

# Transfusion Management of Major Haemorrhage (Adult)



Activation Telephone Number  
**Raigmore: Dial 2222**

**Emergency O red cells location**

A+E blood fridge 4units  
Theatre blood fridge 2units

**Estimated time to receive blood:**

- Group O blood immediate
- Group Specific blood 20 mins
- Full X-matched blood 40 mins

**Continuously monitor patient**  
ECG, BP, Pulse, Sats%  
Look for signs of organ hypoperfusion  
Document vital signs

**Prevent Hypothermia**

Use fluid warming device  
Used forced air warming blanket

Consider 10 mls **Calcium chloride** 10% over 10 mins

2 packs **cryoprecipitate** if fibrinogen < 1g/l (<2g/l in obstetric haemorrhage)

**Aims for therapy;**

Clinical improvement  
Hb 8-10g/dl  
Platelets >50 x 10<sup>9</sup>/l  
PT ratio < 1.5  
APTT ratio <1.5  
Fibrinogen >1g/l  
Ca<sup>2+</sup> >1 mmol/l  
Temp > 36°C  
pH > 7.35 (on ABG)  
Monitor for hyperkalaemia

**Identify Patient has Major Haemorrhage**

Ongoing severe blood Loss e.g:150 mls/min  
Senior clinical opinion of significant blood loss  
Clinically shocked patient with blood loss

**Activate Major Haemorrhage Protocol 2222**

**Lead Clinician responsibilities**

- Call **2222 inform operator MHP and location**
  - Page BTS confirm products and location needed
  - Take blood from patient organise transport to BTS
  - Retrieve Fridge O negative blood if required
- \*BTS page 5081**

**RESUSCITATION**

Haemorrhage Control  
Airway  
Breathing  
Circulation

**Ix bloods sent to BTS**

X-match, FBC, Coags, fibrinogen, U+E, Ca<sup>2+</sup> NPT: ABG  
**and**

**Order MHP Products**

Red cells 4 units  
FFP 4 units

Platelets required if estimated count < 50 x 10<sup>9</sup>/L  
Red cells are either Group Specific or fully X-matched

Group O blood immediately available in A+E/Theatre fridges

**Haemorrhage Control**

Direct pressure  
Tourniquet if appropriate  
Stabilise fractures  
Surgical interventions  
Endoscopic interventions  
Obstetric interventions  
Interventional Radiology

**Give MHP products**

**Reassess**

Suspected continuing haemorrhage requiring further transfusion  
**Take bloods and send to lab:**  
FBC, Coags, fibrinogen, U+E, Ca<sup>2+</sup>  
NPT: ABG

**Haemostatic Drugs**

**Trauma patients**  
Tranexamic acid 1g bolus followed by 1g over 8 hrs

**Anticoagulated Patient**

Patients on Warfarin  
Vitamin K  
Prothrombin Complex Concentrate  
Patients on Rivaroxaban or Apixaban  
antidote Andexanet alfa

Patients on Dabigatran  
antidote Idarucizumab  
Kept in ED and SHDU fridges

\*contact duty Haematologist

**Order MHP products**

Red cells 4 units  
FFP 4 units  
Platelets \* 1 adult dose

\*If platelet count < 50 x 10<sup>9</sup>/L  
If fibrinogen <1g/l (or < 2g/l in obstetrics)  
Ask for 2 units Cryoprecipitate

**Cell salvage if available and appropriate**

Consider ratios of other components:  
1 unit of red cells = c.250 mls salvaged blood

**Give MHP products**

**Once second MHP administered, repeat bloods:**

FBC, Coags, fibrinogen, U+E, Ca<sup>2+</sup> NPT: ABG  
Inform **BTS** of further blood component requirement

**STAND DOWN**

Inform lab,  
Return unused components,  
Complete documentation.

**Thromboprophylaxis should be considered when patient stable**

ABG-arterial blood gas  
NPT-near patient testing

Coags-Coagulation screen  
(PT, APPT)

MHP-Major Haemorrhage Protocol  
XM-cross match

FFP-fresh frozen plasma  
FBC-full blood count

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