INDICATION

Calculates the expected serum osmolality to allow comparison to measured osmolality.

This aids detection of unmeasured compounds in serum.

ADDITIONAL INFORMATION

The calculation can be unreliable for extremes of serum glucose, such as in hyperosmolar hyperglycemic state.

INTERPRETATION

Normal Serum Osmolality = 285 - 295$_{mOsm/kg}$

Osmolal gap >10 can be caused by toxic alcohols, mannitol and Lorazepam infusions.

CALCULATION

Serum Osmolality$_{mOsm/kg}$ =
(Na$_{mmol/L}$ x 2) + (BUN$_{mmol/L}$ / 2.8) + (Glucose$_{mmol/L}$ / 18)

Osmolal Gap =
Measured serum osm - Calculated serum osm