

HYPONATREMIA



- Definition :
- Excess of H_2O relative to Na^+
- Defence mechanisms : Water intake, ADH



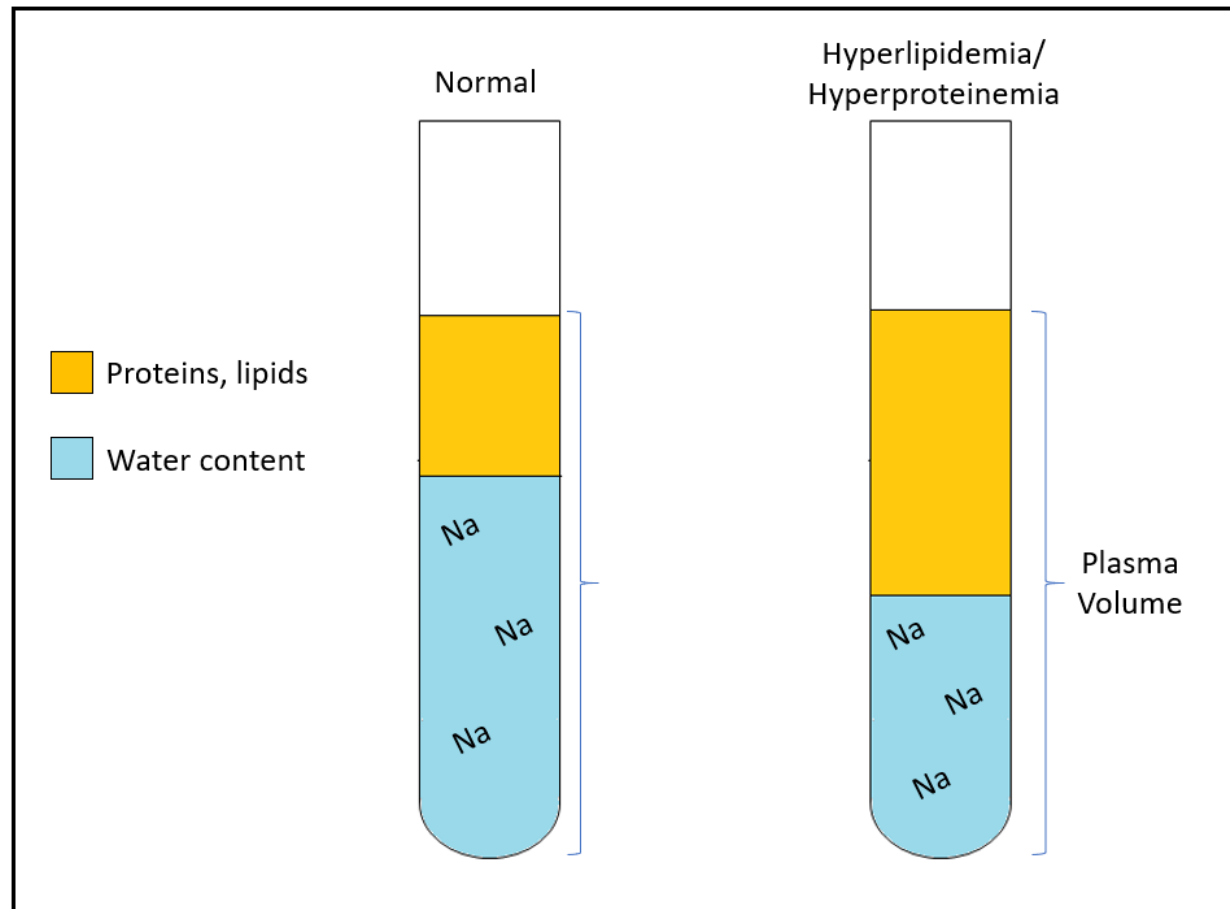
CLASSIFICATION



- Hypo-osmolar
- Iso-osmolar
- Hyper-osmolar



Iso-osmolar Hyponatremia



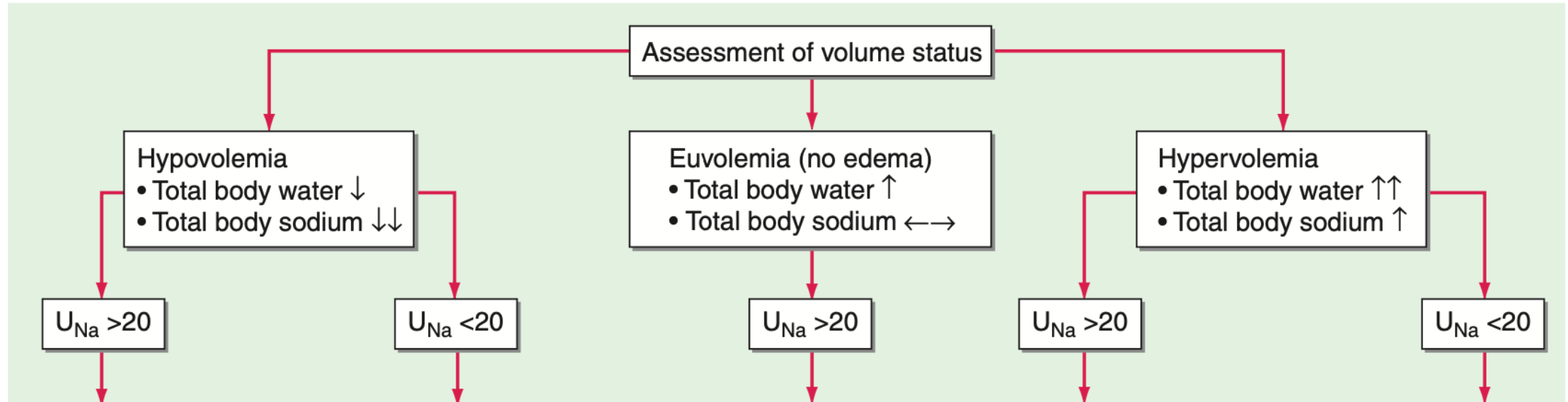
Hyper-osmolar Hyponatremia



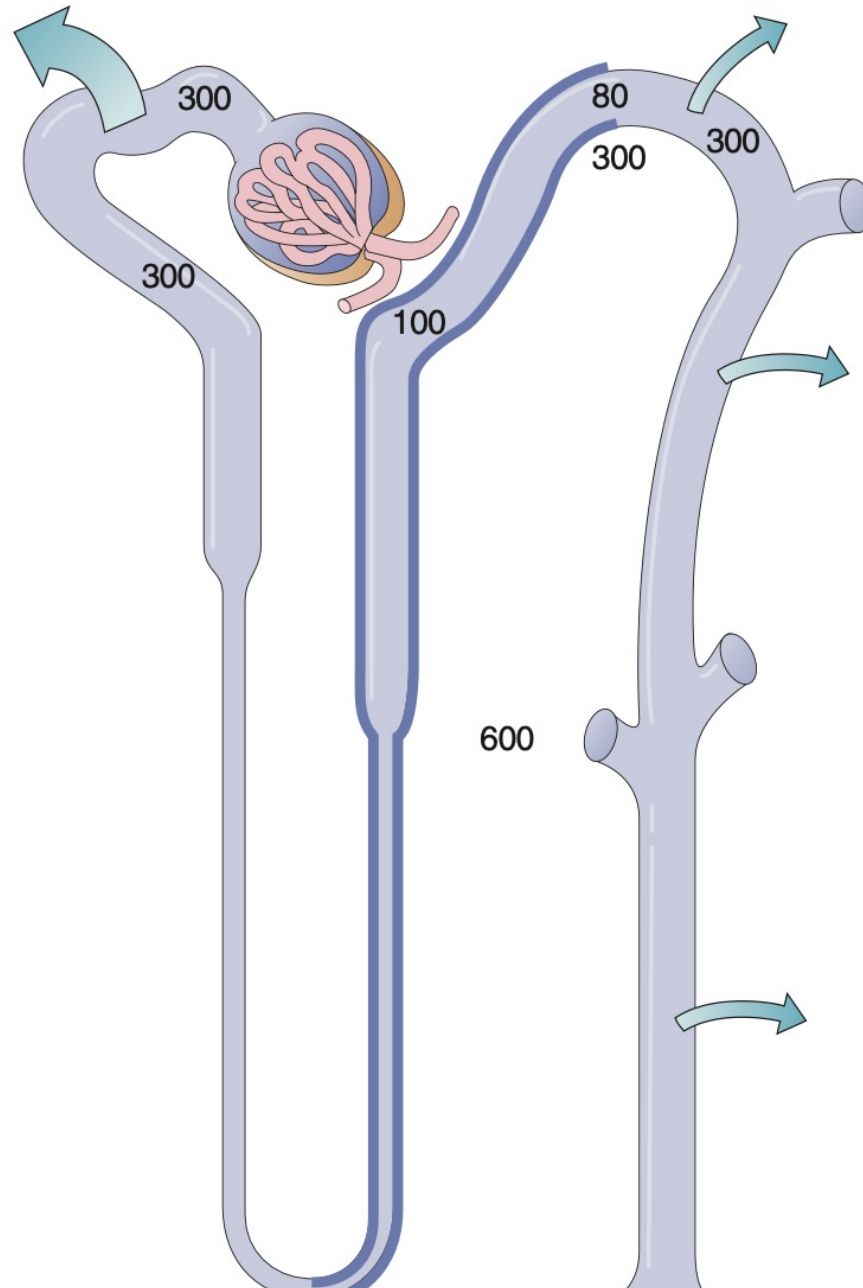
- Decrease in the serum sodium concentration of 1.6 mEq/L for every 100 mg/dL rise in plasma glucose



Hypo-osmolar Hyponatremia







Other Causes



CLINICAL FEATURES



SEVERITY	SERUM SODIUM (meq/l)	SYMPTOMS
Mild	130-135	None
Moderate	125-129	Nausea Delirium Headache
Severe	< 125	Vomiting Somnolence Seizures Coma Cardiorespiratory arrest



EVALUATION



- Serum osmolality
- Urine osmolality
- Urine sodium



MANAGEMENT



- Hypovolemic hyponatremia : Salt & water replacement
- Euvolemic hyponatremia : Salt replacement & water restriction
- Hypervolemic hyponatremia : Salt & water restriction, Diuretics



- 1 teaspoon of salt = 6 gram salt = 2300 mg sodium = 103 meq sodium

1 gram salt = 17.1 meq sodium

- 1 tablespoon of salt = 18 gram salt

- Hypertonic saline : 513 meq/l
- Normal saline : 154 meq/l
- Half normal saline : 77 meq/l

- Sodium deficit = (Desired sodium - Serum sodium) x 0.6 x Body weight in kg
- Not more than 8-10 meq/l increase per day

ACUTE SEVERE SYMPTOMATIC HYPONATREMIA



- Bolus of 100 ml Hypertonic saline over 10 minutes
- Less severe : Infusion 0.5 - 2 ml/kg /hour

SIADH

- Fluid restriction
- Diuretic
- Salt replacement

