

# Transfusion Management of Major Haemorrhage (Adult)

## Activation Telephone Number

**LIH, Oban Dial:2222**

**Emergency O -ve Re Cell**

**Location:**

**Theatre Blood Fridge, 4 units**

**Estimated time to receive blood:**

- O -ve: immediate
- Full X-match 50 mins (plus travelling time for BMS)

## Continuously monitor patient:

- SaO<sub>2</sub>, BP, HR, ECG, RR
- Monitor signs of shock : urine output, conscious level, capillary return, cool peripheries
- Document vital signs

## Resuscitation tips:

- Give high flow O<sub>2</sub> by mask
- 2 x wide bore cannulae
- User rapid flow infuser
- Consider invasive monitoring
- Use blood rather than clear fluid & permit moderate hypotension (systolic BP 80 to 90 mmHg)

## Prevent Hypothermia

- Monitor temperature
- Warm all fluids
- Use warm blankets/forced air warming blankets

## Prevent Hypocalcaemia

Consider 10ml Calcium Chloride 10% over 10 mins

## Targets for Therapy:

Hb	70 to 90g/l
Platelets	>50 x 10 <sup>9</sup> /l
PT ratio	<1.5
APTT ratio	<1.5
Fibrinogen	>1g/l
Ca 2+	>1 mmol/l
Temp	>36° C
pH	>7.35 on ABG

**monitor for hyperkalaemia**

## IDENTIFY PATIENT HAS MAJOR HAEMORRHAGE

Ongoing severe blood loss eg 150 ml/min  
Senior clinical opinion of severe blood loss  
Clinically shocked patient with ongoing blood loss

## ACTIVATE MAJOR HAEMORRHAGE PROTOCOL : CALL 2222

## CALL FOR ADDITIONAL SUPPORT AND ALLOCATE ROLES:

- **Lead clinician takes overall responsibility**
- **Communication: phones lab, duty haematologist, other specialities, etc**
- **Resuscitation: ABC**
- **Haemorrhage control**
- **Documentation: blood loss, products given & obs**
- **Sample taking**

## Take bloods:

x-match, FBC, Coag, fibrinogen, U&E, Ca<sup>2+</sup>, NPT:ABG

Retrieve **O-ve** from theatre fridge (if blood needed immediately)

**Request blood and products eg:**

**4 units RBC**

**4 units FFP**

*4 units RBC + 4 units FFP usual, more or less can be ordered depending on clinical circumstances*

## GIVE BLOOD PRODUCTS

## REASSESS

Repeat bloods: FBC, Coag, fibrinogen, U&E, Ca<sup>2+</sup>, NPT: ABGs

**Order more blood and products eg:**

**4 units RBC**

**4 units FFP**

**Platelets if**

**2 pools CRYOPRECIPITATE**

**(2g/l in obstetric haemorrhage)**

*more or less can be ordered depending on clinical circumstances*

*<75 x 10<sup>9</sup>/l (NB not kept on site)*

*if Fibrinogen <1g/l*

*(2g/l in obstetric haemorrhage)*

## GIVE BLOOD PRODUCTS

**When second pack administered, repeat bloods**

FBC, coag, fibrinogen, U&E, Ca<sup>2+</sup>, NPT: ABGs

If blood loss continuing further blood component requirement with duty haematologist, senior clinical team and BMS

**Continue cycle of clinical and laboratory monitoring and administration of goal-directed blood component therapy until bleeding stops**

## RESUSCITATE

Airway  
Breathing  
Circulation

## CONTROL HAEMORRHAGE

Direct pressure  
Tourniquet  
Stabilise fractures  
Surgical / Radiological interventions

## HAEMOSTATIC DRUGS

Tranexamic acid:  
1g bolus then 1g over 8 hours  
(NOT for GI haemorrhage)

Patients on **Warfarin**: Vitamin K  
Prothrombin Complex  
Concentrate (Beriplex)\*

Patients on **Riveroxaban** or  
**Apixaban** :  
Andexanet Alfa\*

\*Small stocks of these drugs are kept in A & E. Advice on their use, and on managements of patients on other anticoagulants should be sought from duty haematologist

**If bleeding due to oesophageal varices, consider Terlipressin**

See full text for details

## STAND DOWN

Inform lab  
Return unused components  
Complete documentation  
Consider  
thromboprophylaxis  
when patient is stable