

# Major haemorrhage in adults

≥ 40% loss of total blood volume

4 litres in 24 hours

2 litres in 3 hours

> 150ml/min

## Get senior help

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

Ask Transfusion to  
**'initiate major haemorrhage protocol'**

### Contact Transfusion Laboratory

Important phone numbers

Contact Transfusion

## Assess ABC

## IV access

### Check patient identification

2 large cannula

Send blood samples, cross-match, FBC, coagulation, biochemistry

Consider arterial blood gas measurement

## Resuscitate

IV warm fluids – crystalloid or colloid  
Give oxygen

### Blood loss >40% blood volume

- 1500–2000mls loss

### MH may manifest as

- Pulse > 110, RR > 30
- Hypotensive in trauma systolic BP < 90 mmHg
- Urine < 20mls/h

### When laboratory results available

IF	GIVE
Falling Hb	Red cells
APPT and/or PT ration > 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

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

## Prevent coagulopathy

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

Give 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

Give tranexamic acid for trauma patients and consider its use in non traumatic bleeding

Dose: 1g iv over 10 minutes then 1g over 8 hours

Contact Haematologist

### Secondary MH pack

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

If bleeding continues repeat secondary pack

Contact surgeons, gastroenterologists, obstetricians as appropriate

### Primary MH pack

- RBC 5 units
  - FFP 4 units
- Alternate RBC and FFP and aim for RBC:FFP ratio 2:1

### Trauma Primary MH pack

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

Reassess and document

## Get help to stop bleeding