

Electrolyte Imbalance Scenarios

1. 85 y/o male presents with 2-day history of **vomiting and diarrhea**. He complains of a HA and is **confused** about what is going on.

Subjective info: Client reports **headache** which he rates 5/10 currently. Family at bedside state client has been increasingly **confused** over the past 48 hours. Client also states he has had a **very dry mouth**.

Objective info:

VS:

- BP: 85/47 ↓
- HR: 104 ↑
- Temp: 37.0
- RR: 19
- SpO2: 97% on RA

Diagnostic Findings:

- CMP is pending.

Based on the information provided, what electrolyte imbalance is this client experiencing?

hyponatremia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client?

restrict water

2. 70 y/o female presents to the ED from local nursing home due to **altered mental status**.
Subjective information: Nursing home staff report client has been more **restless** and **weaker** than her norm. They report her **tongue has been dry**, but she has not verbalized thirst to staff.

Objective information:

VS:

- o BP: 145/88 ↑
- o HR: 108 ↑
- o Temp: 38.4 ↑
- o RR: 20
- o SpO2: 98% on RA

Abnormal Diagnostic Findings:

- o CMP is pending.

Based on the information provided, what electrolyte imbalance is this client experiencing?

Hypernatremia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client?

D5W

IV Fluids

diuretics

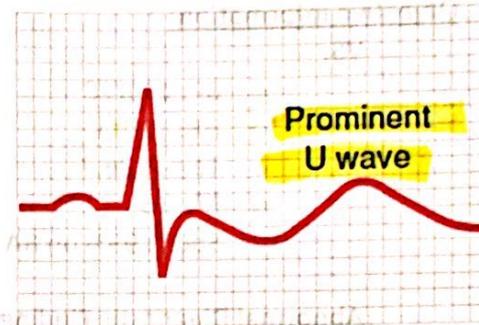
3. 63 y/o female presents to the ED with complaints of **severe muscle cramping** and fatigue.

Subjective information: Client states she has been nauseous all day with 1 episode of vomiting. Client reports she took a **double dose of Lasix** last night and this morning as she was feeling "puffy" from excess fluid.

Objective information:

VS:

- BP: 92/56 ↓
- HR: 84
- Temp: 36.7
- RR: 18
- SpO2: 99% on RA



Abnormal Diagnostic Findings:

- See EKG at bedside
 - 1. EKG: Prominent U wave seen on EKG.
- CMP is pending.

Based on the information provided, what electrolyte imbalance is this client experiencing?

Hypokalemia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client? Are there any specific concerns with pharmacologic administration?

Monitor CMP

EKG + continuous telemetry

K-riider w/ normal saline

↑ potassium rich food

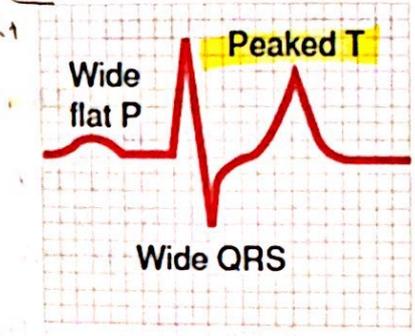
4. 50 y/o male presents to the ED with complaints of palpitations and GI upset.
Subjective information: Client reports he is **very anxious**. His wife at bedside states he has been increasingly irritable as well. He reports a PMH of **kidney issues** and **Addison's disease**.

Objective information:

VS:

- BP: 116/78
- **HR: 110** ↑
- Temp: 36.7
- RR: 18
- SpO2: 99% on RA

underlying cause of TKT



Abnormal Diagnostic Findings:

- See EKG at bedside
- 1. EKG: Peaked T wave seen on EKG.
- CMP is pending.

Based on the information provided, what electrolyte imbalance is this client experiencing?

Hyperkalemia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client?

- continuous telemetry
- sodium bicarb
- insulin
- calcium gluconate
- glucose
- Kayexalate
- loop diuretics

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5. 47 y/o female on the Medical Surgical unit who is currently hospitalized for pancreatitis complains of numbness and tingling in her fingers, toes, and around her mouth.

Subjective information: The night shift nurse reports this client has hyperactive DTRs.

Client verbalizes anxiety and states she has had several episodes of diarrhea this morning. Her friend at bedside states she is more irritable today.

Objective information:

VS:

- BP: 101/60
- HR: 98
- Temp: 37.0
- RR: 16
- SpO2: 96% on RA

Abnormal Diagnostic Findings:

- See EKG at bedside
 - 1. EKG: Prolonged QT Interval
- CMP is pending.
- Positive Trousseau sign elicited.

Based on the information provided, what electrolyte imbalance is this client experiencing?

Hypocalcemia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client?

IV supplementation

seizure precautions

↑ calcium foods

calcium gluconate

6. 77 y/o male presents to the ED with complaints of frequent **urination, nausea, and constipation.**

Subjective information: Client reports symptoms began roughly 2 days ago. He was recently seen in the ED for COPD exacerbation and **started on high dose Prednisone.** PMH includes atrial fibrillation and he does **take Digoxin daily.**

Objective information:

VS:

- o BP: 150/90 ↑
- o HR: 55 ↓
- o Temp: 37.0
- o RR: 16
- o SpO2: 96% on RA

Abnormal Diagnostic Findings:

- o EKG: **Shortened QT Interval**
- o CMP is pending.

Based on the information provided, what electrolyte imbalance is this client experiencing?

hypercalcemia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client?

1+0s daily w/ monitor breath sounds

edema (peripheral)

diuretics

restrict fluids 2 Na+

calcitonin

7. 55 y/o male presents to the ED with complaints of **vomiting and diarrhea x 2 days.**
Subjective information: Client reports he has lost **roughly 5lbs in the past 48 hours.** He also reports he has not been urinating much and when he has, it has been **very dark in color.** He does have a PMH of Diabetes Mellitus Type II (uncontrolled due to lack of medication compliance)

Objective information:

VS:

- BP: 84/40
- HR: 115
- Temp: 38.0
- RR: 18
- SpO2: 97% on RA

↓ kidney function

Abnormal Diagnostic Findings:

- Hemoglobin: 20
- Hematocrit: 60
- Na+: 130
- BUN: 35
- Creatinine: 1.25
- Urine Specific Gravity: 1.12

isotonic fluid replacements

Based on the information provided, what fluid imbalance is this client experiencing?

hypovolemia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client?

- 180s
- daily wt
- US
- CVP
- LOC
- lung sounds
- skin turgor
- IV fluids
- monitor BUN/Cr

8. 61-year-old female presents to ED with weight gain of 7 pounds in the past 48 hours. Subjective info: Client reports shortness of breath this morning. She has a PMH of CHF for which she is prescribed furosemide. She states has not taken this medication for the past 2 days as she has been on vacation and did not want to have to stop multiple times to use the restroom while traveling.

Objective info:

VS:

- BP: 147/89
- HR: 113 and bounding
- Temp: 37.3
- RR: 28
- SpO2: 94% on RA

Abnormal Labs:

- Hemoglobin: 9.2 ↓
- Hematocrit: 34 ↓
- Urine Specific Gravity: low ↓

Based on the information provided, what fluid imbalance is this client experiencing?

Hyperolemia

What medical interventions (pharmacologic and nonpharmacologic) can you anticipate for this client

- +0
- daily weight
- diuretics
- lung sounds
- restrict fluids + sodium