

# 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 $\geq$ 100 (MAP $\geq$ 60)

- a. Consider invasive hemodynamic monitoring
- b. Ensure adequate hydration to maintain euvolemia
- c. Vasopressors (more than one may be needed)
  - Dopamine
  - Vasopressin
  - Levophed
  - Neosynephrine

## 2. Treat Diabetes Insipidus (urine output > 3 ml/kg/hr x 2 hrs)

- a. DDAVP 0.5 – 1.0 mcg IVP every 2-3 hours
- b. Vasopressin drip 1 - 2.5 units/hr
- c. If urine output less than 0.5 ml/kg/hr – ensure euvolemia and SBP  $\geq$  100

## 3. Maintain PaO<sub>2</sub> $\geq$ 100 and pH 7.35-7.45

- a. Adjust TV or PC to maintain PaCO<sub>2</sub> 35-45 and pH 7.35-7.45
- b. PEEP 5 – 8 cm H<sub>2</sub>O
- c. Pulmonary hygiene (suction and turn Q 2hrs if not contraindicated)
- d. Respiratory treatments to prevent bronchospasm

## 4. Core temperature 36 – 37.5 Celsius

- 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 & 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