MASSIVE TRANSFUSION PROTOCOL

STEP 1: Bleeding control

- Control of bleeding is the single most important intervention.
- Minimise time between arrival and surgery if indicated
- Use tourniquets to control peripheral bleeding vessels
- Tamponade techniques: eg. pelvic binders, direct pressure, suture lacs
- Intrauterine balloon devices for PPH, manual compression, oxytocics

STEP 2: Identify the need for Massive Transfusion

- Use a clinical scoring predictor: TASH or ABC
- Based on clinically obvious massive bleed / trauma
- Based on initial response to empirical resuscitation

STEP 3: Activate Hospital Massive Transfusion system

- Laboratory staff
- Dedicated nursing team for transfusion device
- Surgeon & theatre staff activation early

STEP 4: Initial Empirical Resuscitation (first 15 – 30 minutes)

- Bolus 2 units pack RBCs and 2 units FFP
- Avoid excessive crystalloid / colloid infusion
- SEND: FBP, group and X match, coags (INR, APTT, fibrinogen), ABG / lact

STEP 5: Continue Volume Resuscitation / Monitoring

- Continue PRBCs and FFP in 1:1 ratio – target MAP is 65 – 70
  - NB: target MAP is 90 – 100 in patients with traumatic brain injury / raised ICP
- Monitoring – establish early and use to target agents
  - Recommend invasive monitoring (arterial line) if available
  - Send repeat investigations every ~ 30 minutes: Hb, ABG, Ca, coags
  - Frequent / continuous temperature monitoring

STEP 7: Target therapy to results / clinical parameters

<table>
<thead>
<tr>
<th>Target BP - MAP = 65 mmHg</th>
<th>Give fluid volume: ideally RBCs / FFP</th>
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<tbody>
<tr>
<td>Hb target &gt; 80 g/l</td>
<td>Give RBCs</td>
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<tr>
<td>if INR &gt; 1.5 OR APPT &gt; 50 sec</td>
<td>Give 2u FFP consider Prothrombinex</td>
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<tr>
<td>if fibrinogen &lt; 1.0 g/l</td>
<td>Give 8 units of cryoprecipitate</td>
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<tr>
<td>Calcium target is &gt; 1.1 mmol</td>
<td>Give 1 amp of Ca-gluc 1g/10mls</td>
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<tr>
<td>Optimise acidosis</td>
<td>Consider intubation / ventilation</td>
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<tr>
<td>Maintain patient T &gt; 35 deg</td>
<td>IV fluid warmer, airblanket, limit exposure</td>
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