MD Orders:
Mannitol XX g q6 hrs prn ICP > 20 mmHg.
Hold for osm > 320 AND osm gap > 20,
OR for Na⁺ ≥ 160.
Hold for ICP < 20 mmHg.
(mannitol dose should be 0.5 - 1.25 gm/kg)

Important points:
Osm gap = measured osm - calculated osm.
Measured Osm = osm value obtained from the lab
Calculated osm = 2(Na⁺) + BUN/3 + Glu/18
For patients who retain an osm gap > 20 or a Na⁺ ≥ 160 and ICP > 20 call H.O. If osm gap is less than zero problem with labs or calculation has occurred. Call H.O. Hold Mannitol.
Mannitol should not be infused at a rate exceeding 0.1 gm/kg/min (i.e. infused over ≥ 15 minutes)
Urinary fluid losses should be replaced on a cc per cc basis for 2 hrs after mannitol administration.
In cases where ICP is refractory to treatment with mannitol, MD may order boluses of 5% saline or a continuous infusion of 3% NaCl per protocol.

HUP NeuroICU algorithm for the use of mannitol in the management of intracranial hypertension

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