



TRAUMA UNIT COURSE

Increasing confidence and competence in caring for trauma

Paediatric Major Trauma Calculations

Age	___ years ___ months	Weight	1 - 12 months = (0.5 × age in months) + 4 1 - 5 years = (2 × age in years) + 8 6 - 12 years = (3 × age in years) + 7						kg
A	Airway	<ul style="list-style-type: none">ET tube size = (age in years / 4) + 4Cuffed ET tube: use 0.5 mm smallerET tube length: oral = (age in years / 2) + 12							
		Supraglottic Airway Device							
		< 5 kg	5 – 12 kg	10 – 25 kg	25 – 35 kg	30 – 60 kg	50 – 90 kg		
		1	1.5	2	2.5	3	4		
	Analgesia	Nasal							
		<ul style="list-style-type: none">Fentanyl: 2 micrograms / kgDiamorphine: 0.1 mg / kgKetamine: 3 mg / kg							
		Intramuscular							
		<ul style="list-style-type: none">Ketamine: 2 mg / kg							
		Intravenous							
		<ul style="list-style-type: none">Paracetamol: 15 mg / kg by infusion (Max 1 g)Morphine: 0.03 - 0.1 mg / kgFentanyl: 0.5 - 1 microgram / kgKetamine: 0.2 - 0.5 mg / kg							
B	Breathing	<ul style="list-style-type: none">Chest tube size (Fr gauge) = ET tube size × 4Insert to 4 cm past last side hole.Ventilated Tidal volume = 6 ml / kg							
C	Circulation	Fluids							
		<ul style="list-style-type: none">Crystalloid: 10ml / kg bolus (Max 500 mls)Burns: 0.9% Saline 3-4 ml × % burn × weight (kg) Give half in first 8 hrs, half in next 16 hrs							
		Transfusion (For Major Haemorrhage use 1:1)							
		<ul style="list-style-type: none">Blood: 5 - 10 ml / kgFFP: 5 - 10 ml / kgPlatelets: 5 - 10 ml / kg (apheresis platelets), depending on platelet count							
		Tranexamic acid (TXA)							
		<ul style="list-style-type: none">TXA bolus: 15mg / kg (Max 1g)TXA infusion: 2mg / kg / hr for 8 hours (Max 1g over 8 hours = Max 125 mg / hr)							
		Calcium							
		<ul style="list-style-type: none">10% Calcium Chloride: 0.2ml / kg over 10 mins (Max 10 ml over 10 mins)							
D	Disability	Osmotherapy							
		<ul style="list-style-type: none">Hypertonic 3% Saline: 3 - 5 ml / kg over 10-20 mins (If > 50 kg then 250 ml bolus)20% Mannitol: 250mg – 500mg / kg (Equivalent to 20% Mannitol 1.25 – 2.5 ml / kg)							
	Glucose	<ul style="list-style-type: none">10 % Dextrose: 2ml / kg							
E	Emergency drugs	<ul style="list-style-type: none">Adrenaline 10 micrograms / kg (Max 1mg)Atropine: 20 microgram / kg (Max 600 µg)Lorazepam: 0.1 mg / kg (Max 4mg)							
	Energy	<ul style="list-style-type: none">Defibrillation: 4 Joules / kg (If > 50kg then 150 Joules)							

