



Code Crimson Adult Massive Transfusion Protocol

Team leader responsibilities

- Notify coagulation lab and send coagulation requests.
- Activate protocol by ringing blood bank and saying 'I am activating the Code Crimson Massive Transfusion Protocol'.
- Call for each box as required.
- Make a decision to cease Code Crimson MTP and contact blood bank. Move to focused transfusion.

Blood bank responsibilities

- Process X-match sample as soon as possible.
- Notify NZBS medical specialist after issuing MTP Box Four.
- Thaw next box in advance and await request.
- Ensure supply of platelets.

Contacts

- Blood bank.
- Coagulation lab.

Additional treatment thresholds

- If PR > 1.5 or aPTT > 40, consider additional 4 units FFP.
- If fibrinogen < 1.5 g/L, consider additional 3 units cryo or 4 units FC.
- If platelets < 75 x 10⁹/L, consider additional one pack platelets.
- If ionised Ca⁺⁺ < 1.2 mmol/L give 10 mL calcium.

Massive bleeding with either shock (ABC ≥ 2) or abnormal coagulopathy

Give tranexamic acid 2 g IV bolus

Ensure delivery of X-match specimen to blood bank

Code Crimson add 2 units FFP or thawed plasma

Administer up to 2 units O-neg or type-specific RBCs

Ring blood bank to activate Code Crimson MTP

Code Crimson add 3 units cryo (or 4 g FC) and one pack platelets

MTP BOX ONE
2 whole blood or 2 units RBC and 2 units FFP

Check coags/
platelets/
FBC/ABGs/
Ca⁺⁺

MTP BOX TWO
4 RBC
4 FFP
1 adult platelets

Repeat every 30 min

MTP BOX THREE
4 RBC
4 FFP
3 units cryoprecipitate

Check coags/
platelets/
FBC/ABGs/
Ca⁺⁺

MTP BOX FOUR
4 RBC
4 FFP
1 adult platelets

Repeat every 30 min

and alternate 3 & 4

Check coags/
platelets/
FBC/ABGs/
Ca⁺⁺

Note: ABG = arterial blood gas; aPTT = activated partial thromboplastin time; Ca = calcium; coags = coagulation screen; cryo = cryoprecipitate; FBC = full blood count; FC = fibrinogen concentrate; FFP = fresh frozen plasma; NZBS = New Zealand Blood Service; PR = prothrombin ratio; RBC = red blood cell.