

Bleeding news

Patient blood management guideline for adults with critical bleeding (guías australianas)

<https://blood.gov.au/pbm-critical-bleeding>

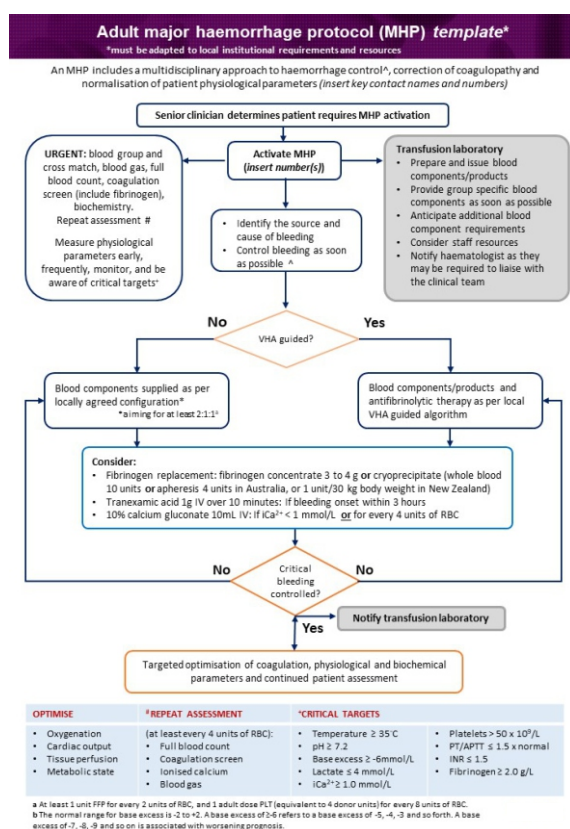
Author of the comment: Dra. Sonia María Veiras. Hospital Clínico Universitario de Santiago de Compostela. Head of Section at the Anesthesia and Resuscitation Department. A Coruña Province.

This document offers a specific simple guide for the management of critical bleeding.

There are plenty of massive hemorrhage management guides—European, American, advocated for by anesthesiologists, by intensivists, referred to specific bleeding scenarios, such as obstetric cases, multiple trauma, heart surgery, or liver transplant). Many of these documents are long and tedious, hard to read and summarize, which makes them less useful.

Australian guides are also a long document (185 pages) containing the arguments for each one of the recommendation.

At the same time, the Australian work group has published a summary of guides for quick reference.



Other considerations	
*Haemorrhage control <ul style="list-style-type: none"> • Early identification of cause of bleeding • Control bleeding, using: <ul style="list-style-type: none"> ◦ compression ◦ packing ◦ tourniquet ◦ pelvic binder • Surgical assessment: <ul style="list-style-type: none"> ◦ early surgery or angiography to control bleeding 	Suggested criteria for MHP activation <p>Clinical suspicion of critical bleeding and one or more of:</p> <ul style="list-style-type: none"> • Systolic blood pressure $< 100 \text{ mmHg}$ • Heart rate $> 100 \text{ bpm}$ • Positive focused assessment with sonography for trauma (FAST) • Estimated blood loss $> 1\text{L}$ • Pallor
Resuscitation <ul style="list-style-type: none"> • Institute active warming, avoid hypothermia • Warm RBC through an approved blood warming device if available • Prioritise blood components over crystalloids • Consider permissive hypotension (systolic BP: 70 to 100 mmHg) 	Special clinical situations <p>Direct oral anticoagulants</p> <ul style="list-style-type: none"> • Refer to haematologist <p>Warfarin reversal:</p> <ul style="list-style-type: none"> • Refer to warfarin reversal guidelines <p>Obstetric haemorrhage:</p> <ul style="list-style-type: none"> • Consider additional fibrinogen replacement <p>Severe traumatic brain injury:</p> <ul style="list-style-type: none"> • Permissive hypotension relatively contraindicated <p>Older adults:</p> <ul style="list-style-type: none"> • Hypotension and tachycardia may be late observations • Caution with permissive hypotension
Suggested key contacts (modify locally) <ul style="list-style-type: none"> • Blood bank/transfusion laboratory • Anaesthetist • Surgeon • Haematologist • Interventional radiology 	
Acronyms <p>APTT: activated partial thromboplastin time, BP: blood pressure, bpm: beats per minute, Ca²⁺: ionised calcium, FFP: fresh frozen plasma, INR: international normalised ratio, IU: international unit, IV: intravenous, MHP: major haemorrhage protocol, mmHg: millimetres of mercury, mmol/L: millimoles per litre, PLT: platelets, PT: prothrombin time, RBC: red blood cells, VHA: viscoelastic haemostatic assays</p>	

Notes:

- This template was developed using the recommendations and good practice statements in the Patient blood management guideline for adults with critical bleeding. Recommendations in the guideline were based on the results of multiple systematic reviews. Good practice statements were developed based on indirect evidence and expert consensus. For further details see the full guideline.
- The content in this MHP is a guide only and must be adapted to local institutional requirements and resources. Health professionals should use clinical judgement and consider the clinical circumstances and patient preferences, to determine the appropriateness of this template for an individual patient.

Bleeding news



In summary, the document contains seven recommendations and eleven clinical best practice statements, depending on the level of existing evidence.

The recommendations, in a nutshell, are the following:

- Having a massive hemorrhage protocol in place at each site.
- Frequently measuring these parameters in the bleeding patient: temperature, acid-base status, ionized calcium, hemoglobin, platelet count, PT/INR, aPTT, fibrinogen.
- Transfusion ratio between PRBC, FFP and platelets not below 2:1:1 (a 1:1:1 ratio is even advocated for, although without the necessary evidence).
- At least 1 unit of FFP is recommended for each 2 PRBCs, and 1 unit of platelets for each 8 PRBCs.
- The group takes a stance against the routine use of recombinant activated factor VII, except for cases of factor VII or IX inhibitors, congenital deficiency of factor VII and Glanzmann thrombasthenia. In massive bleeding, recombinant FVII will be used as a last resort after using up other hemostatic measures.
- Early administration of tranexamic acid is recommended in trauma patients and in obstetric hemorrhage cases.

Best practice statements are agreements emerging from the working group that are considered to be beneficial but are lacking the evidence required to become recommendations:

- Identifying the cause of bleeding and early control of bleeding
- Temperature $<35^{\circ}\text{C}$, pH <7.2 , $\text{Ca}^{+2} <1 \text{ mmol}$, PT >1.5 , INR >1.5 , aPTT >1.5 , fibrinogen <2 are considered critical physiological deterioration values.- the replacement of fibrinogen with 3-4 g of concentrate or else one unit of cryoprecipitate for each 30 kg of body weight, or the administration of 25-50 UI/kg of prothrombin complex concentrate (no evidence was found to make recommendations on the time of administration or the exact dose)
- The administration of PRBCs through fluid warmers
- The administration of isogroup blood products as soon as possible
- Stopping the activation of the massive hemorrhage protocol as soon as the critical hemorrhage is under control
- It is agreed that there is insufficient evidence to recommend using tranexamic acid in critical digestive bleeding
- Using viscoelastic tests to manage critical bleeding can be beneficial, as well as blood salvage (cell saver)