North West Anglia
NHS Foundation Trust

Guideline for Management of Major Haemorrhage
Version 8.1

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1.	Is the document still required?	Yes	Please see question 2.	Arrange document removal with Exec Director/Chair of DLB and forward to the relevant compliance team.
2.	Has there been any change in guidance or national policy since the previous version?	Yes	Please see question 4.	Please see question 3.
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VERSION CONTROL SUMMARY

Version:	Page/Section of Document:	Description of change: (List all amendments made to the document. "Review" or "Update" is not sufficient information.)	Date Exec Director/Chair of DLB approval given for change of review date only	Date approved:	Date published:
V8-2024		Amended location of available emergency O negative units. Change of terminology for MHP packs (in accordance with regional guideline). Change of process for blood delivery in MHP activation – porters now to deliver blood to clinical areas upon activation. Updated regional MHP flow chart. Added rVIIa procedure (C0185a) as an associated document.	N/A	14/11/2024	15/11/2024
V8.1-2026		Minor amendment: Adjusted to reflect Haemobank fridges – unused units can be returned directly to these fridges. Clarification of transport processes (section 10). Adjusted Appendix C to align with current practice – only time/date required on box paperwork, and any unused units to be returned directly to a blood fridge.	N/A	N/A	19/01/2026

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Please list the details of all who contributed to the development of this document.

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CONTENTS

1. INTRODUCTION

1.1 Major haemorrhage jeopardises the survival of patients in many clinical settings.

In major haemorrhage situations, a successful outcome requires early recognition, prompt action, and effective communication between the various clinical specialities, diagnostic laboratories, and blood bank staff.

The guiding principles are:

- **Get Help**
- **Give Fluid/Blood**
- **Stop Bleeding**
- **Reassess**

1.2 The British Society for Haematology (BSH 2022) has published practical guidelines on the haematological management of major haemorrhage, and it is on these guidelines this document is based.

2. PURPOSE

2.1 This document aims to give guidance about transfusion management of a patient who has a major haemorrhage and is likely to need rapid infusion of blood components.

2.2 For a detailed description of the procedure for requesting and administering blood components, refer to the Trust Blood Transfusion Policy available on the Intranet.

3. SCOPE

3.1 As patients with major haemorrhage may present in a variety of clinical settings, from a range of specialities, this guidance applies to any clinician treating a patient with major haemorrhage.

4. DEFINITIONS

4.1 There is a spectrum of severity and presentation of major haemorrhage, which at one extreme is seen as acute major blood loss associated with haemodynamic instability and risk of shock, but also those in whom the bleeding appears controlled but still require 'massive' transfusion.

4.2 Major haemorrhage in adults

This may be defined as either:

- ≥40% loss of total blood volume or
- Continuous blood loss over 3 hours

Major Haemorrhage may manifest as:

- Pulse >110,
- RR >30,
- BP<90 systolic,
- urine<20mls/hr

4.3 Major haemorrhage in children

This may be defined as blood loss of:

- >80ml/kg in 24 hours
- >40ml/kg in 3 hours
- >3ml/kg/minute

Suspect 40% blood loss if significant source of bleeding suspected and clinical parameters as follows:

Age	Heart rate	Systolic BP
<1 year	>160	<70
1–2 years	>150	<80
3–5 years	>140	<80
6–12 years	>120	<90
>12 years	>100	>100
Tachypnoea or increased work of breathing		
Urine output <0.5ml/kg/hour		

5. MAJOR HAEMORRHAGE - PRIOROTIES FOR TREATMENT

5.1 Get senior help

- Early involvement of senior staff is essential - CALL FOR ASSISTANCE IMMEDIATELY
- Activate major haemorrhage protocol –

Call extension 2222 and say "activate the major haemorrhage protocol"

5.2 Assess ABC

5.3 IV access

- Check patient identification and ensure wristband is present
- Ensure the patient has IV access – 2 large cannula
- Send blood samples: crossmatch, FBC, coagulation, biochemistry
- Consider arterial blood gas measurement
- Give tranexamic acid for trauma and obstetric patients and consider for others. Dose 1g IV over 10 minutes then 1g over 8 hours

5.4 Resuscitate

- IV warm fluids – crystalloid or colloid
- Give oxygen

5.5 Give Blood

- Give up to 4 units via a blood warmer – **emergency blood** (initial pack)
- Aim for Hb>80g/L
- Give Group O if immediate need and/or blood group unknown

5.6 Prevent coagulopathy

- Anticipate need for platelets and FFP after 4 units of blood replacement and continued bleeding
- Give Primary Major Haemorrhage (MH) Pack
- Order Secondary Major Haemorrhage Pack
- Correct hypothermia
- Correct hypocalcaemia (keep ionised Ca>1.13mmol/L)
- **Send FBC & coagulation samples after every 3-5 units of blood given**
- **Contact Consultant Haematologist**
- **If bleeding continues repeat secondary pack**

5.7 Get help to stop bleeding

5.8 Major Haemorrhage Packs

Initial
4 units RBC

Primary	Primary for trauma
4 units RBC 4 units FFP *Alternate RBC and FFP* *Aim for RBC:FFP ratio 2:1*	4 units RBC 4 units FFP 1 unit Platelets *Aim for RBC:FFP ratio 1:1*

Secondary
4 units RBC 4 units FFP 1 unit Platelets 2 pools Cryoprecipitate

5.9 When lab results are available

IF	GIVE
APTT and/or PT ratio >1.5	FFP 15-20 ml/kg
Fibrinogen <1.5g/L & Obstetrics <2g/L	Cryoprecipitate (2 pools)
Platelets <50x10^9/L	Platelets 1 unit

6. ACTIVATION OF MAJOR HAEMORRHAGE PROTOCOL

6.1 Blood transfusion laboratory staff must be informed of major haemorrhage at the earliest opportunity so that emergency procedures can be activated in a timely manner.

The decision to activate the major haemorrhage protocol must be made by a senior member of the medical staff (Registrar or above).

The person activating the major haemorrhage protocol must nominate a communication lead. All contact with transfusion MUST be via this person, so this must be someone who is able to stay close to the phone to communicate with transfusion.

6.2 **Activation process**

The communication lead will contact switchboard on 2222, and state either:

"Activate the major haemorrhage protocol – contact extension……"

or

"Activate the major obstetric haemorrhage protocol – contact extension……"

STAY BY THIS PHONE AND KEEP THE LINE CLEAR

The transfusion laboratory will call back on that number immediately, and must be given the patient's following information:

- Full name and date of birth (if known)
- Hospital number
- Gender
- Details of the incident, for instance if this is a trauma call, if emergency group O red cells are required/already used, or if group-specific blood or fully cross matched blood is required (depending on availability and the patients clinical need).
- Which major haemorrhage pack(s) are required (Laboratory staff will not continue to issue all other packs unless instructed - please let them know if you need another pack. More than 1 pack may be issued at once depending on the clinical situation).
- The name and contact details of the communication lead.

To avoid the potential for miscommunication and repeated calls to the laboratory with varying messages, **all** contact with the laboratory must be through this person.

Use SBAR to ensure messages are communicated effectively – see Appendix E.

Remember: Emergency Group O red cell units are available at all times (see section 7 for stock locations). These may be collected from the main blood banks or may be issued directly by the transfusion laboratory.

Please note: Activation of the MHP does not call assistance to the clinical area. If this is required the request must be made separately – ideally from another phone line keeping this activation line clear for laboratory contact.

6.3 Samples

The communication lead must ensure that blood samples for the below have been taken and sent promptly to the laboratory.

- **Full blood count**
- **Group and Screen – 2 group and screen results/samples are required for issue of crossmatched units** upon activation of the MHP transfusion laboratory staff will advise you of the patient's Group and Screen (G&S) requirements.

Samples ideally should be taken by two DIFFERENT staff members by separate venepunctures, one member of staff taking the first sample and the second independently taking the confirmatory sample.

Or if clinical urgency dictates (for example life threatening haemorrhage):

- By the same staff member by separate venepunctures at DIFFERENT times
- By two DIFFERENT staff members, independently but at the same time (for example from different venous access points)

These samples must be labelled next to the patient from the patient ID band with the following information (as a minimum):

- Patient's first name and surname (if known, or for unknown patients, use designated phonetic alphabet name)
- Patient's Date of birth (if known)
- Hospital Number from ID band
- Date and Time sample taken
- Signature of the sample taker

Any samples which do not meet this minimum requirement will be rejected.

6.4 Sample delivery

The samples should be sent directly to transfusion via the air tube

- **PCH** Transfusion laboratory station is **400**

- **HH** Tube automatically delivers samples directly to the laboratory

If for any reason the air tube system is not available, they should be hand delivered to transfusion.

7. LOCATION OF EMERGENCY BLOOD

7.1

PCH Emergency Group O blood	HH Emergency Group O blood
Main Blood Bank, 4th floor Core B	Main Blood Bank, Pathology
Theatre Blood Bank	2 Neonatal units Main Blood Bank
2 Neonatal units Theatre Blood Bank	

7.2 **Anyone taking any emergency group O units must inform the transfusion laboratory immediately. This is vital to maintain stock of units in the blood fridges.**

8. ISSUE OF MAJOR HAEMORRHAGE PACKS - ADULTS

8.1 On activation of the major haemorrhage protocol the transfusion laboratory staff will issue major haemorrhage packs in the following order:

Pack	Contents
Initial	**4 units red cells** (either emergency Group O, group compatible or fully cross matched depending on availability and clinical need)
Primary	**4 units red blood cells, 4 units FFP** (For trauma - +1 unit platelets. These may not be immediately available, therefore trauma cases must be identified on activation)
Secondary	**4 units red blood cells, 4 units FFP,** **1 unit platelets, 2 pools cryoprecipitate**.

See Appendix A for details of procedure.

8.2 Depending on the clinical situation, the decision may be taken to request **any/all packs at the same time**. **Please inform transfusion if this is thought necessary.**

8.3 When the initial blood has been issued, the transfusion laboratory will request guidance from the communication lead as to whether the primary and/or secondary packs will be required.

If necessary the laboratory will then:

- Commence thawing plasma products – this takes up to 30 minutes
- Contact the NHSBT Cambridge Blood Transfusion Centre to request platelets as an emergency delivery (if none already available on the premises). Please note that the laboratories do not hold stock platelets.
- Inform a Consultant Haematologist that the major haemorrhage protocol has been activated.

If the clinical team require any advice on appropriateness of products they must contact the Consultant Haematologist directly.

9. ISSUE OF MAJOR HAEMORRHAGE PACKS - CHILDREN

9.1 On activation of the major haemorrhage protocol for children the transfusion laboratory staff will issue major haemorrhage packs in the following order:

Pack	Contents
Initial	**Red blood cells 20ml/kg** (up to 4 units)
Primary	**Red blood cells 30ml/kg** (up to 4 units) **FFP 20ml/kg** (up to 4 units)
Secondary	**Red blood cells 30ml/kg** (up to 4 units) **FFP 20ml/kg** (up to 4 units) **Platelets 15ml/kg** (up to 1 unit) **Cryoprecipitate 5ml/kg** (up to 300ml)

See Appendix B for details of procedure.

9.2 Depending on the clinical situation, the decision may be taken to request **any/all packs at the same time. Please inform transfusion if this is thought necessary.**

9.3 When the initial blood has been issued, the transfusion laboratory will request guidance from the communication lead as to whether the primary and/or secondary packs will be required.

If necessary, the laboratory will then:

- Commence thawing plasma products – this takes up to 30 minutes
- Contact the NHSBT Cambridge Blood Transfusion Centre to request platelets as an emergency delivery (if none already available on the premises). Please note that the laboratories do not hold stock platelets.
- Inform a Consultant Haematologist that the paediatric major haemorrhage protocol has been activated.

If the clinical team require any advice on appropriateness of products they must contact the Consultant Haematologist directly.

10. COLLECTING BLOOD COMPONENTS

10.1 Upon activation of the Major Haemorrhage Protocol the porter holding the emergency bleep will attend Blood Bank automatically – this will happen immediately on receipt of the activation call as it is a clinical emergency. Blood bank will advise the porter where to take units of blood, or if they are required to be on standby. Please do not send another porter separately to the laboratory as this may cause confusion.

If the patient is a maternity patient at PCH or in theatres at PCH the porter will move the blood from the main blood bank to Theatres Blood Fridge.

If the patient is in any other area, at PCH or HH, the porter will transport units of blood in a blood transport box or transport bag to the clinical area.

Please keep the laboratory informed if the patient is being moved to another area.

The porter will then report back to Blood Bank to deliver any samples and to check if any further units need to be delivered.

See Appendix C for a summary of different transport methods.

10.2 **Blood Transport**

PCH – Collecting units for obstetric haemorrhage OR haemorrhage in Theatres

For PCH obstetric haemorrhage and major haemorrhage in Theatre:

- A porter will attend Blood Bank.
- Blood Bank staff will move units out of storage and place in a transport bag.
- The porter will move the blood from the laboratory to the Theatre Blood Fridge.
- Clinical staff will need to collect the units for use from this fridge.
- *Non-refrigerated components (platelets and cryoprecipitate) can be moved by the porter to theatres but must be handed to an appropriate member of clinical staff.*

10.3 **PCH and HH – Major haemorrhage calls in all other areas**

- A porter will attend Blood Bank.
- Blood Bank staff will move units out of storage and place in a transport bag or box.
- The porter will take the blood directly to the clinical area.
- Clinical staff will need to check the units as they are removed from the bag/box as they would do for any other units for transfusion. All usual safety measures apply.

10.4 **Any unused blood must be returned to a blood fridge as soon as possible.**

If blood is returned within 30 minutes of being removed from storage (blood fridge or box) it can be put back into stock and safely used for your patient or another patient.

If blood is returned between 30 and 60 minutes of being removed from storage it can be quarantined, cooled, and used at a later date.

If blood is returned over 60 minutes from the time it was removed from storage it will be wasted – however please still return all unused units to the laboratory as soon as possible.

10.5 Blood for transfer

If a patient needs blood for transfer to another hospital the laboratory must be contacted and separate documentation completed to ensure blood is transported safely, and in compliance with the Blood Safety and Quality Regulations 2005.

DO NOT SEND THE BOX PACKED FOR THE MHP ACTIVATION – instead please contact thew laboratory so they can issue fresh units and notify the other hospital laboratory .

11. MAJOR HAEMORRHAGE AT STAMFORD HOSPITAL

11.1 There is no blood fridge at Stamford Hospital. In case of major haemorrhage arrangements should be made to transfer the patient to PCH immediately by emergency ambulance.

Give crystalloid/colloid fluids to support the patient's circulation.

11.2 Transfusion at PCH should be contacted on 8451/2 (or bleep 1151 out-of-hours) to inform them that the patient is being transferred to PCH (they may need transfusion support on arrival).

12. USE OF TRANEXAMIC ACID

12.1 Tranexamic acid is an anti-fibrinolytic agent and inhibits the activation of plasminogen to plasmin.

It is recommended for patients with presentations of major bleeding due to trauma and PPH, but not gastrointestinal bleeding (BSH 2022).

12.2 Trauma East Manual of Procedures and Operations (TEMPO)

TEMPO suggests:

- Early use of tranexamic acid should be considered for all patients with trauma and significant haemorrhage
- Patients with isolated head injury should not routinely receive tranexamic acid as risk of thrombosis exists
- Use within 3 hours of injury is recommended
- Initial use of tranexamic acid should be avoided when time from injury is known or suspected to be greater than 3 hours
- Tranexamic acid is given as 1 gram loading dose in 100ml 0.9% normal saline over 10 min in a separate line from blood or blood products

- Infuse a second 1 gram dose of tranexamic acid 0.9% normal saline over 8 hours
- There is no evidence from randomised trials to support additional administration of tranexamic acid in trauma patients after the initial two doses. Further use should be discussed with an on-call haematology consultant.

For more information on dose and administration, please refer to Appendix D (NHS East of England Trauma Network TEMPO guidelines 2014).

12.3 Specific settings – British Society for Haematology – Haematological management of major haemorrhage (2022)

Postpartum haemorrhage

BSH recommend that an initial dose of TXA (1 g intravenously) is given to women with PPH within 3 h of bleed onset. If bleeding continues after 30 min, or it stopped and restarted within 24 h of the first TXA dose, a second dose of 1 g should be given.

Trauma

Patients with traumatic injury (including mild–moderate TBI) should be given TXA as soon as possible after injury (and no later than 3 h); a suitable regimen includes 1 g bolus dose intravenously over 10 min, followed by a maintenance infusion of 1 g over 8 h should be used.

Surgical bleeding

It is recommended that all patients having in-patient surgery should receive 1 gram of tranexamic acid prior to skin incision to reduce major surgical bleeding and reduce the need for blood transfusion.

Gastrointestinal bleeding

Tranexamic acid is not recommended for patients with acute gastrointestinal bleeding.

13. OTHER BLOOD PRODUCTS

13.1 Recombinant Factor VIIa (rVIIa)

Recombinant Factor VIIa (rVIIa) is a freeze-dried concentrate which is currently only licensed for treatment prophylaxis of haemorrhage in patients with haemophilia A or B with inhibitors to factors VIII or IX, acquired haemophilia, factor VII deficiency, or Glanzmann's thrombasthenia.

There have been many positive case reports about the efficacious off-label use of rVIIa in uncontrolled post-operative bleeding. However this must be considered in conjunction with several randomised controlled trials which have not showed benefit. The British Society for Haematology guideline (Haematological management of major haemorrhage,

2022) states The use of rVIIa is not recommended in the management of major haemorrhage unless as part of a clinical trial (1B).

Considering the above, **there may be a place for considering its use to control bleeding in certain situations when other measures have failed.**

See associated document Recombinant Factor VIIa in Major Haemorrhage (C0185a) for further details.

13.2 Prothrombin Complex Concentrate (PCC/Octaplex)

PCC may be used to reverse anticoagulation in patients who are on warfarin (and some other anticoagulants) if they are experiencing a major haemorrhage. See Guidelines for the Management of Anticoagulant Reversal in Adults (C0161) and Guidelines for the use of Octaplex for the reversal of warfarin (C0254).

14. CONCLUSION OF THE INCIDENT

14.1 At the conclusion of the incident, the communication lead **must** notify the transfusion laboratory that they may **stand down,** as routine Laboratory work may have been de-prioritised for the duration of the incident, and extra staff may have been asked to report for duty, depending on the time of day.

14.2 Any deviation from protocol should be reported via Datix to ensure rapid review and appropriate investigation.

14.3 A monthly review of incidents will be prepared by the Transfusion Operational Management Team. Any adverse events will be identified and reported via DATIX, and corrective and preventative actions recorded on the laboratory Q pulse system.

14.4 To comply with the legal framework of the Blood Safety & Quality Regulations 2005:-

- No blood components must be taken from the hospital unless transfusion have been informed, and have completed the necessary documentation and cold chain arrangements. **Boxes must not be packed by clinical areas**.
- All given units must be signed for as used, and traceability tags completed.

15. REFERENCES

British Society for Haematology – Guidelines on transfusion for foetuses, neonates and older children (2016). Available: https://b-s-h.org.uk/guidelines/guidelines/transfusion-for-fetuses-neonates-and-older-children/ [Accessed 25/09/24]

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APPENDIX A: PROCEDURE FOR ACTIVATING MHP FOR ADULTS

EoE RTC V6 01.2024

East of England Regional Transfusion Committee

NHS

Major haemorrhage in adults

Pulse>110, RR>30 **Urine <20mls/h**

Hypotensive in trauma, systolic BP< 90mmHg

≥ 40% loss of total blood volume 4 litres in 24 hours 2 litres in 3 hours

Get senior help

Initiate major haemorrhage protocol by contacting relevant staff members and teams e.g. resus

Activate Major Haemorrhage Protocol – call 2222

Important phone numbers and prompts to tell the laboratory

Activate MHP via Switchboard on 2222

PCH Transfusion Lab 8451/2 Bleep 1151 out of hours

HH Transfusion Lab 6157 Bleep 1257 out of hours

Contact Consultant Haematologist via Switchboard if required.

Assess ABC

IV access

Check patient identification – ID / Wristbands

2 large cannula

- Send blood samples: cross match, FBC, coagulation, biochemistry
- Consider arterial blood gas measurement
- Give tranexamic acid for trauma and obstetric patients and consider for others. Dose: 1g IV over 10 minutes then 1g over 8 hours

Resuscitate

IV warm fluids – crystalloid or colloid

Give oxygen

Give Blood

Give up to 4 units via blood 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 & continued bleeding

- If you use TEG/ROTEM please follow local policy
- Give Primary Major Haemorrhage (MH) Pack
- Order Secondary Major Haemorrhage Pack
- Correct hypothermia
- Correct hypocalcaemia (keep ionised Ca>1.13mmol/l)
- **Send FBC & coagulation samples after every 3 – 5 units of blood given**
- **Contact Haematologist**
- **If bleeding continues repeat secondary pack**

Non-Trauma Primary MH Pack

- RBC 4 units
- FFP 4 units

Alternate RBC & FFP

Aim for RBC:FFP ratio 2:1

Trauma MH Pack

- RBC 4 units
- FFP 4 units
- Platelets 1 unit

Aim for RBC:FFP 1:1

Secondary MH Pack

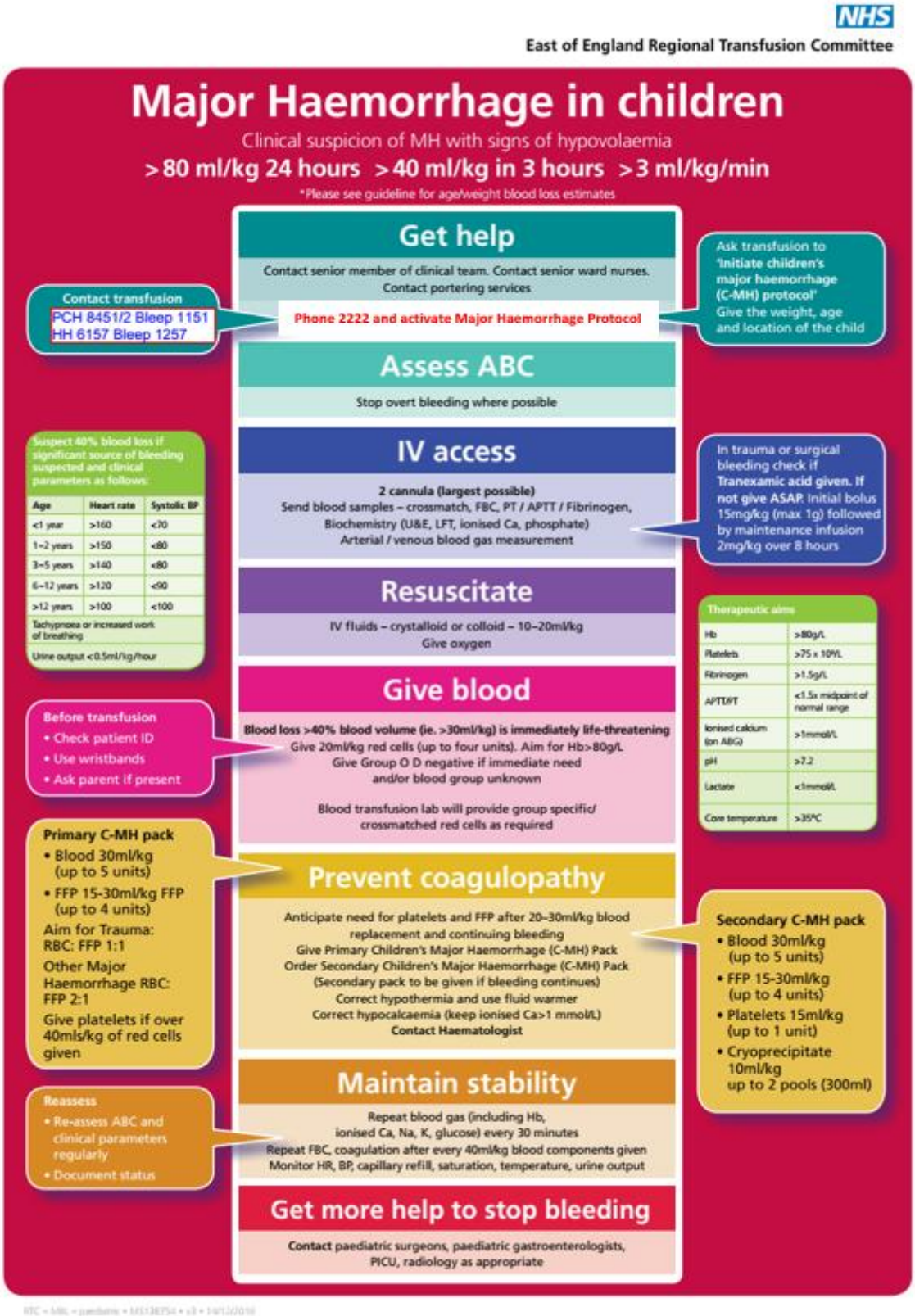
- Maintain RBC:FFP ratios as per primary packs
- 2 units Cryoprecipitate
- Platelets

When lab results available:

IF	GIVE
APTT and/or PT ratio>1.5	FFP 15-20 ml/kg
Fibrinogen <1.5g/L & Obstetrics <2g/L	Cryoprecipitate (2 pools)
Platelets <50 x 10^9/l	Platelets 1 unit

Get help to stop bleeding

APPENDIX B: PROCEDURE FOR ACTIVATING MHP FOR CHILDREN



APPENDIX C: BLOOD TRANSPORT FOR MAJOR HAEMORRHAGE

Blood Transport for Major Haemorrhage

Upon activation of the major haemorrhage protocol a porter will attend blood bank to collect blood products

These will be packed in a blood transport box *or* a red transport bag and delivered to the clinical area (or moved to PCH Theatre Blood fridge for patients in PCH Theatres/Maternity).

Blood Received in Bag	Blood Received in a Box		
	Blood used	**Blood not used (or some units not used)**	**Patient transferred to another clinical area or hospital**
Follow usual pre-transfusion checks. Ensure blood is used within 30 minutes of leaving Blood Bank – phone the lab for advice if >30 minutes.	Take units from the box one at a time Complete box paperwork and record time/date box is opened. Return empty box and tracking paperwork to the lab as soon as possible	Return box, tracking paperwork and unused units to the transfusion lab as soon as possible.	Inform the transfusion lab immediately. Do not use this box to send blood to another area or out of the hospital without authorisation from the lab.

Time Limits	
Bag All units must be fully transfused within 4 hours of removal from the fridge. Blood can be returned to a blood fridge within 30 minutes and safely returned to stock for later use. Blood out between 30 and 60 minutes may be retrievable but must be quarantined by the lab while cold chain is checked. Return to a blood fridge as soon as possible.	**Box** Unopened box - Blood can be used up to 3 hours from the time the box was packed and sealed - Once seal is broken and box opened - All units must be fully transfused within 4 hours OR - Blood can be returned to Blood Bank within 30 minutes of opening the box and safely returned to stock for later use - Blood returned within 60 minutes of opening the box may be quarantined and later returned to use. - Blood returned after 60 minutes of opening the box will be wasted.

Please ensure all documentation is complete – cold chain documentation is required by law. Any unused units can only be returned to stock if all documentation is completed correctly.

APPENDIX D: INFORMATION FOR USE OF TRANEXAMIC ACID

(Ref: NHS East of England Trauma Network TEMPO Guidelines 2014, section 11a)

Tranexamic acid (TXA)

Drug notes

Inhibits fibrinolysis, therefore can be used to reduce bleeding

Use

Indications

- Suspected bleeding in the context of major trauma (excluding isolated head injury) where the patient has either a heart rate >110 or systolic BP <90

Cautions	Dose 1 – within 3hrs of incident	Dose 2 – during 8hrs following incident
• known allergy to Tranexamic acid	• **Adults:** 1g IV/IO over 10 mins • **Children:** 15mg/kg IV/IO over 10 mins (max 1g)	• **Adults:** 1g IV at 60ml/hr over 8hrs • **Children:** 2mg/kg/hr over 8hrs

Special groups	Side effects	
• No evidence of harm in pregnancy	• Nausea, vomiting • Hypotension on rapid injection	

Presentation	Administration – dose 1	Administration – dose 2
500mg in 5ml, glass vial (100mg/ml)	Required volume (dose) into 100ml 5% dextrose (in trauma bag) or 100ml N/Saline. Administer IV/IO over 5–10 mins	1g tranexamic acid in 500ml of N/Saline over 8hrs at rate of 60ml/hr.

Drug information

Not a controlled drug

Can be kept at room temperature

Further information

BNF: section 2.11

APPENDIX E: CLINICAL AND LABORATORY SBAR FOR MAJOR HAEMORRHAGE

Table 1

Checklist and prompts for the clinical team calling the laboratory

Clinical SBAR checklist for Massive Haemorrhage phone call	
Situation	Introduction – your name, role, contact number, department Patient location Purpose of call e.g., activate MHP How many patients Expected time of arrival
Background	Patient identification - full name, date of birth and unique patient identifier (emergency or hospital number) Is the patient on anticoagulants or anti-platelet medications? Is prothrombin complex concentrate needed?
Assessment	Has the patient received emergency blood pre-hospital or in the clinical area?
Recommendation	Timescale – degree of urgency – when are component needed If not using standard MHP provide clear instructions on components needed and why non-standard MHP Confirm clinical staff member in charge of communication (code red nurse)

MHP, major haemorrhage protocol.

Table 2

Checklist and prompts for the laboratory team in discussion with the clinical team

Laboratory SBAR checklist for Massive Haemorrhage phone call	
Situation	Introduction – your name as laboratory lead for the MHP Communicate relevant information from the blood bank that may impact the MHP e.g., 3 concurrent MHP activations, in contingency mode
Background	Confirm patient identification and location plus likelihood of moving (e.g., to theatre) Confirm clinical team know where emergency group O red cells are available
Assessment	Has the patient had emergency group O RBC? From which fridge? Check patient history – is there a group and screen available – is there any transfusion history
Recommendation	Confirm MH pack content or components agreed if non-standard MHP Agree timescale for component provision (15 mins, 30 mins, 1 hr) Emergency blood in the fridge will be replaced – agree timescale Confirm contact details of clinical lead Offer contact information for consultant haematologist

MH, major haemorrhage; MHP, major haemorrhage protocol.

APPENDIX F: QUALITY ASSURANCE CHECKLIST

CORPORATE GOVERNANCE COMPLIANCE OFFICER'S USE ONLY

		Y/N/ n/a	COMMENTS (to author for amendments)
1	**Title of document**		
	Is the title clear and unambiguous	Y	
2	**Type of document (e.g. procedure, guidance)**		
	Is it clear whether the document is a procedure, guideline, SOP?	Y	
3	**Introduction**		
	Are reasons for the development of the document clearly stated?	Y	
4	**Content**		
	Are all sections of the front cover completed correctly?	Y	
	Is the document in the correct Trust approved format?	Y	
	• Paragraphs numbered consecutively	Y	
	• Headers: only on front page to contain logo	Y	
	• Footers: on every page except front page	Y	
	Has the Author's Checklist been fully updated?	Y	
	Are the Version numbers correct in the title, summary and the footers?	Y	
	Has the Version Control Summary been fully updated with changes?	Y	
	Has the Document Contributors section been completed?	Y	
	Are the objectives/aims clearly stated?	Y	
	Does this document concern the handling, moving or storage of personal identifiable or commercially sensitive information? If yes, has a Summary Privacy Impact Assessment been completed?	N/A	
5	**Evidence Base**		
	Is the type of evidence to support the document explicitly identified?	Y	
	Are associated documents referenced?	Y	
6	**Approval Route**		
	Has email approval been received for change of review date only?	N/A	
	Does the document identify which committee/group will approve it?	Y	
	Does the document meet the criteria for Second Level approval or Information Only?	Y	Full approval

If answers to any of the above questions is 'no', then this document is not ready for approval, it needs further review.

It is vitally important that documents are forwarded to the Corporate Governance Team after every amendment and approval meeting to ensure the most up-to-date version is held by the team at all times.

COMPLIANCE TEAM:		
1.	Date Comments returned to author by Compliance Lead	
2.	Date of Compliance Team approval	14 January 2026
3.	Name of Compliance Lead	Carly Goddard 

Please do not delete any of the below approval sections.
If certain sections are not applicable to the document's journey please enter 'N/A'

SPECIALTY APPROVAL MEETING: Enter name of **Specialty** meeting/group			
On approval, Chair to sign below and send the document and the minutes from the approval committee to the Corporate Governance Team. **To aid distribution all documentation should use electronic signatures and be sent electronically wherever possible.**			
Chair's Name	***Not Applicable***	**Date**	Enter date
Signature			

CBU APPROVAL MEETING: Hospital Transfusion Committee			
On approval, Chair to sign below and send the document and the minutes from the approval committee to the Corporate Governance Team. **To aid distribution all documentation should use electronic signatures and be sent electronically wherever possible.**			
Chair's Name	Dr Lynda Menadue	**Date**	04/10/2024
Signature			

ADDITIONAL APPROVAL MEETINGS: Complete all that apply			
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Select Meeting.		Select Meeting.	
Chair's Name	***Not Applicable***	**Chair's Name**	***Not Applicable***
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FIRST-LEVEL APPROVAL: FISS Divisional Leadership Board			
On approval, Chair to sign below and send the document and the minutes from the approval committee to the Corporate Governance Team. **To aid distribution all documentation should use electronic signatures and be sent electronically wherever possible.**			
Chair's Name	Dr. Tim Jones	**Date**	23/10/2024
Signature			
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Chair's Name	Dr Callum Gardner	**Date**	14/11/2024
Signature