Catastrophic Brain Injury Guidelines

*These are suggestions for treating a patient with a catastrophic or devastating brain injury.*

Consider obtaining a critical care consult if not already involved in patient care.

1. **Maintain SBP ≥ 100 (MAP ≥ 60)**
   a. Consider invasive hemodynamic monitoring
   b. Ensure adequate hydration to maintain euvolemia
   c. Central line placement may need indicated
   d. Vasopressors (more than one may be needed)
      i. Dopamine
      ii. Vasopressin
      iii. Levophed
      iv. Neosynephrine
   e. Consider initiation of levothyroxine drip to help support patient during times of instability

2. **Treat Diabetes Insipidus** (urine output > 3 ml/kg/hr x 2 hrs)
   a. DDAVP 0.5 – 1.0 mcg IVP q 2-3 hours
   b. Vasopressin drip 1 – 2.5 u/hr
   c. If urine output < 0.5 ml/kg/hr, ensure euvolemia and SBP ≥ 100
   d. Maintain fluid balance by tracking strict I & Os and consider appropriate fluid bolus

3. **Maintain PaO2 ≥ 100 and pH 7.35-7.45**
   a. Adjust TV or PC to maintain PaCO2 35-45 and pH 7.35-7.45
   b. PEEP 5-8 cm H2O
   c. Pulmonary hygiene (suction and turn q 2 hours if not contraindicated)
   d. Respiratory treatments to prevent bronchospasm

4. **Core Temperature 36 – 37.5 C**
   a. Bair hugger or warming/cooling blanket

5. **Monitor and Treat Electrolytes**
   a. Sodium (134-145 mmol/L)
   b. Potassium (3.5-5 mmol/L)
   c. Magnesium (1.8-2.4 meq/L)
   d. Phosphorus (2.0-4.5 mg/dL)
   e. Ionized Calcium (1.12-1.3 mmol/L)
   f. Glucose (80-150), treat with insulin drip if needed

6. **Monitor and Treat Low Hgb and Hct**
   a. Hgb > 8 g/dL and Hct > 24%
   b. **For disseminated intravascular coagulation (DIC)**
      i. FFP 4 units
      ii. Platelets 10 pack
      iii. PRBCs 2 units if Hgb < 9 and/or Hct < 30
      iv. Vitamin K 10 mg IV

7. **Consider Starting a Prophylactic Antibiotic**

**Iowa Donor Network’s Clinical Team is available 24/7/365 to support your hospital team. Please call 800-831-4131 to learn how we can collaborate on patient care.**