What is the Massive Transfusion Protocol (MTP)?

- Provision and mobilisation of large amounts of blood product to a critically bleeding child.
- Clear guidelines for the multidisciplinary team caring for the critically bleeding child.
  - Trauma Doctors
  - Trauma nurses
  - Haematologist staff
  - Laboratory staff
  - Distribution PSA’s
Why do we need a MTP?

- Provides certainty to clinical staff managing a bleeding patient.
- Activates a response within our Blood Bank and notifies The Blood Service.
  - Increasing staffing in the Blood Bank
  - Commencement of thawing of frozen components
  - Ordering of urgent blood from The Blood Service

A comprehensive response to Major Bleeding

- Treating Haemorrhage and Coagulopathy of Trauma by
  - Replacing ‘blood’
    - Red Cells: increase oxygen carrying capacity
    - Plasma: Replace clotting factors
    - Platelets: replace platelets
  - Reduction in hypothermia related coagulopathy
    - Provision of warmed components
What is “critical bleeding” in a child?

- In adults: “major haemorrhage that is life threatening and likely to result in the need for massive transfusion”

What is a “massive transfusion” in a child?

- Greater than 40mls/ kg in blood
Initial phase: Assessment/ Allocation

• Credible pre-hospital information
• On arrival assessment
• 2 options:
  • Red Cells Only
  • Massive Transfusion Protocol

Initial phase: Allocation/ Assessment

Allocation of roles in trauma
• Team leader
• Circulation Doctor
• Circulation Nurse
• Trauma PSA for collection of blood products from Blood Bank

Assessment:
• What is the patient’s:
  • Weight (approx)
  • Gender
• What are the patient’s:
  • Injuries

Pathology testing:
• Group and Antibody screen
• FBE, Coags, ABG/CAB
Pretransfusion samples

- Must have a patient label
- Sign date and time the tube
- Sign date and time declaration
- Dr contact details in case of error

Why do we need a sample?

- Prior to transfusion all patients should have a pre transfusion sample.
- To ensure there is a group on record despite provision of O Negative Blood.
- To reduce the use of emergency O Negative blood in patients who don’t require it.
- To ensure group specific blood can be made available ASAP.
What’s in an Massive Transfusion Pack?

<table>
<thead>
<tr>
<th>MTP 1</th>
<th>≤ 20kg</th>
<th>20-40kg</th>
<th>&gt; 40-60kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Cells</td>
<td>2 units</td>
<td>4 units</td>
<td>6 units</td>
</tr>
<tr>
<td>FFP</td>
<td>2 units of FFP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MTP 2: Repeat MTP 2 until deactivated

- Red cells: 2 units, 4 units, 6 units
- FFP: 2 units, 4 units, 6 units
- Platelets: 1 pack, 1
- Cryo: As directed by haematologist

Other steps

After the request has been made:
- MTP packs will be delivered as available.
- Liaise with the on-call Haematologist.
- Blood samples should be collected at the end of each MTP pack.
Stopping the MTP

- When the patient moves
  - Inform the blood bank
- IF the MTP is stopped
  - Inform the blood bank

Circulation Doctor Responsibilities:

Task:
- Assess and communicate with the Blood Bank

Example:

“We will require the massive transfusion protocol to be activated our patient is a female patient, approx 25kg, with a significant head injury. We will send a sample in the PTS, our PSA has the green card and is on the way to pick up the bag”
Direct other team members:
- Circulation Nurse
- Emergency PSA
- Blood Bank Staff

Ensure blood is given
- PSA to Blood Bank to collect pack
- Allocate role of circulation nurse
- Communicate with the circulation nurse regarding
  - Volumes administered
  - Products administered
Communicate with Haematologist

- Products received
- Progress and plan (theatre, CT)
- Clinical assessments (vital signs, type of bleeding, other injuries)
- Pathology collected/to be collected

Direct Circulation Nurse

- Order of blood products
  - Depends on number of access points
  - Clinical condition
  - Can be Red cells, FFP, Platelets and Cryo but depends on access
  - Platelets always need their own filter, or line preferably
Notify of transfer or end of MTP.

- Blood bank
- Haematologist

Further questions

- Call Nicole 56561 or page 6562
- Call Blood Bank 55830 or 55829
- Call on call Haematologist 91
- Go to Massive Transfusion Webpage