ANSWER B

WHY According to ATLS, the primary survey follows the ABCDE sequence (Airway with cervical spine protection, Breathing, Circulation, Disability, Exposure). Airway is always addressed first, regardless of hemodynamic status, because a compromised airway will result in death before other interventions can be effective. Resuscitation efforts including IV access follow the establishment of an adequate airway.

QUESTION 2

SINGLE CHOICE

A 58-year-old male with a history of hypertension and smoking presents with crushing substernal chest pain radiating to the left arm for 45 minutes. ECG shows ST elevation in leads II, III, and aVF. Which of the following is the most appropriate immediate management?

- ☐ A Administer sublingual nitroglycerin and reassess in 15 minutes.
- ☐ B Order a stat CT scan of the chest to rule out aortic dissection.
- ☒ C Activate the cardiac catheterization lab for primary percutaneous coronary intervention.
- ☐ D Administer a thrombolytic agent and admit to the coronary care unit.

ANSWER C

WHY ST elevation in leads II, III, and aVF indicates an inferior ST-elevation myocardial infarction (STEMI), typically due to right coronary artery occlusion. For a patient presenting within 12 hours of symptom onset at a PCI-capable center, current guidelines recommend primary percutaneous coronary intervention (PCI) as the preferred reperfusion strategy, with a target door-to-balloon time of under 90 minutes. Thrombolytics are reserved for settings where PCI is not available within 120 minutes.

QUESTION 3

MULTIPLE CHOICE

Which of the following are appropriate components of the management of pediatric cardiac arrest according to PALS guidelines? (Choose two.)

- ☒ **A** Begin chest compressions at a depth of at least one-third the anteroposterior diameter of the chest.
- ☐ **B** Administer epinephrine every 5 to 15 minutes as a continuous infusion.
- ☐ **C** Use a compression-to-ventilation ratio of 30:2 for a single rescuer.
- ☒ **D** Apply defibrillation at 4 J/kg for refractory ventricular fibrillation.

ANSWER A - D

WHY PALS guidelines recommend chest compressions to a depth of at least one-third of the AP chest diameter (approximately 4 cm in infants and 5 cm in children). For refractory ventricular fibrillation, defibrillation at 4 J/kg is recommended. Epinephrine is given as a bolus every 3 to 5 minutes, not as a continuous infusion. The compression-to-ventilation ratio for a single rescuer in pediatrics is 15:2, not 30:2.

QUESTION 4

SINGLE CHOICE

A 35-year-old female is brought to the emergency department after ingesting a large amount of her brother's metoprolol in a suicide attempt. She is bradycardic (HR 38 bpm) and hypotensive (BP 70/40 mmHg). What is the first-line pharmacologic treatment for her cardiovascular toxicity?

- ☐ **A** Atropine 1 mg IV bolus.
- ☐ **B** Calcium gluconate 10% 10 mL IV.
- ☒ **C** Glucagon 5 to 10 mg IV bolus.
- ☐ **D** Sodium bicarbonate 1 mEq/kg IV bolus.

ANSWER C

WHY Glucagon is the first-line antidote for severe beta-blocker toxicity, as it increases intracellular cAMP through a non-beta-receptor mechanism, thereby improving heart rate and contractility. Atropine is typically ineffective for significant beta-blocker overdose. Calcium gluconate is used for calcium channel blocker toxicity. Sodium bicarbonate is used for tricyclic antidepressant overdose with QRS widening.

QUESTION 5

SINGLE CHOICE

A 24-year-old woman at 32 weeks gestation presents with painless vaginal bleeding. Her vitals are stable. What is the most appropriate next step in management?

- ☐ A Perform a digital vaginal examination to assess cervical dilation.
- ☒ B Obtain an urgent transabdominal and transvaginal ultrasound to assess placental location.
- ☐ C Administer methylergometrine to control bleeding.
- ☐ D Prepare for immediate delivery via induction of labour.

ANSWER B

WHY Painless vaginal bleeding in the third trimester suggests placenta previa. A digital vaginal examination is absolutely contraindicated until placenta previa is ruled out, as it can provoke catastrophic hemorrhage. Ultrasound (transabdominal followed by transvaginal for better accuracy) is the diagnostic modality of choice. Methylergometrine is used for postpartum hemorrhage, not antepartum bleeding. Delivery decisions depend on gestational age, maternal/fetal status, and bleeding severity.

QUESTION 6

SINGLE CHOICE

A 64-year-old diabetic male presents with fever, confusion, and hypotension (BP 85/50 mmHg). Lactate is 4.5 mmol/L. According to current sepsis guidelines, what is the most appropriate initial resuscitation approach?

- ☐ A Restrict fluids and initiate vasopressors immediately.
- ☒ B Administer 30 mL/kg crystalloid bolus and reassess.
- ☐ C Transfuse 2 units of packed red blood cells.
- ☐ D Delay antibiotics until blood cultures are confirmed positive.

ANSWER B

WHY Current surviving sepsis guidelines recommend early aggressive fluid resuscitation with 30 mL/kg crystalloid for patients with septic shock or hypoperfusion, with reassessment of fluid responsiveness. Antibiotics should be administered ideally within 1 hour of recognition, not delayed until culture results. Restricting fluids is inappropriate in this hypotensive patient. Blood transfusion is reserved for specific hemoglobin thresholds or active bleeding.

QUESTION 7

MULTIPLE CHOICE

Which of the following are recognized complications specifically associated with supracondylar humerus fractures in children? (Choose two.)

- ☒ **A** Volkmann ischemic contracture due to brachial artery injury.
- ☐ **B** Median nerve injury, particularly the anterior interosseous branch.
- ☒ **C** Compartment syndrome of the forearm.
- ☐ **D** Post-traumatic osteoarthritis of the elbow.

ANSWER A • C

WHY Supracondylar humerus fractures in children are classically associated with neurovascular injury, particularly to the brachial artery (which can lead to Volkmann ischemic contracture) and the median nerve (especially its anterior interosseous branch). Compartment syndrome of the forearm is a well-recognized complication requiring emergent fasciotomy. Post-traumatic osteoarthritis is rare in pediatric supracondylar fractures as the injury is typically extra-articular.

QUESTION 8

SINGLE CHOICE

A 45-year-old male with severe facial trauma requires emergent intubation. He has a known difficult airway from prior surgery. Mallampati score cannot be assessed due to facial swelling. Which of the following is the most appropriate airway management strategy?

- ☐ A Proceed with rapid sequence intubation using video laryngoscopy as first-line.
- ☒ B Perform an awake fiberoptic intubation or surgical airway preparation while maintaining spontaneous ventilation.
- ☐ C Attempt bag-mask ventilation and observe for clinical improvement.
- ☐ D Proceed with blind nasotracheal intubation.

ANSWER B

WHY In a patient with a known difficult airway and severe facial trauma, awake intubation techniques (such as awake fiberoptic intubation) with maintenance of spontaneous ventilation are preferred. The 'cannot intubate, cannot ventilate' scenario in trauma mandates preparation for a surgical airway. RSI with video laryngoscopy may be attempted in some settings, but with severe facial trauma and known difficult airway, preserving spontaneous ventilation is safer. Blind nasotracheal intubation is contraindicated in severe facial trauma due to risk of intracranial placement.

QUESTION 9

SINGLE CHOICE

A 72-year-old male presents with acute onset right-sided weakness and aphasia. Symptoms began 90 minutes ago. CT head without contrast shows no hemorrhage. What is the most appropriate next step?

- ☐ A Administer aspirin 325 mg and admit for stroke workup.
- ☒ B Administer IV alteplase if no contraindications exist.
- ☐ C Obtain MRI brain with diffusion-weighted imaging first.
- ☐ D Arrange for elective carotid Doppler studies.

ANSWER B

WHY This patient presents with acute ischemic stroke within the window for IV thrombolysis. Current guidelines recommend IV alteplase (or tenecteplase) for eligible patients within 4.5 hours of symptom onset, after excluding hemorrhage on non-contrast CT. Delay for MRI is not recommended when the patient is within the treatment window and there are no contraindications. Aspirin should not be given within 24 hours of thrombolytic administration.