Pediatric Severe Traumatic Brain Injury Management Job Aid

Effective Date: 1/1/2020 Next Review Date:

Management of Severe TBI

Pediatric Severe TBI protocol (GCS ≤ 8): **Hypoxia, hypotension, and hypoventilation** are major determinants of poor outcome and **should be avoided** at all costs.

Prehospital Care

Apply Cervical Collar
Prevent hypoxia, hypotension, hypo- or hyper-ventilation

Emergency Department Care

Safely Position Head/Neck	Apply cervical collar, elevate HOB > 30 degrees
Secure Airway – Intubate	Use Etomidate (0.3mg/kg IV) or Ketamine (1-2mg/kg IV) Rocuronium (1mg/kg IV) at MD discretion
Avoid Hypoxia (SpO2 <90%)	Give supplemental oxygen with Goal SpO2 92-97%
Avoid Hypoventilation (hypercarbia)	Obtain Stat Blood Gas, with Goal pvCO2 40-45, (ETCO2 30-35) **Hyperventilation is NOT recommended except in herniation**
Avoid Hypotension	1-10 years: Maintain SBP > 70mmHg + (2 x age) > 10 years: Maintain SBP > 90 mmHg
Treat Impending Herniation – signaled by Unequal Pupils, Posturing, Decreasing GCS with hypertension/ bradycardia	Hyperosmolar therapy: 1st Line: Give 3% hypertonic saline, 5 ml/kg IV bolus (over 5-30 minutes) 2nd Line: In Euvolemic patients only: Give Mannitol 1 g/kg IV over 5 minutes. Hyperventilate to EtCO2 28-32 (pvCO2 37-42)
Sedate adequately	Propofol infusion (25mcg/kg/min) Rocuronium doses prn for refractory ICH
Obtain Head CT	Please transfer images to accepting facility