PAEDIATRIC MAJOR HAEMORRHAGE PROTOCOL
Rapid blood loss with shock or with no likelihood of control.
Anticipated or actual blood loss of 80mls/kg in 24 hours,
40mL/Kg in 3 hours or 2-3mls/kg/min

Call 2222. State “Paediatric Major Haemorrhage”. Give Hospital and Location

Nominated blood monitor MUST CONTACT Blood Transfusion with the following:
1. Patient Identification
2. Approximate weight of child
3. Patient Location
4. Name and contact details of nominated blood monitor for on-going communication
5. Cause of bleeding (if known)
6. Confirm Group & Screen, Full Blood Count & Coagulation Screen samples are sent to laboratories

Consider using paediatric blood bottles

Call the Blood Transfusion Laboratory
24 hours a day Ext. 22043
Out of hours Bleep 1611

The Blood Transfusion Laboratory will issue:
20ml/kg O negative RBC & 20ml/kg FFP
Or
20ml/kg group specific* RBC & 20ml/kg FFP
(*if valid sample in Laboratory. If no valid samples continue to issue emergency blood)

Clinicians to administer Tranexamic Acid (except in GI bleeds)

Once these components are collected from the laboratory:
The laboratory will continue to issue until stood down from MHP:
20ml/kg RBC
20ml/kg FFP
10ml/kg Cryoprecipitate
15ml/kg Platelets (up to 1 pack)

After 80ml/kg RBC consider:
Fibrinogen Concentrate (50mg/kg)
Recombinant Factor VIIa (in discussion with Haematology medical team)

The clinical area will:
1. Nominate two blood monitors to ensure effective management of blood components and communicate with the transfusion laboratory staff
2. Send full blood count & coagulation screen samples as a baseline
3. Send repeat group & screen sample if requested
4. Discuss on-going management including authorisation of other clotting factors with the Haematology medical team (via Switchboard if contact details not known)
5. Inform the Blood Transfusion Laboratory when STOOD DOWN
**PAEDIATRIC MAJOR HAEMORRHAGE ALGORITHM (<50KG)**

**Stop the bleeding**
- Direct pressure
- Tourniquet
- Pelvic binder, limb splints
- Damage control surgery
- Intervventional radiology

**Delivery method**
- <20 kg Ranger fluid warmer + syringe
- ≥20 kg Belmont rapid infuser

**Risks**
- Hypothermia
- Hypocalcaemia
- Acidosis
- Coagulopathy inc ↓ Fib
- Hyperkalaemia

**Aims**
- Fib > 2 g/l
- iCa\(^{2+}\) > 1.2 mmol/l
- Hb ≥ 8 g/dl
- Plt > 100 x10\(^9\)/l
- INR < 1.5
- APTR < 1.5
- pH > 7.30
- T\(^\circ\) > 36° C

**After 80 ml/kg of blood consider:**
- Fibrinogen Concentrate 50 mg/kg
- Recombinant Factor VIIa in discussion with haematologist

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**Estimate weight**
(age+4) x 2

**Pre-hospital “Paediatric Code Red” declared?**

- No

**Life-threatening haemorrhage?**

- Yes

**Continue assessment of child**

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**Activate Paediatric Major Haemorrhage Protocol**

**Transfuse 10 ml/kg boluses:**
- Up to 20 ml/kg blood
- Up to 20 ml/kg FFP

**Administer:**
- 10% CaCl 0.1 ml/kg
- Tranexamic acid 15mg/kg (max 1g) followed by infusion of 2\(^{nd}\) dose

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**Transfuse (1:1:1:1):**
- 10 ml/kg blood
- 10 ml/kg FFP
- 10 ml/kg cryoppte
- (max 2 pooled units)
- 15 ml/kg platelets
  (max 1 adult pool)

**Administer:**
- 10% CaCl 0.1 ml/kg

**Ongoing haemorrhage?**

- Yes

**Reevaluate paediatric major haemorrhage protocol**

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**Take bloods:**
- Blood gas
- TEG
- Cross match
- FBC, clotting, fib
- U+E

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**Stop the bleeding**

- Direct pressure
- Tourniquet
- Pelvic binder, limb splints
- Damage control surgery
- Intervventional radiology

**Nominate two senior blood monitors**
**Send porter to collect blood products urgently**
**Liaise with lab regularly**

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**Aims**
- Fib ≥ 8 g/dl
- iCa\(^{2+}\) ≥ 1.2 mmol/l
- Hb ≥ 8 g/dl
- Plt > 100 x10\(^9\)/l
- INR < 1.5
- APTR < 1.5
- pH > 7.30
- T\(^\circ\) > 36° C

**Continue assessment of child**

**Repeat bloods every one hour minimum:**
- Blood gas
- TEG

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**Deactivate Paediatric Major Haemorrhage Protocol**