

# Major haemorrhage in adult trauma

≥ 40% loss of total blood volume

4 litres in 24 hours 2 litres in 3 hours >150ml/min

## Major Haemorrhage (MH) may manifest as:

- Heart rate > 110
- Systolic BP <90mmHg

## Contact Transfusion Laboratory

Important phone numbers

## Get senior help

Contact senior member of clinical team.  
Contact senior ward nurses Contact portering services

Contact Transfusion

Ask Transfusion to 'initiate major haemorrhage protocol'

## Assess ABC

## IV access

### Check patient identification

2 large cannula  
Send blood samples, cross-match, FBC, coagulation, biochemistry  
Consider arterial blood gas measurement

Check if tranexamic acid given, if not give as soon as possible at a dose of:

- 1g intravenously over 10 minutes followed by
- 1g over 8 hours

## Resuscitate

IV warm fluids – crystalloid or colloid  
Give oxygen

## Give blood

Blood loss >40% blood volume is immediately life-threatening  
Give 4 units via fluid warmer. Aim for Hb>80g/l  
Give Group O if immediate need and/or blood group unknown

### When laboratory results available

IF	GIVE
Falling Hb	Red cells
APTT and/or PT ratio >1.5	FFP 15–20ml/kg
Fibrinogen <1.5g/l and obstetrics <2g/l	Cryoprecipitate (2 pools)
Platelet count <50 x 10 <sup>9</sup> /l	Platelets 1 adult dose order at 100 x 10 <sup>9</sup> /l

### Before transfusion

- Check patient ID
- Use wristbands

## Prevent coagulopathy

Anticipate need for platelets and FFP after 4 units blood replacement and continuing bleeding

Give Trauma Primary Major Haemorrhage (MH) Pack

Order Secondary Major Haemorrhage (MH) Pack

Correct hypothermia

Correct hypocalcaemia (keep ionised Ca >1.13mmol/L)

Send FBC and coagulation samples after every 3–5 units of blood given

Contact Haematologist

### Secondary MH pack

- RBC 5 units
- FFP 4 units
- Platelets
- Cryoprecipitate

If bleeding continues repeat secondary pack

### Trauma Primary MH pack

- RBC 5 units
  - FFP 4 units
  - Platelets 1 unit
- Aim for RBC: FFP of 1:1

### Standard MH Primary pack

- RBC 5 units
  - FFP 4 units
- Aim for RBC:FFP of 2:1

### Reassess and document

## Get help to stop bleeding

Contact surgeons, and clinical colleagues from other specialisms as appropriate