3.3 KEMH MASSIVE TRANSFUSION PROTOCOL

The KEMH Massive Transfusion Protocol is for use in major haemorrhage in obstetric patients and was developed as an initiative of the KEMH Hospital Transfusion Committee in conjunction with the KEMH Anaesthetics Department.

The summary chart is at the end of this document or a full page document may be opened by clicking on the following link:-

KEMH Massive Transfusion Protocol
# KEMH Blood Product Guidelines for Major Obstetric Haemorrhage

## Identify Cause & Stop Bleeding
- Ensure most vascular stabilisers & oxytocic catheters present
- Ensure: Uterine tone & face
- Remember: PPH
- Uterine cramps (e.g. oxytocin, ergometrine, endothelin antagonist, PGs)
- Physical measures e.g. uterine compression
- Cessation
- Inhaled products of conception
- Termination under anaesthesia & repair
- Tocolytics
- Refer to laboratory results section regarding coagulopatgy management
- Intravenous: intravenous magnesium e.g. Imjuton injection
- Uterine inflow
- Hydration

## General Advice
- Keep antenatal charts
- IV push: 5% NS + FFP 1 unit
- Avoid excess coagulopathies (haemorrhagic phlebitis)
-灯笼 and osmotic therapy

## Lab Results Suggested Triggers for Products in Bleeding Patient

<table>
<thead>
<tr>
<th>ROTEM® Summary Information: guide only**</th>
<th>FXI/FIBG/CAgs/ ABRGs</th>
<th>PRODUCTS / Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HF: &lt; 40µL</strong></td>
<td>RED CELLS: 2 - 4 units</td>
<td></td>
</tr>
<tr>
<td><strong>EXTEN CT A10 &gt; 140 (in absence of heparin)</strong></td>
<td>FFP: 2 - 4 units</td>
<td></td>
</tr>
<tr>
<td><strong>EXTEN CT 100-149 s</strong>: In presence of low fibrinogen (see below) consider fetal first</td>
<td>Consider patient weight: Each unit FFP 300µL</td>
<td></td>
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<tr>
<td><strong>INR &gt; 1.5, APTT &gt; 56</strong></td>
<td>Therapeutic dose approx 15µL/kg</td>
<td></td>
</tr>
<tr>
<td><strong>FIBRINOGEN &lt; 2µL</strong></td>
<td>CRYOPRECIPITATE: 8 units</td>
<td></td>
</tr>
<tr>
<td><strong>PLATELET count &lt; 60 x 10^9</strong></td>
<td>Usual dose 1 unit/kg</td>
<td></td>
</tr>
</tbody>
</table>

** Notify lab/patient on unbalanced report = Extra bleeding required

## Standby Phase If:
- Significant ongoing bleeding (> 1000mL) plus haemorrhagic shock
- Patient transferred from another hospital because of bleeding
- Antithrombin Path Lab (Richmond guidelines) shows blood loss (start as ‘urgent’) and phone Blood Bank (ext 7746)
- Urgent & Serious: Consider:
- FFP, Blood (ROTEM® 80ml campylos, ABOG)

## Declare Major Haemorrhage Event IF any of the following:
- Haemorrhagic shock
- Estimated blood loss > 1500mL
- Laboratory or clinical evidence of coagulopathy
- 4 units of red cells transfused & more anticipated

## Special Circumstances
- Consider transfusion:
- Intravenous non-citrated products (cryoprecipitate, FFP, platelets) may be required early
- Condition or haemorrhage
- Bleeding
- Maternal or fetal indications
- Intravenous FFP/Platelets (5-10mL/kg; 1 unit per 250mL to maximum of 5 units)

## Laboratory Availability
- Red Cell Availability:
  - Immediate = Emergency intra-aneximalized OR Rh(D) Neg
  - 16 units = ABO RH(D) Group Specific
  - 40 units = Compressed
- FFP Availability: 20 minutes
- Cryoprecipitate Availability: 10 minutes
- Platelet Availability: > 45 minutes

## ConSIDERATIONS for Ongoing Haemorrhage: DISCUSS WITH HACMATOS/ OBG

### XELOXIC ACID
- Consider for:
  - Hypofibrinolysis demonstrated on ROTEM (EXTEN ML < 15%)
  - Uncontrolled haemorrhage
  - Ongoing monitoring
  - Dose: 1g IV every 12 hours available for 12 hours
  - A 2nd dose may be required if fibrinogen/platelet counts continues

### FIBRINOLYTICS:
- Consider for:
  - Uncontrolled coagulopathy
  - Dose: 0.5-1.0 g/kg, 1 dose per 24 hours to a maximum of 6 doses (available from blood bank)
  - Administration: refer to ultrasound instruction sheet for reconstituted information
  - Monitor (platelets, vital signs, repletion)

## ProCoagulant Factor Vila (NovoSeven® RT) Consider for:
- Uncontrolled haemorrhage despite pharmacological and blood product therapy and surgical interventions with
  - Cramps and platelet count is target range
  - Dose: 1000 units in 10mL of normal saline

## Stand Down Major Haemorrhage Event When Stable & Bleeding Controlled:
- Notify Blood Bank & Return Unused Products

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**Note:** These guidelines are for general reference only and should not be used in place of medical advice from a qualified healthcare professional. Always consult with a healthcare professional for specific advice regarding your medical condition. These guidelines are subject to change and may be updated or revised at any time.