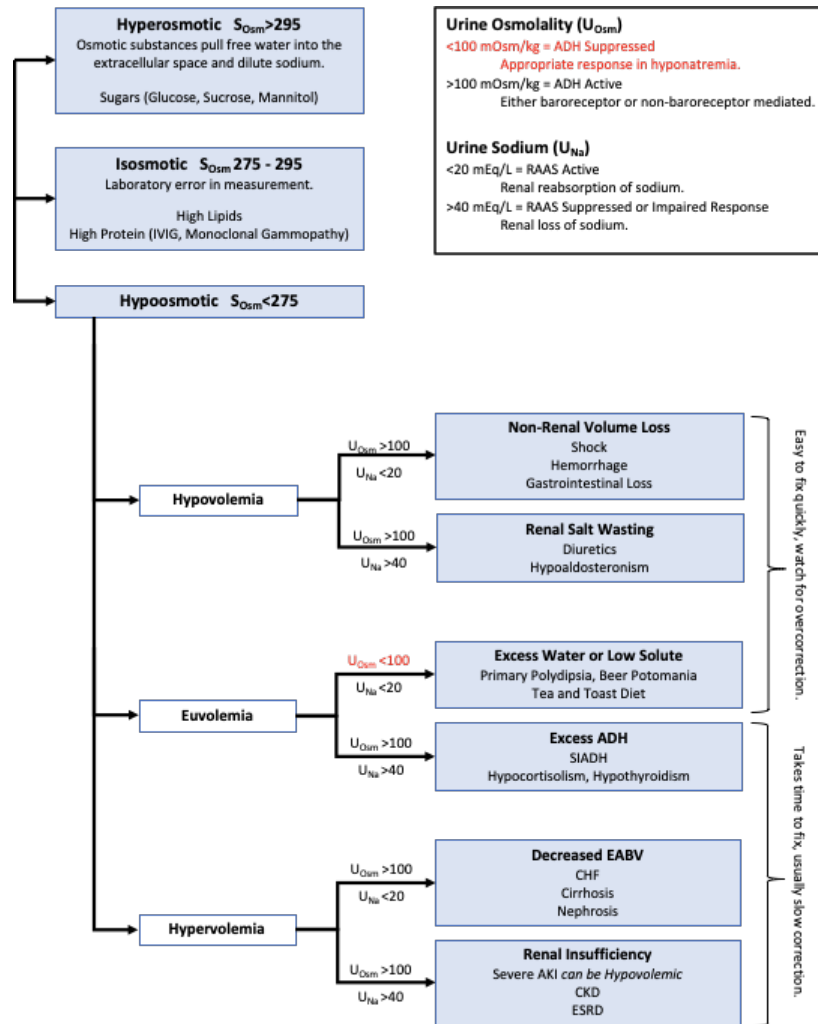


Hyponatremia Workup and Management

Diagnosis



Treatment

Goal in all settings is to increase serum sodium by 4-6 mEq/L (maximum 8 mEq/L) per 24-hour period.

Emergency Management

	Mild-to-Moderate Symptoms	Severe Symptoms
	Headache, dizziness, imbalance, confusion, nausea, vomiting, cramps.	Seizure, coma, pulmonary edema, respiratory arrest, brainstem herniation, death.
Acute	Any symptoms suggest cerebral edema.	Aim to rapidly increase serum sodium by 4-6 mEq/L over the first 4-6 hours and then maintain constant level for the first 24 hours.
<48 Hours	Talk to renal and <u>consider</u> bolus of 3% saline.	
Chronic	Start general measures.	Talk to renal and <u>give</u> 100ml 3% saline bolus.
≥48 Hours or Unknown		

Therapy for Correction

- Treat the underlying process.
 - If you can fix the underlying problem, the sodium will start to improve.
- Free water restriction.
 - Generally 1.5-2L restriction.
- Salt tablets if hypo- or euvolemic vs loop diuretics if hypervolemic.
 - Salt tabs started at 1g TID and titrated as tolerated/needed. Can worsen hypervolemia.
 - Loop diuretics are dosed based on severity of volume overload and hemodynamics.
- Hypertonic saline if severe or refractory.
 - Generally considered if $Na < 120$ mEq/L, difficult to correct, and/or any symptoms.
 - Talk to renal!

Therapy for Overcorrection

- D5 water bolus and/or infusion.
 - Give water to prevent or reverse overcorrection.
- Desmopressin injections.
 - Give when patients are at high risk of overcorrection. Talk to renal.
 - Consider with hypertonic saline to avoid unpredictable changes in serum sodium.

Increasing Hyponatremia Severity ↓

Electrolyte Free Water Clearance

$$[Na]_{Serum} > [Na + K]_{Urine}$$

Urine more dilute than serum → lose free water.

Serum sodium will rise.

$$[Na]_{Serum} < [Na + K]_{Urine}$$

Urine more concentrated than serum → retain free water.

Serum sodium will drop.

Expect faster changes in serum sodium if high urine output or large difference between serum and urine electrolytes.