

Hyponatremia

Initial Approach – Measured Serum Osmolality (normal 280-295)

Calculated Osm ($2 \times \text{Na} + \text{BUN}/2.8 + \text{Glucose}/18$)

Normal – hyperlipidemia, hyperproteinemia, or the absorption of isotonic glycine during transurethral resection of the bladder or prostate

Elevated – hyperglycemia or the administration of hypertonic mannitol

Low – Further Workup

Urine Osmolality – <100 mOsm/kg – Polydipsia, Malnutrition (especially beer drinkers)

Urine Sodium – Assess Volume status

Hypovolemic – <10 = Extrarenal Solute Loss (GI loss, skin loss)

>20 = Renal Solute Loss (Diuretics, Addison's)

Hypervolemic – <10 = Edema (CHF, cirrhosis, Nephrotic syndrome)

>20 = Renal Failure

Euvolemic – Drugs (HCTZ), hypothyroidism, SIADH, Glucocorticoid insufficiency, Reset Osmostat

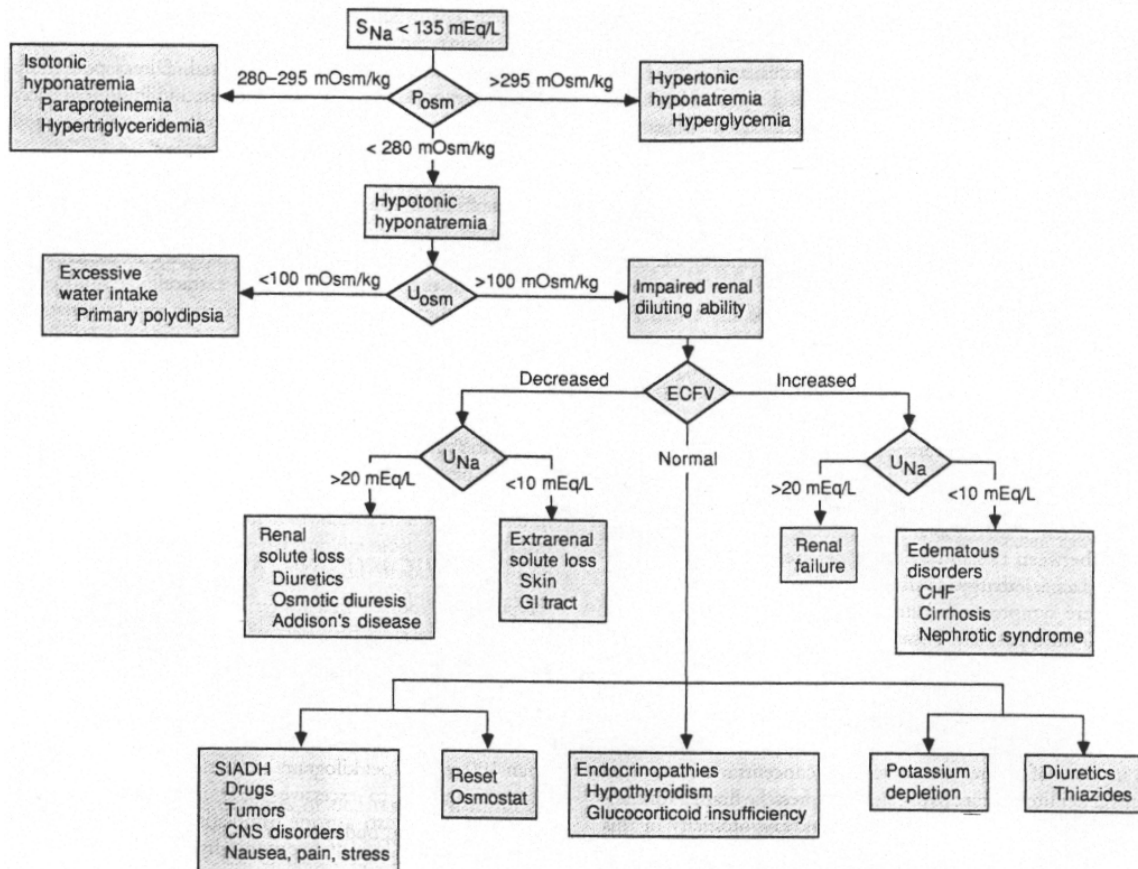


FIGURE 144.1. Approach to the patient with hyponatremia. S_{Na} , serum sodium concentration; U_{Na} , urine sodium concentration; P_{osm} , plasma osmolality; U_{osm} , urine osmolality; ECFV, extracellular fluid volume; GI, gastrointestinal; CHF, congestive heart failure; SIADH, syndrome of inappropriate antidiuretic hormone; CNS, central nervous system.

EVIDENCE LEVEL: C. Expert Opinion.