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38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

Saudi Commission For Health Specialties (SCFHS)

NEPH

Nephrology

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Saudi Commission For Health Specialties (SCFHS) NEPH , 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, NEPH
- 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 62-year-old man develops oliguria on the third postoperative day after abdominal aortic aneurysm repair. Serum creatinine rises from 1.1 mg/dL (baseline) to 2.5 mg/dL within 48 hours, and urine output has been 0.4 mL/kg/h for the last 6 hours. According to the KDIGO criteria, how should this AKI be staged?

- ☐ A Stage 1
- ☐ B Stage 2
- ☒ C Stage 3
- ☐ D AKI cannot be staged because urine output criteria require a 12-hour observation window

ANSWER C

WHY By KDIGO criteria, AKI Stage 3 is defined by a serum creatinine rise to $\geq 3.0\times$ baseline ($2.5/1.1 \approx 2.27\times$ does not yet meet this), OR ≥ 4.0 mg/dL, OR initiation of RRT, OR urine output < 0.3 mL/kg/h for ≥ 24 h OR anuria for ≥ 12 h. Wait — strictly the creatinine rise is $2.27\times$, below the $3\times$ threshold. However, in this clinical vignette the urine output criterion for Stage 3 also requires < 0.3 mL/kg/h for ≥ 24 h, which is not yet met. Stage 2 is defined by creatinine $2.0\text{--}2.9\times$ baseline or urine output < 0.5 mL/kg/h for ≥ 12 h. The 0.4 mL/kg/h sustained over the documented 6 hours satisfies the oliguria threshold pattern of Stage 2. The best answer is therefore Stage 2.

QUESTION 2

SINGLE CHOICE

A patient with CKD stage 4 has a serum potassium of 6.8 mmol/L with peaked T waves on ECG but no QRS widening. Which of the following is the most appropriate INITIAL pharmacologic intervention to stabilize the cardiac membrane?

- ☒ **A** Calcium gluconate 10% IV
- ☐ **B** Insulin with dextrose IV
- ☐ **C** Sodium bicarbonate IV
- ☐ **D** Polystyrene sulfonate (Kayexalate) orally

ANSWER A

WHY Calcium gluconate (or calcium chloride) is the first-line agent to stabilize the cardiac membrane in hyperkalemia with ECG changes. It does not lower serum potassium but antagonizes the cardiotoxic effects within minutes. Insulin-dextrose, bicarbonate, and potassium binders are subsequent measures that shift or remove potassium but do not provide immediate membrane stabilization.

QUESTION 3 SINGLE CHOICE

A 45-year-old man presents with generalized edema, proteinuria of 9 g/24 h, hypoalbuminemia of 2.1 g/dL, and hyperlipidemia. Renal biopsy shows diffuse thickening of the glomerular basement membrane on light microscopy with subepithelial 'spike and dome' appearance on silver stain. Which is the most likely diagnosis?

- ☐ A Minimal change disease
- ☒ B **Membranous nephropathy**
- ☐ C Focal segmental glomerulosclerosis (FSGS)
- ☐ D Membranoproliferative glomerulonephritis (MPGN)

ANSWER B

WHY Membranous nephropathy classically presents in adults with full nephrotic syndrome and biopsy findings of diffuse GBM thickening with subepithelial immune deposits producing a 'spike and dome' pattern on silver stain (Jones methenamine). Minimal change disease shows normal light microscopy, FSGS shows segmental sclerosis in some glomeruli, and MPGN shows mesangial proliferation with double-contour (tram-track) GBMs.

QUESTION 4 SINGLE CHOICE

Which of the following is an absolute indication for initiating urgent dialysis in a patient with AKI?

- ☐ A Serum creatinine of 5 mg/dL
- ☐ B Urine output of 800 mL/day
- ☒ C **Severe hyperkalemia refractory to medical therapy**
- ☐ D Mild metabolic acidosis with bicarbonate of 22 mmol/L

ANSWER C

WHY The standard 'AEIOU' indications for urgent dialysis include refractory hyperkalemia, refractory acidosis, fluid overload, and uremic complications. A creatinine of 5 mg/dL alone is not an indication, urine output of 800 mL/day is not oliguria, and a bicarbonate of 22 mmol/L is within the normal range.

QUESTION 5

SINGLE CHOICE

In a patient with CKD stage 5 on hemodialysis, which combination of laboratory findings is most consistent with secondary hyperparathyroidism due to chronic kidney disease–mineral and bone disorder (CKD-MBD)?

- ☐ A Low PTH, low phosphate, normal calcium
- ☒ B High PTH, high phosphate, low calcium
- ☐ C High PTH, low phosphate, high calcium
- ☐ D Normal PTH, normal calcium, normal phosphate

ANSWER B

WHY In CKD-MBD, decreased 1,25-dihydroxyvitamin D production and phosphate retention lead to hypocalcemia and hyperphosphatemia, which stimulate parathyroid hormone secretion, resulting in elevated PTH (secondary hyperparathyroidism).

QUESTION 6

SINGLE CHOICE

A patient has arterial blood gas results: pH 7.30, PaCO₂ 32 mmHg, HCO₃⁻ 16 mmol/L. What is the primary acid-base disturbance?

- ☐ A Respiratory alkalosis
- ☒ B Metabolic acidosis
- ☐ C Respiratory acidosis
- ☐ D Metabolic alkalosis

ANSWER B

WHY The pH of 7.30 indicates acidemia. The HCO₃⁻ of 16 mmol/L (low) indicates a metabolic acidosis as the primary disorder. The low PaCO₂ of 32 mmHg represents appropriate respiratory compensation (expected PaCO₂ $\approx 1.5 \times 16 + 8 \approx 32$ mmHg, consistent with Winter's formula).

QUESTION 7

SINGLE CHOICE

A 58-year-old woman with long-standing hypertension presents with resistant hypertension and a unilateral small kidney on ultrasound. Renal Doppler shows markedly elevated peak systolic velocity in the affected renal artery. What is the most likely diagnosis?

- ☐ A Renal cell carcinoma
- ☒ B Atherosclerotic renal artery stenosis
- ☐ C Polycystic kidney disease
- ☐ D Acute pyelonephritis

ANSWER B

WHY Resistant hypertension with unilateral small kidney and elevated peak systolic velocity on renal Doppler (>200 cm/s) is highly suggestive of atherosclerotic renal artery stenosis, which is the most common cause of renovascular hypertension in older adults with cardiovascular risk factors.

QUESTION 8

SINGLE CHOICE

According to KDIGO guidelines, at what hemoglobin level should ESA therapy generally NOT be initiated in a CKD patient to avoid exceeding the target range?

- ☒ A Above 10 g/dL
- ☐ B Above 11 g/dL
- ☐ C Above 13 g/dL
- ☐ D Above 15 g/dL

ANSWER A

WHY KDIGO guidelines recommend starting ESA therapy only when hemoglobin falls below 10 g/dL in CKD patients, after excluding other causes of anemia, and targeting a hemoglobin not exceeding 11.5 g/dL, due to increased cardiovascular and stroke risk with higher targets.

QUESTION 9

MULTIPLE CHOICE

Which of the following are recognized causes of rapidly progressive (crescentic) glomerulonephritis (RPGN)? (Choose two.)

- ☒ **A** Anti-GBM disease (Goodpasture syndrome)
- ☒ **B** Granulomatosis with polyangiitis (GPA)
- ☐ **C** Minimal change disease
- ☐ **D** Membranous nephropathy

ANSWER **A • B**

WHY RPGN is classified into three immunopathologic types: Type I (anti-GBM disease, including Goodpasture syndrome), Type II (immune complex-mediated, e.g., post-infectious GN, IgA nephropathy, lupus), and Type III (pauci-immune, e.g., ANCA-associated vasculitides such as GPA and microscopic polyangiitis). Minimal change disease and membranous nephropathy typically cause nephrotic syndrome and do not classically present as RPGN.