Adult Massive Haemorrhage Pathway

Te Whatu Ora
Health New Zealand
Tairāwhiti

Massive Bleeding PLUS
Shock Signs or **HR > 120** or **SBP < 90**

Code Red	Standard MHP	Obstetric MHP
Trauma + ABC Score ≥ 2 + senior clinician approval	Medical or Surgical Bleeding	
2g Tranexamic Acid	**1g Tranexamic Acid**	**1g Tranexamic Acid**

Send Group + Screen

<u>Initiate:</u> Call Blood Bank (ext 8174), Provide Patient Details + Request

Red Stat Pack	Stat Pack	Obstetric Stat Pack
2 RBC, 2 FFP	2 RBC	2 RBC

Reassess: Ongoing Massive Bleeding + Shock: Call Blood Bank (Ext 8174)

<u>Activate</u> MHP + Identify MHP Coordinator

Code Red	Standard Pack 1	Obstetric Pack 1
Straight to Pack 2	2 RBC, 2 FFP	2 RBC, 3 Cryo

Pack 2
4 RBC, 4 FFP
3 Cryo

Alternating packs 2 & 3 until bleeding slowed

Then stop MHP, and start targeted transfusion

1g Calcium with every pack

Pack 3
4 RBC, 4 FFP
1 Platelet*

Bloods:
- **repeat every 30min**
- Blood gas
- iCa^{2+}
- FBC
- Coags
- Fibrinogen
- Viscoelastic if available e.g. TEG®

Coagulation Targets	If Not, Give
PR < 1.5 | APTT < 40	4 U FFP
Fibrinogen > 2g/L	3 U Cryoprecipitate
Platelets > 75 x 10^9/L	1 U Platelets**
Ionised Ca^{2+} > 1.1 mmol/L	1g Calcium

Obstetric Haemorrhage

- Manage Tone, Trauma, Tissue, Thrombin causes of haemorrhage
- Repeat TXA 1g 30 min after initial dose if significant ongoing bleeding

See notes on page 2

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CODE Red - ABC Score

- **Penetrating** mechanism = 1
- **SBP ≤ 90** mmHg = 1
- **Positive eFAST*** ** = 1
- **HR ≥ 120 bpm** = 1

Code Red requires senior clinician approval and input, as activation identifies the highest risk trauma patients and needs a multi-service approach.

******eFAST*** *scan accuracy relies on the skill level of the practitioner*

Team Leader of the Resuscitation

- The team leader is the decision maker including activation of the MHP once the stat packs have been transfused
- Send urgent group & screen to blood bank
- Ensure Tranexamic Acid is administered, as a bolus through a fast flowing IV line

MHP Coordinator (e.g. Guardian, Coordinator) -

- Supports the team leader
- Once the MHP has been activated, communicate with the blood bank team

Tasks (Delegated as Necessary)

- Once Stat Packs have been transfused - reassess the patient in conjunction with the team leader
- If required after stat pack - activate MHP, state which MHP pathway (i.e. code crimson/standard/obstetric MHP)
  - If senior clinician requests MHP activation immediately, stat pack is still issued while the blood bank prepares pack 1/pack 2
- Ensure blood bank have your name and contact number
- Organize adequate orderly/health care assistant support
- Repeat MHP bloods every 30mins
- Ensure 1g Calcium given with every MHP pack *(10mL CaCl 10% or 30mL Ca^{2+} Gluconate 10%)* as a bolus through fast flowing line
- Hand-over coordination role if patient location changes; ensure blood bank notified of new coordinators name and number
- Cease MHP once the patient is clinically stable, inform blood bank, move to targeted therapy
- Ensure transfusion documentation / checklists maintained; all swing labels retained

****Smaller Centres should*** check Full Blood Count BEFORE giving platelets, avoid transfusing if PLT > 75 x 10⁹/L

Blood Bank Tasks – Blood Bank – ext 8174

- Process group & screen ASAP
- Liaise with MHP coordinator
- Release Stat Pack and MHP Packs as per protocol / SOP
- Notify NZBS TMS as per SOP & manage inventory
- Maintain Blood Bank Tracking Sheet / Checklist documentation and eTraceline records

Smaller Centres BEFORE releasing Pack 3, liaise with MHP coordination role to confirm PLT count is < 75 x 109/L and platelets clinically indicated

Infusion Standards

- RBC, FFP, Cryoprecipitate:
  - warmed
  - standard blood infusion set
- Platelets:
  - warmed or room temp
  - new infusion set preferred, not essential

Clinical Targets

- Surgical/radiological **control of bleeding** ASAP
- Normal **pH/base deficit**
- Normal body **temperature**
- **A lower MAP** may be tolerated until bleeding slowed - unless brain injury

MHP Runner

- Identified by MHP runner and works with MHP coordinator

Contacts:

- Blood Bank – ext 8174
- Orderlies – ext 8004
- Anaesthetist/theatre – ext 8180
- ED – ext 8139
- NZBS TMS – via Blood Bank

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