

### QUESTION

1. A patient with a long history of chronic kidney disease (CKD) is admitted to the hospital with a severe case of acute kidney injury (AKI). The patient's serum creatinine has risen from a baseline of 2.5 mg/dL to 4.5 mg/dL over the last 48 hours. The patient is currently on a dialysis regimen. The nurse is monitoring the patient's vital signs and fluid balance. The patient's blood pressure is 180/100 mmHg, heart rate is 110 bpm, and respiratory rate is 22 breaths per minute. The patient is experiencing nausea and vomiting. The nurse is also monitoring the patient's electrolyte levels, including potassium, calcium, and magnesium. The patient's potassium level is 5.5 mEq/L, calcium level is 8.5 mg/dL, and magnesium level is 1.5 mg/dL. The nurse is aware that these electrolyte imbalances can be life-threatening and requires immediate intervention.

Electrolyte	Normal Range	Current Level
Potassium	3.5 - 5.0 mEq/L	5.5 mEq/L
Calcium	8.8 - 10.0 mg/dL	8.5 mg/dL
Magnesium	1.7 - 2.2 mg/dL	1.5 mg/dL

2. The nurse is also monitoring the patient's fluid balance. The patient has a net fluid gain of 1000 mL over the last 24 hours. The nurse is aware that fluid overload can lead to pulmonary edema and other complications. The nurse is also monitoring the patient's urine output, which is currently 200 mL over the last 24 hours. The nurse is aware that oliguria is a common finding in AKI and requires further investigation.

### ANSWER



Complication	Intervention
Fluid overload	Fluid restriction, diuretics
Electrolyte imbalances	Electrolyte replacement
Acidosis	Bicarbonate therapy
Pulmonary edema	Oxygen therapy, diuretics
Hypertension	Antihypertensive therapy
Cardiac arrhythmias	Antiarrhythmic therapy
Respiratory distress	Respiratory support
Hypoxemia	Oxygen therapy
Stroke	Stroke management
Myocardial infarction	Myocardial infarction management
Sudden cardiac death	Cardiac monitoring
Respiratory failure	Mechanical ventilation
Organ dysfunction	Organ support

3. The nurse is also monitoring the patient's mental status. The patient is currently oriented to person and place but is unable to recall events from the last 24 hours. The nurse is aware that uremic encephalopathy is a common complication of AKI and requires further investigation.

4. The nurse is also monitoring the patient's skin. The patient has a dry, itchy skin. The nurse is aware that pruritus is a common complication of AKI and requires further investigation.