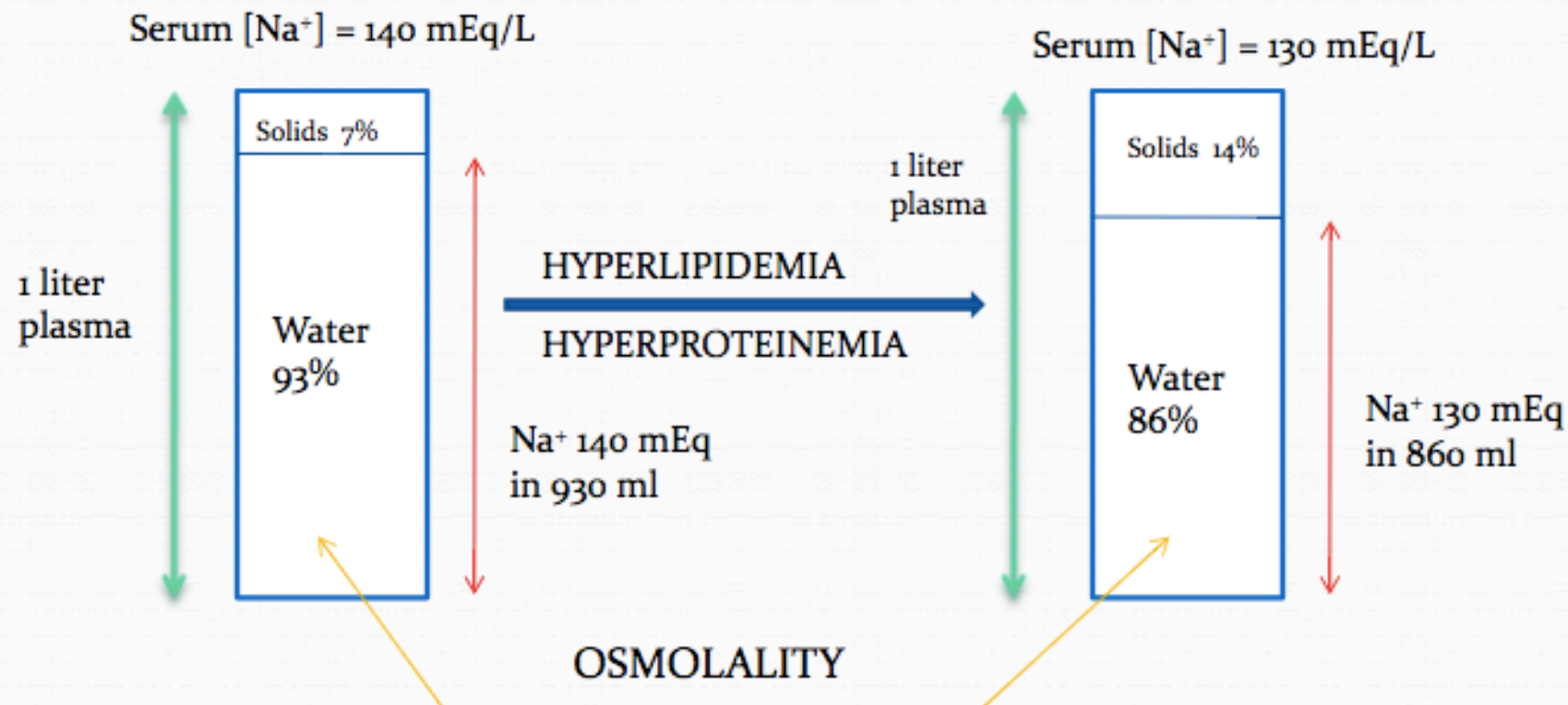


# Pseudohyponatremia



Measures solute per unit plasma water

$$140 \text{ mEq}/930 \text{ ml} = 151 \text{ mEq/liter} = 130 \text{ mEq}/860 \text{ ml}$$

# Measurements of Serum $[\text{Na}^+]$

- Flame emission spectrophotometer (FES)
  - Measures *serum*  $[\text{Na}^+]$
- Ion-selective electrode (ISE)
  - Measures  $[\text{Na}^+]$  in *plasma water*
  - Two methods:
    - *Direct* potentiometry (using undiluted serum sample)
      - Blood gas machine
    - *Indirect* potentiometry (using diluted serum sample)
- Pseudohyponatremia can occur with FES or indirect potentiometry, but not direct potentiometry