

# PEDIATRIC MAJOR TRAUMA

Call PTN **1-866-233-2337** to connect to BC Children's Hospital Trauma Lead, Pediatric Transport Advisor for transfers and advice

Pre-determine Age and Estimated Weight  
Calculate AND Prepare  
Medications and Equipment



		ASSESS	TREAT
primary survey		<b>C</b> <b>ADDRESS CATASTROPHIC BLEEDING FIRST</b>	<ul style="list-style-type: none"> <li>Apply Tourniquet or direct pressure as needed, document time. Consider giving PRBC</li> </ul>
		<b>A</b> <ul style="list-style-type: none"> <li>Increased risk for ETT dislodgement and endobronchial intubation</li> <li>Cuffed ETT size = (age in years/4) + 3.5</li> <li>Intubate for unstable airway OR declining GCS</li> <li>Consider Spinal Motion Restriction</li> </ul>	<p><b>RSI medications:</b></p> <ul style="list-style-type: none"> <li>Ketamine 1-2 mg/kg IV direct (lower end of dose range if hypotension/ hypovolemia is a concern)</li> <li>Rocuronium 1 mg/kg IV direct</li> </ul> <p><b>Post Intubation Medications:</b></p> <ul style="list-style-type: none"> <li>Morphine IV direct 0.1mg/kg for pt greater than 5kg (max 5mg) and Midazolam IV direct (Suggest dose range: Midazolam IV direct 0.05-0.1mg/kg max 8mg)</li> <li>Ketamine IV direct (0.5-1mg/kg)</li> </ul>
		<b>B</b> <ul style="list-style-type: none"> <li>Keep O<sub>2</sub> saturations greater than 95%</li> <li>Check work of breathing, grunting, distress</li> <li>If breathing inadequate, first exclude tension pneumothorax</li> </ul>	<ul style="list-style-type: none"> <li>100% O<sub>2</sub> by non-rebreather mask</li> <li>Consider immediate needle decompression or finger thoracostomy</li> <li>Consider chest tube</li> </ul>
		<b>C</b> <ul style="list-style-type: none"> <li>Assess signs of perfusion: HR, BP, pulse quality, cap refill time, skin temperature</li> <li>Consider abnormal resp rate or declining GCS a marker of inadequate circulation</li> </ul>	<p><b>Fluid Resuscitation (consider warming):</b></p> <ul style="list-style-type: none"> <li>Normal Saline 20ml/kg x 1</li> <li>PRBC 10-20ml/kg for active bleeding, or ongoing signs of poor perfusion</li> <li>consider Tranexamic Acid within 3 hours of event and consider Massive Transfusion Protocol</li> </ul> <ul style="list-style-type: none"> <li>Pelvic binder should be centered over the greater trochanter</li> <li>Splint long bone fractures Note: isolated femur fracture unlikely cause of shock in young children</li> </ul>
		<b>D</b> <ul style="list-style-type: none"> <li>Neuroprotection: HOB up 30°, ensure spinal collar is not causing blood flow restriction</li> <li>Assess signs of impending herniation (HR↓, BP↑, irregular resps, asymmetric pupils), target EtCO<sub>2</sub> 35-40 mmHg</li> <li>Obtain blood glucose</li> <li>Ensure moving all four limbs</li> </ul>	<p><b>IV osmotics:</b></p> <ul style="list-style-type: none"> <li>3% Saline: 5 mL/kg/dose (max 250 mL) IV intermittent. Start therapy early with sluggish pupils Note: will take 15 - 20 min before effects begin</li> <li>Give D10W 5ml/kg/dose for glucose less than 2.6mmol/L, IV intermittent</li> </ul>
		<b>E</b> <ul style="list-style-type: none"> <li>Maintain normothermia with protective warming measures</li> <li>Assess pain using age appropriate pain scale</li> <li>Log Roll</li> </ul>	<ul style="list-style-type: none"> <li>Consider active re-warming (i.e. Bair Hugger, warm blankets, IV warming device)</li> <li>Treat pain: Fentanyl 1mcg/kg/dose IV direct (max 50mcg) OR Ketamine 0.15-0.3mg/kg/dose IV direct</li> </ul> <p><b>Post-intubation Infusions:</b></p> <ul style="list-style-type: none"> <li>Midazolam IV 20-270 mcg/kg/hr IV continuous infusion AND Morphine greater than 3 months old 5-40mcg/kg/hr IV continuous Note: both infusions must be used in conjunction for adequate sedation and pain management</li> </ul>

View the [PedMed Online Formulary](#)



Visit PHSA [shop.healthcarebc.ca/phsa](http://shop.healthcarebc.ca/phsa) For Clinical Guidelines



Refer to BC Provincial Pediatric Trauma Team Activation Criteria



More resources at TREKK: [Translating Emergency Knowledge for Kids \(trekk.ca\)](http://Translating Emergency Knowledge for Kids (trekk.ca))



## TAKE NOTE

- 2 large IV's or Intraosseous if unable to obtain IV >2 attempts
- Obtain labs with Group and Screen
- Do not delay transfer for CT & "Push" imaging to PACS with report
- Phone receiving facility ED with report
- Send copy of nursing, physician notes, labs, med record, EHS report
- Concerns for Child Maltreatment; follow Duty to Report Legislation - call MCFD 1-800-663-9122

## CONCERNING PEDIATRIC VITAL SIGNS

AGE	HR	RR	SBP
1-12 months	<90 or >180	<30 or >53	≤70
1-2 years	<80 or >140	<22 or >37	≤70
3-5 years	<65 or >120	<20 or >28	≤80
6-12 years	<58 or >118	<18 or >25	≤85
12+ years	<50 or >100	<12 or >20	≤90