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| 08 | A | B | C | D | E |
| 09 | A | B | C | D | E |
| 10 | A | B | C | D | E |
| 11 | A | B | C | D | E |
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| 13 | A | B | C | D | E |

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| 14 | A | B | C | D | E |
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| 17 | A | B | C | D | E |
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| 19 | A | B | C | D | E |
| 20 | A | B | C | D | E |
| 21 | A | B | C | D | E |
| 22 | A | B | C | D | E |
| 23 | A | B | C | D | E |
| 24 | A | B | C | D | E |
| 25 | A | B | C | D | E |
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| 27 | A | B | C | D | E |
| 28 | A | B | C | D | E |
| 29 | A | B | C | D | E |
| 30 | A | B | C | D | E |
| 31 | A | B | C | D | E |
| 32 | A | B | C | D | E |
| 33 | A | B | C | D | E |
| 34 | A | B | C | D | E |
| 35 | A | B | C | D | E |
| 36 | A | B | C | D | E |
| 37 | A | B | C | D | E |
| 38 | A | B | C | D | E |
| 39 | A | B | C | D | E |

PRACTICE QUESTIONS

Saudi Commission For Health Specialties (SCFHS)

**CRDIO**

Cardiology

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

# Before you begin

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## What this is

9 practice questions for Saudi Commission For Health Specialties (SCFHS) **CRDIO**, 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, **CRDIO**
- 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 58-year-old man presents to the emergency department with crushing retrosternal chest pain radiating to the left arm, lasting 40 minutes. ECG shows ST-segment elevation of 3 mm in leads II, III, and aVF. Which coronary artery is most likely occluded?

- ☐ A Left anterior descending artery
- ☐ B Left circumflex artery
- ☒ C Right coronary artery
- ☐ D Left main coronary artery

**ANSWER C**

**WHY** ST-segment elevation in the inferior leads (II, III, aVF) indicates an inferior wall myocardial infarction. In the majority of patients (~80–90%), the inferior wall of the left ventricle is supplied by the right coronary artery (RCA) via the posterior descending artery. Therefore, RCA occlusion is the most likely culprit lesion.

**QUESTION 2** SINGLE CHOICE

Which ECG finding is most characteristic of hyperkalemia when the serum potassium is severely elevated ( $>7.0$  mEq/L)?

- ☐ A Prominent U waves
- ☐ B Prolonged QT interval
- ☒ C Peaked (tall, narrow) T waves followed by widening of the QRS
- ☐ D Delta wave with short PR interval

**ANSWER C**

**WHY** Severe hyperkalemia produces a characteristic progression on the ECG: peaked, narrow-based T waves appear earliest, followed by PR prolongation, P-wave flattening, and QRS widening. Eventually the QRS merges with the T wave producing a sine-wave pattern that precedes ventricular fibrillation/asystole. U waves and QT prolongation are features of hypokalemia, and a delta wave is seen in Wolff–Parkinson–White syndrome.

**QUESTION 3**

SINGLE CHOICE

A 45-year-old woman presents with progressive dyspnea on exertion. Examination reveals an opening snap followed by a mid-diastolic rumble best heard at the apex, in left lateral decubitus position. Which valvular lesion is most consistent with these findings?

- ☐ A Aortic stenosis
- ☒ B Mitral stenosis
- ☐ C Tricuspid regurgitation
- ☐ D Pulmonic stenosis

**ANSWER B**

**WHY** The opening snap followed by a mid-diastolic rumble at the apex (best heard in the left lateral decubitus position) is the classic auscultatory finding of mitral stenosis, most commonly due to rheumatic heart disease. Aortic stenosis produces a crescendo–decrescendo systolic ejection murmur at the right upper sternal border. Tricuspid regurgitation produces a pansystolic murmur at the left lower sternal border that increases with inspiration.

**QUESTION 4**

SINGLE CHOICE

Which medication has been shown to reduce all-cause mortality in patients with heart failure with reduced ejection fraction (HFrEF) and should be considered a cornerstone of guideline-directed medical therapy?

- ☐ A Digoxin
- ☐ B Furosemide
- ☒ C Spironolactone
- ☐ D Verapamil

**ANSWER C**

**WHY** Mineralocorticoid receptor antagonists such as spironolactone (RALES trial) and eplerenone (EPHESUS, EMPHASIS-HF) have been shown to reduce all-cause mortality in patients with HFrEF when added to standard therapy. Digoxin improves symptoms and reduces hospitalizations but has no mortality benefit. Furosemide treats congestion but does not reduce mortality. Verapamil is contraindicated in HFrEF because of its negative inotropic effect.

**QUESTION 5**

SINGLE CHOICE

An ECG shows a narrow-complex tachycardia at a rate of 170 bpm with no discernible P waves and an abrupt onset and termination. Vagal maneuvers are attempted first. Which pharmacological agent is the most appropriate next step if the patient remains hemodynamically stable?

- ☐ A Intravenous amiodarone
- ☒ B Intravenous adenosine 6 mg rapid push
- ☐ C Oral metoprolol
- ☐ D Synchronized cardioversion at 50 J

**ANSWER B**

**WHY** The presentation describes paroxysmal supraventricular tachycardia (PSVT), most commonly AV nodal reentrant tachycardia. After unsuccessful vagal maneuvers in a hemodynamically stable patient, the next step is a rapid IV push of adenosine (6 mg, followed if necessary by 12 mg), which transiently blocks AV nodal conduction and terminates the re-entrant circuit. Synchronized cardioversion is reserved for hemodynamically unstable patients.

**QUESTION 6**

SINGLE CHOICE

A 70-year-old man with hypertension, dyslipidemia, and a remote history of myocardial infarction is started on a new medication. Two weeks later his labs show a rise in serum creatinine and a serum potassium of 5.8 mEq/L. Which drug is most likely responsible?

- ☐ A Atorvastatin
- ☒ B Ramipril
- ☐ C Aspirin
- ☐ D Metoprolol

**ANSWER B**

**WHY** ACE inhibitors such as ramipril commonly cause a rise in serum creatinine and hyperkalemia by reducing angiotensin II-mediated efferent arteriolar vasoconstriction and reducing aldosterone secretion. Statins cause myopathy and transaminase elevation, not hyperkalemia. Aspirin does not typically affect potassium or creatinine. Beta-blockers do not cause hyperkalemia.

**QUESTION 7**

SINGLE CHOICE

Which echocardiographic finding is most characteristic of restrictive cardiomyopathy?

- ☐ A Asymmetric septal hypertrophy with systolic anterior motion of the mitral valve
- ☐ B Dilated left ventricle with reduced ejection fraction
- ☒ C Normal-sized ventricles with biatrial enlargement and impaired ventricular filling
- ☐ D Apical ballooning of the left ventricle with preserved basal function

**ANSWER C**

**WHY** Restrictive cardiomyopathy is characterized by non-dilated, normally sized (or small) ventricles with severely impaired diastolic filling and marked biatrial enlargement due to elevated filling pressures. The other options describe hypertrophic cardiomyopathy (asymmetric septal hypertrophy with SAM), dilated cardiomyopathy (LV dilation with reduced EF), and takotsubo (stress) cardiomyopathy (apical ballooning).

**QUESTION 8**

SINGLE CHOICE

According to current guidelines, which lipid-lowering agent class provides the greatest relative reduction in major adverse cardiovascular events for secondary prevention in patients with established atherosclerotic cardiovascular disease?

- ☐ A Bile acid sequestrants
- ☒ B Statins (e.g., high-intensity atorvastatin or rosuvastatin)
- ☐ C Ezetimibe
- ☐ D Niacin

**ANSWER B**

**WHY** High-intensity statins (atorvastatin 40–80 mg or rosuvastatin 20–40 mg) are the first-line and most evidence-based lipid-lowering therapy for secondary prevention in patients with established atherosclerotic cardiovascular disease, producing the largest relative reductions in MACE in outcome trials. Ezetimibe and PCSK9 inhibitors are added when targets are not met on maximally tolerated statins. Niacin and bile acid sequestrants are not first-line and contemporary outcome trials have not shown clear cardiovascular benefit when added to statins.

**QUESTION 9**

SINGLE CHOICE

A 66-year-old man presents with acute inferior ST-elevation myocardial infarction. During right-sided lead placement, ST elevation is most prominent in which lead?

- ☐ A V1
- ☒ B V4R
- ☐ C V7
- ☐ D III

**ANSWER B**

**WHY** Right-sided ECG leads are used to evaluate for concurrent right ventricular infarction in inferior STEMI. Lead V4R is the most sensitive and specific right-sided lead for diagnosing right ventricular involvement, and its ST elevation of  $\geq 1$  mm predicts increased in-hospital mortality and complications.