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Acute Kidney Injury NCLEX Practice Questions

1. _____ is solely filtered from the bloodstream via the glomerulus and is NOT reabsorbed back into the bloodstream but is excreted through the urine.*

A. Urea
B. Creatinine
C. Potassium
D. Magnesium

2. A patient with acute renal injury has a GFR (glomerular filtration rate) of 40 mL/min. Which signs and symptoms below may this patient present with? Select all that apply:*

A. Hypervolemia
B. Hypokalemia
C. Increased BUN level
D. Decreased Creatinine level

3. You're assessing morning lab values on a female patient who is recovering from a myocardial infraction. Which lab value below requires you to notify the physician?*

A. Potassium level 4.2 mEq/L
B. Creatinine clearance 35 mL/min
C. BUN 20 mg/dL
D. Blood pH 7.40

4. A 55-year-old male patient is admitted with a massive GI bleed. The patient is at risk for what type of acute kidney injury?*

A. Post-renal
B. Intra-renal
C. Pre-renal
D. Intrinsic renal

5. Select all the patients below that are at risk for acute intra-renal injury?*

A. A 45 year old male with a renal calculus.
B. A 65 year old male with benign prostatic hyperplasia.
C. A 25 year old female receiving chemotherapy.
D. A 36 year old female with renal artery stenosis.
E. A 6 year old male with acute glomerulonephritis.
F. An 87 year old male who is taking an aminoglycoside medication for an infection.

6. A patient with acute kidney injury has the following labs: GFR 92 mL/min, BUN 17 mg/dL, potassium 4.9 mEq/L, and creatinine 1 mg/dL. The patient's 24 hour urinary output is 1.75 Liters. Based on these findings, what stage of AKI is this patient in?*

A. Initiation
B. Diuresis
C. Oliguric
D. Recovery

7. A 36-year-old male patient is diagnosed with acute kidney injury. The patient is voiding 4 L/day of urine. What complication can arise based on the stage of AKI this patient is in? Select all that apply:*

A. Water intoxication
B. Hypotension
C. Low urine specific gravity
D. Hypokalemia
E. Normal GFR

8. True or False: All patients with acute renal injury will progress through the oliguric stage of AKI but not all patients will progress through the diuresis stage.*

True
False

9. Which patient below with acute kidney injury is in the oliguric stage of AKI:*

A. A 56 year old male who has metabolic acidosis, decreased GFR, increased BUN/Creatinine, hyperkalemia, edema, and urinary output 350 mL/day.
B. A 45 year old female with metabolic alkalosis, hypokalemia, normal GFR, increased BUN/creatinine, edema, and urinary output 600 mL/day.
C. A 39 year old male with metabolic acidosis, hyperkalemia, improving GFR, resolving edema, and urinary output 4 L/day.
D. A 78 year old female with respiratory acidosis, increased GFR, decreased BUN/creatinine, hypokalemia, and urinary output 550 mL/day.

10. You're developing a nursing care plan for a patient in the diuresis stage of AKI. What nursing diagnosis would you include in the care plan?*

A. Excess fluid volume
B. Risk for electrolyte imbalance
C. Urinary retention
D. Acute pain

11. While educating a group of nursing students about the stages of acute kidney injury, a student asks how long the oliguric stage lasts. You explain to the student this stage can last?*

A. 1-2 weeks
B. 1-3 days
C. Few hours to 2 weeks
D. 12 months

12. A patient with AKI has a urinary output of 350 mL/day. In addition, morning labs showed an increased BUN and creatinine level along with potassium level of 6 mEq/L. What type of diet ordered by the physician is most appropriate for this patient?*

A. Low-sodium, high-protein, and low-potassium
B. High-protein, low-potassium, and low-sodium
C. Low-protein, low-potassium, and low-sodium
D. High-protein and high-potassium

Define each of the labs below, list normal values, and the impact kidney injury has on their value.

Finding	Description	Normal Value	AKI	CKD
BUN	Measures amt of blood urea nitrogen in blood. Related directly with metabolic function of the liver and the excretory function of the kidneys, so a measurement of BUN tells us how well these organs are functioning.	Adults: 10-20 mg/dL or 3.6-7.1 mmmol/L	Levels of BUN will rise due to the kidneys not being able to filter waste products effectively (urea won't be able to clear the blood as good).	Damaged nephrons are unable to filter the waste products effectively, so urea will build up in the blood and won't be able to be excreted effectively.
Cr	Measures the amount of creatinine in the blood, which is a catabolic product of CPK (used in skeletal muscle contraction). Also excreted entirely with the kidneys (same with BUN), so it is directly proportional to renal excretory function. This is why measuring this (with BUN) is used to diagnose impaired renal function.	Male: 0.6-1.2 mg/dL or 53-106 µmol/L Female: 0.5-1.1 mg/dL or 44-97 µmol/L	A rapid decline in the glomerular filtration rate (GFR), which severely impairs the kidney's ability to filter creatinine from the blood. As this happens, creatinine builds up in the bloodstream, resulting in increased serum	The progressive destruction of nephrons will cause a decline in GFR, which then leads to creatinine accumulating in the blood.

			creatinine levels.	
Hct	Measures percentage of total blood volume that is made up by RBCs. It helps to determine the oxygen-carrying capacity that the blood has.	Males: 42-52% or 0.42-0.52 volume fraction Females: 37%-47% 0.37-0.47 volume fraction	There will be a breakdown of RBCs, a decline in the production of erythropoietin, and bone-marrow will be suppressed due to inflammation.	Reduces the kidneys' production of erythropoietin, which is helpful for the synthesis of RBCs.
Hgb	Measures the total amount of hemoglobin protein in the blood, specially in the RBCs. It indicates how effectively blood can transport oxygen from the lungs to the rest of the body.	Males: 14-18 g/dL or 8.7-11.2 mmol/L Females: 12-16 g/dL or 7.4-9.9 mmol/L.	Similar to Hct, RBCs will be broken down, the production of erythropoietin is declined, and the bone-marrow will be suppressed.	Similar to Hct, the cells responsible for producing erythropoietin in the kidneys are damaged, which then directly affect the production of RBCs.
K+	Potassium is the major cation within the cell. Serum concentration of K is so small, that minor changes in concentration have significant consequences.	Adult/elderly: 3.5-5 mEq/L or 3.5-5 mmol/L	Damaged tubule cells cannot properly secrete potassium, and low urine output limits the removal. This leads to rapid buildup and leads to dangerous impairments in cardiac function.	As GFR declines, the body is not able to remove K+, so it dangerously accumulates in the blood instead of it being excreted through urine.
Ca+	Calcium blood test measures amt of calcium in the blood reflecting calcium that is not stored in the bones. Monitors conditions like bone diseases, kidney disease, parathyroid disorders, and nerve/muscle	Adult: 8.5 to 10.5 mg/dL or 2.15 to 2.55 mmol/L	The damaged kidneys will retain phosphorous and reduce vitamin D activation. This will cause calcium levels to decline.	Similar to AKI, the kidneys will retain phosphorous and the production of Vitamin D. This leads to high parathyroid hormone trigger release, which has an impact on bone health.

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