Diabetes Insipidus (DI) Following Traumatic Brain Injury

Onset of dilute polyuria in the setting of TBI: **UOP > 300-600 ml/hour**

Other reasons for diuresis: Diuretics, large resuscitation, mannitol, hyperglycemia, cerebral salt wasting (see separate protocol)?

Yes → Address cause of polyuria

No

Urine Specific Gravity < 1.005
Urine osmolarity 50-200 mOsm/kg (less than serum)
Hypernatremia

Yes

If hypernatremia greater than desired in the setting of TBI/Hyperosmolar Therapy:
(Na > 155-160)
Calculate free water deficit
Replace no more than 50% in the first 24 hours
Use ½ NS

If hypernatremia clinically acceptable: Replace volume losses with isotonic solution crystalloid if hypovolemic.

Also

If hypernatremia higher than clinically desired:
Start DDAVP 0.5-2 mcg IV Q 12 hours
Can increase frequency to Q 8 hours

During therapy: Check electrolytes at least Q4 hours in the acute phase
Follow urine specific gravity and urine Osms*
Strict I&Os
Sodium should not rise or fall greater than 1 mEq/h

*Post-DDAVP, DI patients should have a 50% increase in urine Osms. Patients without DI will show a normal response of a 5% increase in urine Osms. No change is seen in urine osmolality with nephrogenic DI.