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39	A	B	C	D	E

PRACTICE QUESTIONS

Medical Council of Canada/Le Conseil Médical du Canada

EACMC

Examen d'aptitude CMC

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Medical Council of Canada/Le Conseil Médical du Canada EACMC , 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, EACMC
- 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 24-year-old man sustains a deep laceration to the antecubital fossa. On examination, the wound continues to bleed despite direct pressure, and distal pulses are diminished. Which of the following vessels is most likely injured?

- ☐ A Cephalic vein
- ☒ B Brachial artery
- ☐ C Basilic vein
- ☐ D Ulnar nerve

ANSWER B

WHY The brachial artery lies in the antecubital fossa medial to the biceps tendon and is the most commonly injured major vessel at this site. Persistent hemorrhage with diminished distal pulses suggests arterial injury rather than a superficial venous or nerve injury.

QUESTION 2

SINGLE CHOICE

A 62-year-old woman presents to the emergency department with sudden onset of tearing chest pain radiating to the back, blood pressure of 195/110 mmHg in the right arm and 130/80 mmHg in the left arm. Which of the following is the most appropriate initial diagnostic investigation?

- ☐ A Transthoracic echocardiogram
- ☐ B Chest radiograph
- ☒ C Computed tomography angiography of the aorta
- ☐ D D-dimer testing

ANSWER C

WHY The clinical picture is classic for aortic dissection (sudden tearing chest/back pain with blood pressure differential between arms). CT angiography of the aorta is the first-line diagnostic test in a hemodynamically stable patient because it is rapid, widely available, and defines the extent of the dissection.

QUESTION 3

SINGLE CHOICE

A 58-year-old man with a history of atrial fibrillation presents with acute onset of left-sided weakness and aphasia. Non-contrast CT of the head performed 45 minutes after symptom onset shows no hemorrhage or early ischemic changes. Which of the following is the most appropriate next step?

- ☒ **A Administer intravenous alteplase (tPA) if no contraindications exist**
- ☐ B Perform lumbar puncture to rule out subarachnoid hemorrhage
- ☐ C Start therapeutic low-molecular-weight heparin
- ☐ D Obtain a follow-up CT in 24 hours

ANSWER A

WHY Within 4.5 hours of ischemic stroke onset, eligible patients without contraindications should receive intravenous thrombolysis with alteplase. A normal non-contrast CT in this window rules out hemorrhage and supports proceeding with thrombolysis if criteria are met.

QUESTION 4

SINGLE CHOICE

A previously healthy 65-year-old woman with no significant past medical history presents for a routine health assessment. According to current Canadian guidelines, which of the following screening tests is most appropriately recommended?

- ☐ A Annual mammography
- ☐ B One-time screening ultrasound for abdominal aortic aneurysm
- ☒ **C Screening colonoscopy for colorectal cancer**
- ☐ D Annual low-dose CT for lung cancer

ANSWER C

WHY The Canadian Task Force on Preventive Health Care recommends screening adults aged 50-74 for colorectal cancer (fecal occult blood testing every 2 years or flexible sigmoidoscopy every 10 years). Routine AAA screening ultrasound is for men aged 65-75 who have ever smoked, not women. Annual mammography is not uniformly recommended at 65; the recommended interval is every 2-3 years between ages 50-74. Lung cancer screening is for high-risk smokers with a significant pack-year history.

QUESTION 5

SINGLE CHOICE

A 4-year-old child develops a low-grade fever, cough, coryza, and conjunctivitis followed by a maculopapular rash that started on the face and spread to the trunk and extremities. Koplik spots are noted on the buccal mucosa. Which of the following is the most likely causative organism?

- ☐ A Parvovirus B19
- ☐ B Rubella virus
- ☒ C Measles virus
- ☐ D Varicella-zoster virus

ANSWER C

WHY The classic prodrome of the 3 C's (cough, coryza, conjunctivitis), cephalocaudal spread of a maculopapular rash, and Koplik spots on the buccal mucosa are pathognomonic for measles (rubeola) infection. Rubella does not produce Koplik spots and typically has a milder course.

QUESTION 6

SINGLE CHOICE

A 71-year-old man with atrial fibrillation, heart failure (ejection fraction 35%), and chronic kidney disease (eGFR 28 mL/min/1.73 m²) is started on a new medication for stroke prevention. Two weeks later he develops painful bilateral inguinal swelling. Which of the following medications is most likely responsible?

- ☐ A Warfarin
- ☒ B Apixaban
- ☐ C Amiodarone
- ☐ D Furosemide

ANSWER B

WHY Apixaban (a direct oral factor Xa inhibitor) is associated with inguinal/groin hematoma as a recognized adverse effect, particularly in elderly patients and those with renal impairment. While warfarin can also cause bleeding, painful inguinal swelling in this context following recent anticoagulant initiation is most characteristic of apixaban-related hemorrhage.

QUESTION 7

SINGLE CHOICE

A 45-year-old woman with long-standing poorly controlled type 2 diabetes presents with progressive exertional dyspnea and bilateral lower extremity edema. Echocardiography reveals a dilated left ventricle with an ejection fraction of 30% and global hypokinesis. Which of the following best describes the underlying pathophysiology?

- ☐ A Amyloid deposition in the myocardium
- ☒ B Microvascular ischemia leading to myocyte loss and fibrosis
- ☐ C Autoimmune lymphocytic infiltration of the myocardium
- ☐ D Iron overload causing oxidative myocardial injury

ANSWER B

WHY Diabetic cardiomyopathy results from chronic hyperglycemia causing microvascular disease, advanced glycation end-product deposition, and myocardial fibrosis, leading to a dilated, hypokinetic ventricle. Amyloid and hemochromatosis produce restrictive patterns, and autoimmune myocarditis typically presents acutely with ventricular dysfunction following a viral prodrome.

QUESTION 8

SINGLE CHOICE

A 32-year-old woman, 28 weeks pregnant, presents with sudden onset of left leg swelling, calf tenderness, and erythema. Vital signs are stable. Doppler ultrasound confirms a deep vein thrombosis. Which of the following is the most appropriate initial treatment?

- ☐ A Aspirin 81 mg orally daily
- ☐ B Unfractionated heparin infusion
- ☒ C Low-molecular-weight heparin (e.g., enoxaparin) subcutaneously
- ☐ D Warfarin with a target INR of 2.0-3.0

ANSWER C

WHY Low-molecular-weight heparin (e.g., enoxaparin) is the anticoagulant of choice in pregnancy because it does not cross the placenta and has a more predictable pharmacokinetic profile than unfractionated heparin. Warfarin is teratogenic and contraindicated in pregnancy. Aspirin is not effective therapy for established venous thromboembolism.

QUESTION 9

SINGLE CHOICE

A 55-year-old man with persistent atrial fibrillation is started on warfarin. Three days later his INR is 1.3 (target 2.0–3.0). Which of the following best explains the initially low INR despite therapeutic dosing?

- ☐ A Warfarin is a direct thrombin inhibitor with a rapid onset
- ☒ B Warfarin initially reduces protein C and factor VII before reducing factor II
- ☐ C Warfarin requires antithrombin III as a cofactor
- ☐ D Warfarin undergoes extensive first-pass metabolism that varies with CYP2D6 phenotype

ANSWER B

WHY Warfarin inhibits vitamin K epoxide reductase, reducing functional levels of vitamin K–dependent clotting factors. Because protein C and factor VII have short half-lives (~6–8 h) compared with prothrombin (factor II, ~60 h), the extrinsic pathway (measured by PT/INR) is shortened first, while full antithrombotic effect takes several days. Option A is incorrect — warfarin acts via vitamin K–dependent factors, not direct thrombin. Option C confuses warfarin with heparin. Option D cites CYP2D6, but warfarin is principally metabolized by CYP2C9.