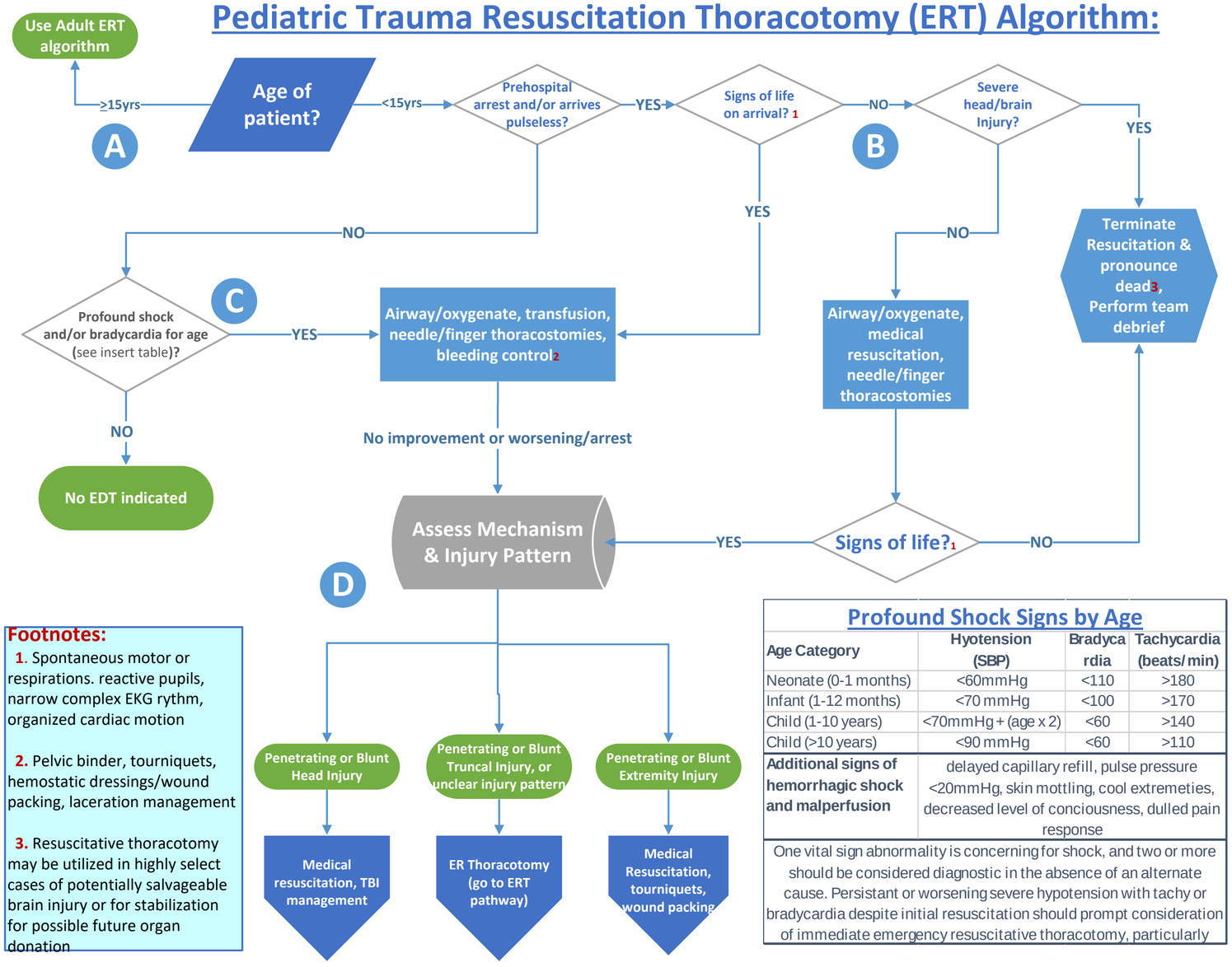
Pediatric Trauma Resuscitation Thoracotomy (ERT) Algorithm:



Footnotes:

1. Spontaneous motor or respirations. reactive pupils, narrow complex EKG rythm, organized cardiac motion

2. Pelvic binder, tourniquets, hemostatic dressings/wound packing, laceration management

3. Resuscitative thoracotomy may be utilized in highly select cases of potentially salvageable brain injury or for stabilization for possible future organ donation

Profound Shock Signs by Age

Age Category	Hyotension (SBP)	Bradycardia	Tachycardia (beats/min)
Neonate (0-1 months)	<60mmHg	<110	>180
Infant (1-12 months)	<70 mmHg	<100	>170
Child (1-10 years)	<70mmHg + (age x 2)	<60	>140
Child (>10 years)	<90 mmHg	<60	>110
Additional signs of hemorrhagic shock and malperfusion	delayed capillary refill, pulse pressure <20mmHg, skin mottling, cool extremeties, decreased level of conciousness, dulled pain response		

One vital sign abnormality is concerning for shock, and two or more should be considered diagnostic in the absence of an alternate cause. Persistant or worsening severe hypotension with tachy or bradycardia despite initial resuscitation should prompt consideration of immediate emergency resuscitative thoracotomy, particularly

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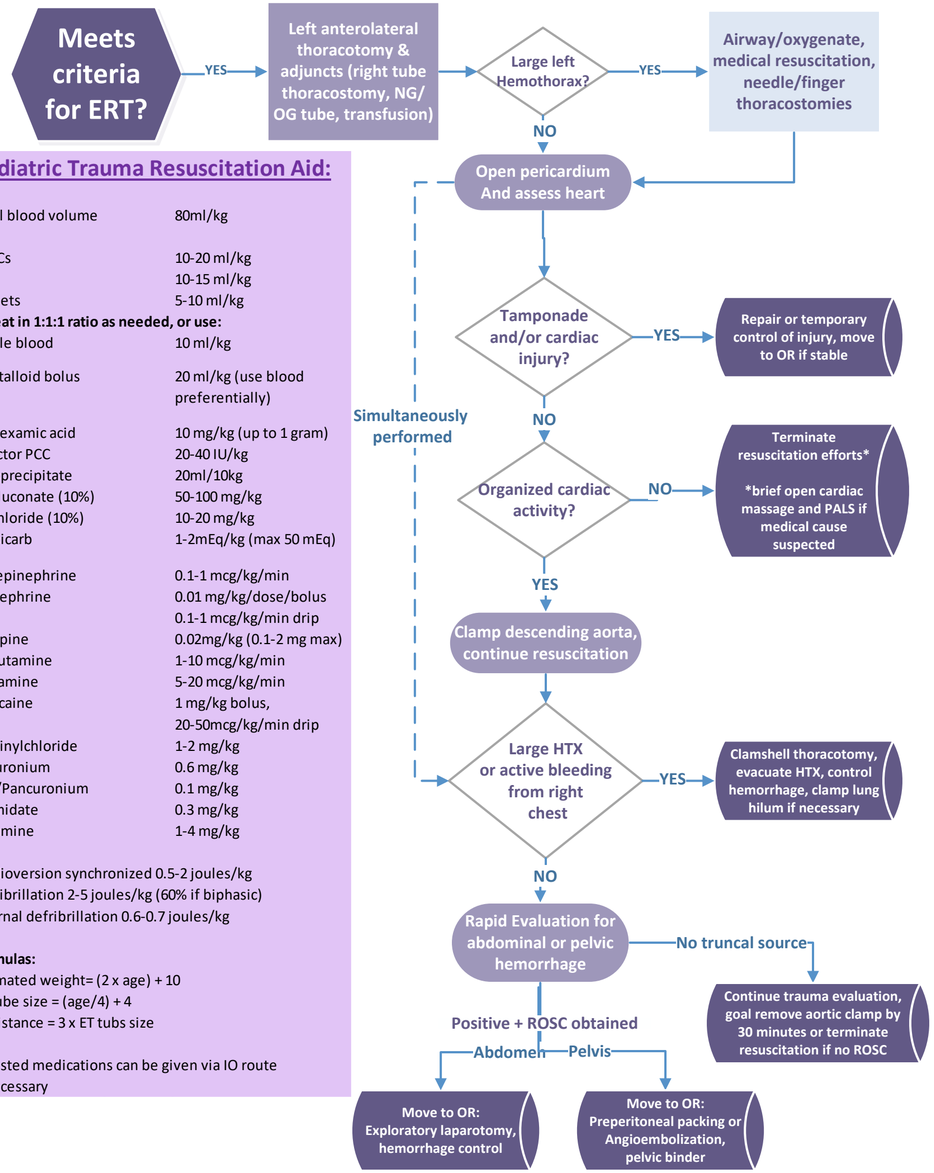

Pediatric Trauma Resuscitation Aid:

Total blood volume	80ml/kg
PRBCs	10-20 ml/kg
FFP	10-15 ml/kg
Platlets	5-10 ml/kg
repeat in 1:1:1 ratio as needed, or use:	
whole blood	10 ml/kg
Crystalloid bolus	20 ml/kg (use blood preferentially)
Tranexamic acid	10 mg/kg (up to 1 gram)
4-factor PCC	20-40 IU/kg
Cryoprecipitate	20ml/10kg
Ca gluconate (10%)	50-100 mg/kg
Ca chloride (10%)	10-20 mg/kg
Na bicarb	1-2mEq/kg (max 50 mEq)
Norepinephrine	0.1-1 mcg/kg/min
Epinephrine	0.01 mg/kg/dose/bolus 0.1-1 mcg/kg/min drip
Atropine	0.02mg/kg (0.1-2 mg max)
Dobutamine	1-10 mcg/kg/min
Dopamine	5-20 mcg/kg/min
Lidocaine	1 mg/kg bolus, 20-50mcg/kg/min drip
Succinylchloride	1-2 mg/kg
Rocuronium	0.6 mg/kg
Vec/Pancuronium	0.1 mg/kg
Etomidate	0.3 mg/kg
Ketamine	1-4 mg/kg

Cardioversion synchronized 0.5-2 joules/kg
Defribrillation 2-5 joules/kg (60% if biphasic)
Internal defribrillation 0.6-0.7 joules/kg

Formulas:
Estimated weight= (2 x age) + 10
ET tube size = (age/4) + 4
ET distance = 3 x ET tubs size

All listed medications can be given via IO route if necessary