FOI REF: 23/039

East Sussex Healthcare NHS Trust

13th February 2023

Eastbourne District General Hospital
Kings Drive
Eastbourne
East Sussex
BN21 2UD

Tel: 0300 131 4500
Website: www.esht.nhs.uk

FREEDOM OF INFORMATION ACT

I am responding to your request for information under the Freedom of Information Act. The answers to your specific questions are as follows:

The guidelines listed below were supplied in your FOI response FOI 22/021 received on the 2/14/2022.

Please could you confirm whether or not these guidelines are still in use and if they have been updated since the initial request. If they have been updated please could an updated copy be supplied.

If any new protocols for the management of major haemorrhage, the rapid identification of patients taking anticoagulants and the reversal of anticoagulation agents have been published since our initial request please could a copy be supplied.

VB Doc ID	Document	Publication Date	Review Date	Is this document still valid? (Yes/No)	Has this document been updated since 2/14/2022? (Yes/No)*
7264	EAST SUSSEX - ADULT PATIENT RECEIVING DABIGATRAN THERAPY: HAEMORRHAGE PROTOCOL	01/04/16	04/01/18	Yes	No
7265	EAST SUSSEX - Clinical Guideline for the Management of Massive Blood Loss (Haemorrhage)	11/01/18	11/01/21	No	Yes
7266	EAST SUSSEX - USE GOLD PROBE IN THE MANAGEMENT OF GASTROINTESTINAL HAEMORRHAGE	05/01/21	05/01/24	Yes	No

If Yes please could an updated version of the document be supplied.

Please see attached updated document for EAST SUSSEX - Clinical Guideline for the Management of Massive Blood Loss (Haemorrhage)

Cont…/

If I can be of any further assistance, please do not hesitate to contact me.

Should you be dissatisfied with the Trust's response to your request, you have the right to request an internal review. Please write to the Freedom of Information Department (esh-tr.foi@nhs.net), quoting the above reference, within 40 working days. The Trust is not obliged to accept an internal review after this date.

Should you still be dissatisfied with your FOI request, you have the right of complaint to the Information Commissioner at the following address:

The Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire SK9 5AF

Telephone: 0303 123 1113

Yours sincerely

Linda Thornhill (Mrs)
Corporate Governance Manager
esh-tr.foi@nhs.net

East Sussex Healthcare NHS Trust

Clinical Guideline for the Management of Massive Blood Loss (Haemorrhage)

Document ID Number	179
Version:	V7
Ratified by:	Core Services Clinical Governance
Date ratified:	December 2021
Name of author and title:	[redacted] Lead Transfusion Practitioner
Date originally written:	June 2003
Date current version was completed	November 2021
Name of responsible committee/individual:	Hospital Transfusion Committee
Division/Speciality:	Core Services
Date issued:	17 February 2022
Review date:	November 2024
Target audience:	All staff involved in the management and care of patients who sustain a massive haemorrhage
Compliance with CQC Fundamental Standard	Person centred care Dignity & Respect Need for Consent Safe Care & Treatment Premises & Equipment Fit & Proper Persons Employed
Compliance with any other external requirements (e.g. Information Governance)	National Health Service Blood and Transplant. Medicines and Healthcare Regulatory Agency. British Society of Haematology. Blood Safety and Quality Regulations.
Associated Documents:	Blood and Blood Component Transfusion Policy Policy and Practice for the Use of Intraoperative Cell Saver (IOCS) Systems. Guideline for the Prescription and Administration of Prothrombin Complex Concentrate (PCC). Clinical Guideline for the Management of Postpartum Haemorrhage and Major Obstetric Haemorrhage.

Did you print this yourself?
Please be advised the Trust discourages retention of hard copies of the procedural document and can only guarantee that the procedural document on the Trust website is the most up to date version.

Version Control Table

Version number and issue number	Date	Author	Reason for Change	Description of Changes Made
V1 2003028	June 2003	[redacted]		
V2 2004072	August 2004	[redacted]		
V3 2007072	June 2007			
V4 2009259	November 2009			
V5 2011175	June 2011	[redacted]		
V6.0 2013162	July 2013	[redacted]	Updated Document	Updated algorithm
V6.1 2015181	September 2015	[redacted]	Updated Document	Update measurements and general review. Change of title
V6.2	October 2018	[redacted]	Update due & new format	Amendment to flowchart MHP1
V7	November 2021	[redacted]	Update and new format	

Consultation Table

This document has been developed in consultation with the groups and/or individuals in this table:

Name of Individual or group	Title	Date
Hospital Transfusion Team	Chair- Dr Nigel Sargant	November 2021
Dr Danielle Vidler/Dr Paul Cornelius	A & E Consultant	December 2021
Hospital Transfusion Committee	HTC	December 2021
[redacted]	Trauma Co-ordinator Practitioner	November 2021
Core Services Clinical Governance Group		December 2021

This information may be made available in alternative languages and formats, such as large print, upon request. Please contact the document author to discuss.

Table of Contents

Clinical Guideline for the Management of Massive Blood Loss (Haemorrhage) V1.2

This summary is a quick aide memoire and does not replace the requirement for staff to fully read the Trust Policies. Staff **MUST** ensure appropriate PPE is word and Universal Precautions adhered to.

ACTIVATE MASSIVE HAEMORRHAGE MANAGEMENT

Call [redacted]

State 'Massive Haemorrhage' and Location

FAST BLEEP Lab (ensure contact no: is given)

Designate one person to contact Transfusion Lab:

Ext: [redacted] Bleep: [redacted] (Out of hours) – Conquest

Ext: [redacted] Bleep: [redacted] (Out of Hours) - Eastbourne

State patient & clinical details

Order Massive Haemorrhage Pack 1 (MHP1)

Red Cells x 4

- Fresh Frozen Plasma (FFP) x 2 (needs to be defrosted 40minutes+)
- Platelets x 1 (Check availability)

Take bloods and send to lab:

- Blue top- Clotting (PT, APTT, Fibrinogen)
- Pink top – Cross-match/Group & Save
- Yellow/gold – Urea & Electrolytes + Calcium
- Purple – Full blood Count

Give MHP1 and Reasses

- Repeat bloods
- Continue communications with Lab
- Consider RBC's, FFP, Platelets & Cryo
- (dependant on blood results & Patients' condition)

1. Introduction

The aim of this guideline is to facilitate a multidisciplinary approach for the management of acute blood loss by provision of a comprehension flowchart. The guideline should support the key roles of team leaders and their responsibilities for communicating with the laboratory effectively, taking of venous samples and the requesting of appropriate blood components. It is essential to ensure correct identification procedures for patients and that samples and blood components are accurately recorded.

2. Purpose

The purpose of the guideline is to provide healthcare professionals involved in the massive haemorrhage pathway with clear guidance on the management of massive blood loss, to prevent avoidable loss of life from acute blood loss.

2.1 Rationale

The intention of this document is to:

- Provide an overview of the recognition of massive haemorrhage.
- Provide the correct procedures involved i.e collection of 'Emergency Units'
- Provide a flowchart summary to include contact numbers/bleeps and venous samples required. (Appendix A)

2.2 Principles

The over-riding principle of this document is to ensure that the Trust and representatives of the Trust can ensure, document and audit that procedures were carried out appropriately, correctly and safely.

2.3 Scope

The scope of this policy is to provide guidance for the management patients experiencing massive blood loss.

3. Definitions

BSQR - Blood Safety & Quality Regulations
MHRA – Medicines & Healthcare Products Regulatory Agency
HTT – Hospital Transfusion Team
HTC – Hospital Transfusion Committee
NBTC – National Blood Transfusion Committee
BSH – British Society of Haematology
EDTA – Ethylene-diamine-tetra-acetic acid
FFP – Fresh Frozen Plasma
G & S – Group and Screen

4. Accountabilities and Responsibilities

4.1. Duties within the Organisation

4.1.1. Chief Executive

Has accountability for the safe treatment and care of all patients by ESHT staff and contractors.

4.1.2. Reporting Committee

Hospital Transfusion Team: (HTT)
The HTT is made up of representatives from a variety of departments who facilitate the implementation and embedding of objectives recommended by the Hospital/National Transfusion Committees.

Hospital Transfusion Committee: (HTC)
Representatives from the blood transfusion department, Transfusion Practitioners, Consultants, representatives from the National Health Service Blood & Transplant (NHS BT) and representatives from a range of service users discuss policy and practice.

Regional Transfusion Committee (RTC)
Representatives from Blood Transfusion, Haematology, Surgery, Medicine, Anesthestics and NHSBT from the South East Coast Region.

Patient Safety & Clinical Improvement -Quality and Standards Committee:
The Committee's prime function is to ensure that the Board is satisfied that the Trust is providing safe and high quality services to patients supported and informed by effective arrangements for monitoring and continually improving the safety and quality of care.

Clinical Unit Leads:
Where Clinical Unit Leads are asked to ratify this guideline they are responsible for the review of the guideline and the final ratification prior to the guideline actually being implemented. This ratification process will take place following the consultation and approval process

4.1.3. Registered Biomedical Scientists (BMS)

Staff responsible for undertaking investigations and issue of blood components following documented procedures and responsibility for technical validation of these results

4.1.4. All Staff

All ESHT staff involved in the massive blood loss processes must ensure they comprehend its content and demonstrate the correct procedures involved. Staff should provide comments and feedback on the content and practicality of the guidance for its review and develop.

5. Process

Rapid assessment including history and examination, initiate resuscitation, stop any external bleeding, ensure adequate vascular access and initiate fluid resuscitation.

It is imperative that major blood loss is recognised early. There are several arbitrary definitions. Either:-

- The loss of one blood volume within a 24 hour period.
  Normal blood volume approximates to 7% of ideal body weight in adults and 8-9% in children)
- 50% volume loss within 3 hours
- Blood loss at a rate of 150mls per minute

Patients who arrive in the Emergency Department with clinical signs of shock or who subsequently develop signs of shock are highly likely to fall in this category.

Declare a major haemorrhage by ringing ([redacted])

State:

' massive blood loss (haemorrhage) and state your location (please listen to the response and ensure the correct information has been given.

Eastbourne Site – [redacted] (out of core hours).
Conquest Site – [redacted] (out of core hours).

Allocate Team roles:

- Team Leader
- Communication lead – dedicated person who has full knowledge of the situation, to communicate with other teams i.e. transfusion laboratory (Not the most junior member of the team)
- Sample taker/ investigation organiser / documenter
- Transporter – porter (Conquest), other member of team EDGH

The clinical / laboratory interface:

- The Communication lead will be the direct link to the Biomedical Scientist (BMS) in the laboratory. He/she will provide:
    - His/her, name location and ext/bleep number
    - Provide patient details
    - Order blood / components as below
    - Inform blood bank if the emergency O Neg blood will be used
    - Arrange transport of samples to, and collection of blood products from the laboratory
- **The BMS will:**
    - Ring the communication lead with results of urgent investigations
    - Ring the communication lead when blood and blood components are ready

Restore circulating blood volume and maintain Hb > 8og/L to maintain tissue perfusion and oxygenation.

Achieve haemostasis by:

a. Arresting bleeding
b. Correcting coagulopathy by the use of blood component therapy

Send sample*s* for Full Blood Count (FBC), International Normalised Ratio (INR), Activated Partial Thromboplastin Ratio (APTR), fibrinogen, cross match, Urea and Electrolytes, calcium. Blood gas analysis and pulse oximetry should also be undertaken. Repeat these after blood component infusion, after every 4th unit of blood or every 4 hours.

Label correctly sample & request form with full patient details (first name, last name, DOB and unique identity X number, sampler to print and sign request form). A proforma for these bloods can be located in ward/clinics 'Massive Haemorrhage' on the electronic request e-searcher.

<u>Check does the lab have a historic group if not a 2nd sample is required</u>

Blood bank will compatibility test / cross match 4 units of blood (issued uncross matched and tested retrospectively), when they are alerted to the incident and samples are received. After

10 units have been issued they will supply un-cross matched blood / group compatible blood on demand, with minimal time delays (units require labelling).

Blood transfusion should be commenced according to the degree of clinical emergency.

Request suitable red cells

Either:

- Fully cross matched units which will be available approx 45-55 minutes after the sample is received and accepted by the lab.
- Un-cross matched units are available within 15 minutes. Cross match is performed retrospectively after issue.
- Un-cross matched O Rh negative units if immediate transfusion necessary. Two units are available from the blood bank at each site. Blood bank must be informed these units have been used.

Employ blood cell salvage if appropriate

Use a blood warmer and / or rapid infusion device if flow rate >50 ml / kg / hour in adult.

Blood bank will automatically issue 2 units of FFP (Fresh Frozen Plasma-40 minutes) and 1 pool of platelets as soon as the blood group is known. (Please check availability)

Blood bank will issue cryoprecipitate if the fibrinogen is <1.5 g/l

For trauma cases consider tranexamic acid 1G over 10 minutes followed by 1G infused over 8 hours. Must only be given within 3 hrs of trauma. The CRASH study suggested benefit only within this time.

Blood bank will issue 1 pool of platelets as soon as possible (it may be a second unit is required if count known to be $<50 \times 10^9$) – inform lab as soon as possible as this will require ordering

Reassess after 4 units of blood and blood components have been administered have been given.

If blood loss is continuing:

- Send repeat blood samples for FBC, INR, APTR, fibrinogen, U&E, calcium
- Request 4 units of Red Cells
- Request a further 2 units of FFP + the remaining pool of platelets
- Request 2 pools of cryoprecipitate if fibrinogen

While blood loss continues, continue to reassess and repeat bloods after every 4th unit of blood + appropriate components.

Blood components should be administered according to blood results:

- Platelets should be given to maintain platelet count no less than 100 x 109/l for multiple / CNS trauma or if platelet function is known to be abnormal. For all other situations, target platelet count is no less than 75 x 109/l.
- Fresh frozen plasma 12-15 mls/kg (4 units for adult) if INR or APTR >1.5 (allow 30 mins thawing time).
- Cryoprecipitate if Fibrinogen < 1.5g/l. (Typically 2 bags of pooled multi donor Cryo). (Allow 30 min thawing time

Recombinant Factor VIIa (Novoseven) may be indicated for life-threatening bleeding where blood loss is >300mls/hr, which persists despite optimal blood product replacement, correction of acidosis and surgical haemostasis. This is an unlicensed product which will only be released following discussion with the Consultant Haematologist. The dose is 90 μg/kg (6mg for average adult), repeated after 2 hours if still significant bleeding.

Inform blood bank when incident is over.

Ensure documentation is complete: monitoring of vital signs, timings of blood samples and communication, return traceability information to laboratory

Above volumes are for adults and must be modified for children see Appendix B

6. Special Consideration

BMS can issue O positive units when the patient is male or female over the age of 50 years when emergency units are required.

7. Evidence Base/References

Handbook of Transfusion Medicine 5th Edition, The Stationary Office 2013

Klein H.,Anstee D: Blood Transfusion in Clinical Medicine – Mollinsons 22nd Ed.

Clark, A.D., Gordon, W.C., Walker, I.D., Tait, R.C. (2004) 'Last-ditch use of recombinant factor VIIa in patients with massive haemorrhage is ineffective. Vox Sanguinis 86, 120-124

' A practical guideline for the haematological management of major haemorrhage'
Beverley J. Hunt,Shubha Allard,David Keeling,Derek Norfolk,Simon J. Stanworth,Kate Pendry,on behalf of the British Committee for Standards in Haematology. British Journal of Haematology Vol: 170. Issue 6. September 2015
Home | British Society for Haematology (b-s-h.org.uk)

CRASH-2 trial collaborators (2010) Effects of tranexamic acid on death, vascular occlusive events and blood transfusion in trauma patients with significant haemorrhage (CRASH-2): a randomised placebo-controlled trial. Lancet 376, 23-32

NPSA Rapid Response Report 2010 / RRR017: The transfusion of blood and blood components in an emergency

North West Regional Transfusion Committee Toolkit for the Management of Massive Haemorrhage Jan 2013.

Association of Anaesthetists of Great Britain and Ireland -Management of Massive Haemorrhage November 2010. www.aagbi.org

SHOT (SERIOUS HAZARDS OF TRANSFUSION) REPORT 2020
Figures From Annual SHOT Report 2020 (for jpeg)v1.2.indd (shotuk.org)

DEPARTMENT OF HEALTH - NEVER EVENT LIST 2011
Never misidentify a patient Never give an ABO incompatible blood transfusion

NATIONAL PATIENT SAFETY AGENCY (NPSA) – SAFER PRACTICE NOTICE 2006
Right patient right blood

8. Competencies and Training Requirements

Refer to the Blood and Blood Components Transfusion Policy (From page 18- training competencies) 01283_P.pdf (esht.nhs.uk)

All staff involved in the management of massive blood loss must have be competency assessed.

There are 3 areas of competence:

- Staff who collect blood components
- Staff who carry out venous sampling
- Trained practitioners/medics who administer blood components

9. Monitoring Arrangements.

Document Monitoring Table

Element to be Monitored	Lead	Tool for Monitoring	Frequency	Responsible Individual/Group/ Committee for review of results/report	Responsible individual/ group/ committee for acting on recommendations/action plan	Responsible individual/group/ committee for ensuring action plan/lessons learnt are Implemented
Compliance with: Activation of call. Communication with lab. Collection + administration of blood components.	Transfusion Practitioners + Transfusion BMS's	Massive Blood Transfusion: Audit record. Debriefs	Each blood loss event	Hospital Transfusion Team	Dr Nigel Sargant Chair of HTC/HTT [redacted] Trauma Lead	Hospital Transfusion Committee

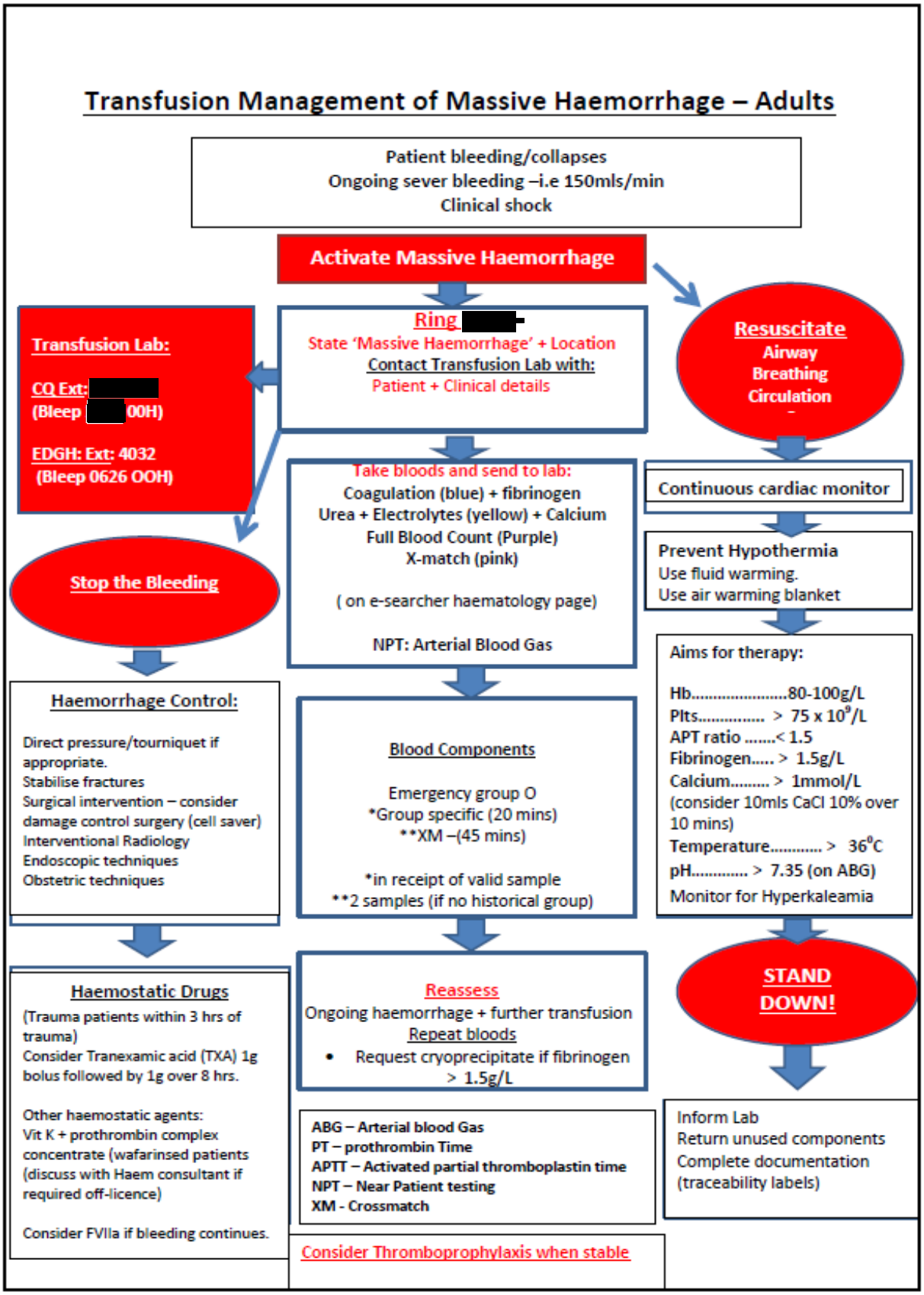
Appendix A: EIA Form

Title of document: Clinical Guideline for the Management of Massive Blood Loss (Haemorrhage)
Who will be affected by this work? Staff, Patients & Service Users
Please include a brief summary of intended outcome: To provide guidance for all staff involved with patients who sustain massive blood loss (haemorrhage)

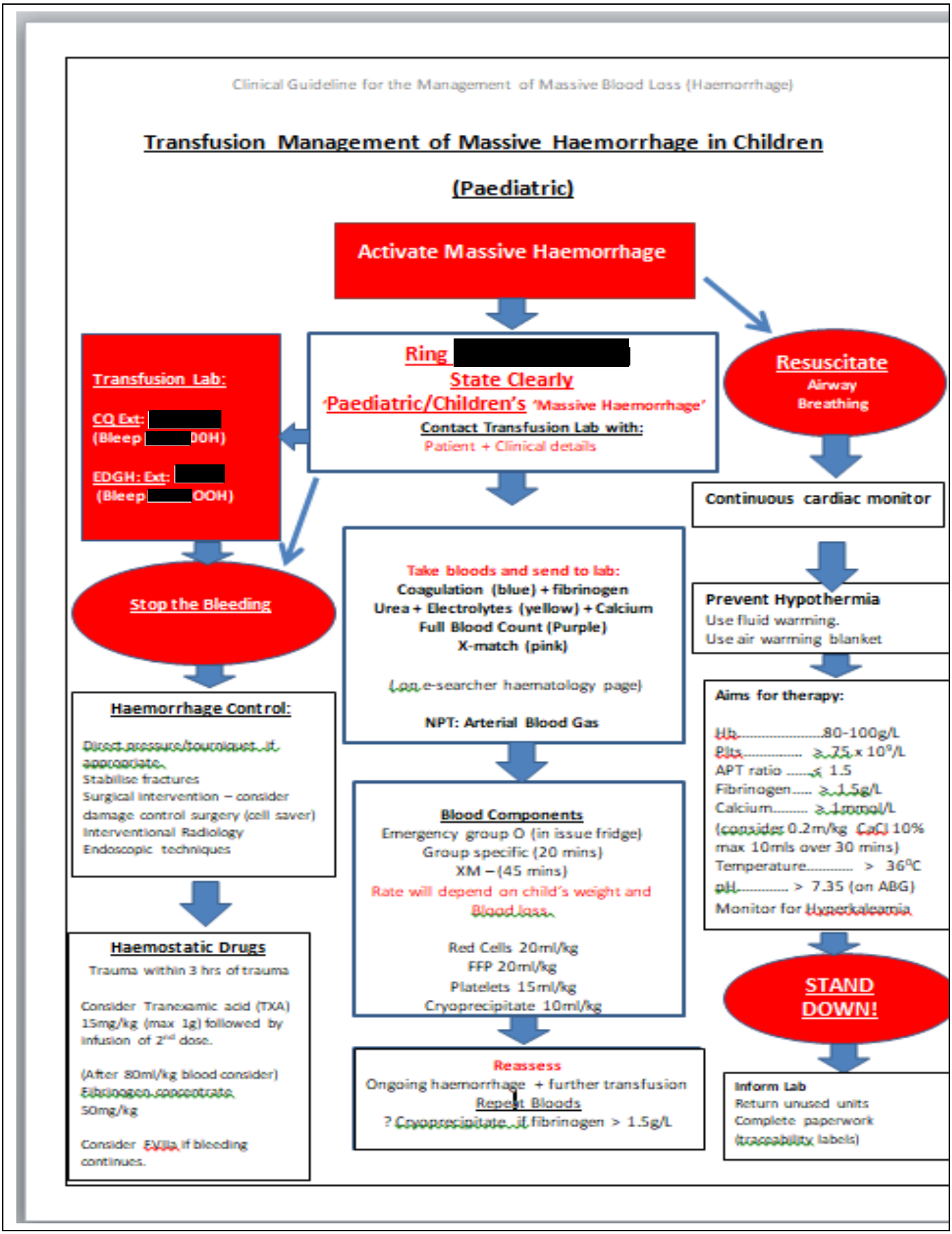
		Yes/No	Comments, Evidence & Link to main content
1.	**Does the work affect one group less or more favourably than another on the basis of:** (Ensure you comment on any affected characteristic and link to main policy with page/paragraph number)		
	• Age	No	
	• Disability (including carers)	No	
	• Race	No	
	• Religion & Belief	Yes	Patients who do not wish to have blood components: Policy & Practice for the Use of Intraoperative Cells Saver (IOCS). Policy for the use of recombinant factor VII for intractable haemorrhage within Anaesthetic and critical care areas. Clinical Guidance for the management of patients that decline transfusion of blood and blood components.
	• **Gender**	**No**	
	• Sexual Orientation (LGBT)	No	
	• Pregnancy & Maternity	No	
	• Marriage & Civil Partnership	No	
	• Gender Reassignment	No	
	• Other Identified Groups	No	
2	**Is there any evidence that some groups are affected differently and what is/are the evidence source(s)**	Yes	e.g. Jehovah Witnesses: Clinical Guidance for the management of patients that decline blood and blood components.

3.	**What are the impacts and alternatives of implementing / not implementing the work / policy?**	-Identification of patients who may decline. Policy & Practice for the Use of Intraoperative Cells Saver (IOCS). Policy for the use of recombinant factor VII for intractable haemorrhage within Anaesthetic and critical care areas. Clinical Guidance for the management of patients that decline transfusion of blood and blood components.
4.	**Please evidence how this work / policy seeks to "eliminate unlawful discrimination, harassment and victimisation" as per the Equality Act 2010?**	Liaising with the JW Hospital Committee for best practice which is included within this policy ESHT Policy and Procedure for Consent
5.	**Please evidence how this work / policy seeks to "advance equality of opportunity between people sharing a protected characteristic and those who do not" as per the Equality Act 2010?**	Updated and current research to ensure best practice which is incorporated within policy. Updated JW forms and guidance
6.	**Please evidence how this work / policy will "Foster good relations between people sharing a protected characteristic and those who do not" as per the Equality Act 2010?**	Good relations with working groups and established pathways which are reviewed and incorporated within the updated policy.
7.	**Has the policy/guidance been assessed in terms of Human Rights to ensure service users, carers and staff are treated in line with the FREDA principles (fairness, respect, equality, dignity and autonomy)**	Yes
8.	**Please evidence how have you engaged stakeholders with an interest in protected characteristics in gathering evidence or testing the evidence available?**	A multi-disciplined review of policy and practice including the Jehovah's Witness liaison, and Hospital Transfusion Committee/ Teams
9.	**Have you have identified any negative impacts or inequalities on any protected characteristic and others? (Please attach evidence and plan of action ensure this negative impact / inequality is being monitored and addressed).**	This policy does not directly discriminate against patients' who do not wish to receive blood components and this is an individual's decision – however a robust system is in place to ensure best practice and care is provided for patients who do not wish to receive blood components.

Appendix B: Massive Haemorrhage Flowchart - Adults



Appendix C: Massive Haemorrhage Flowchart -Children



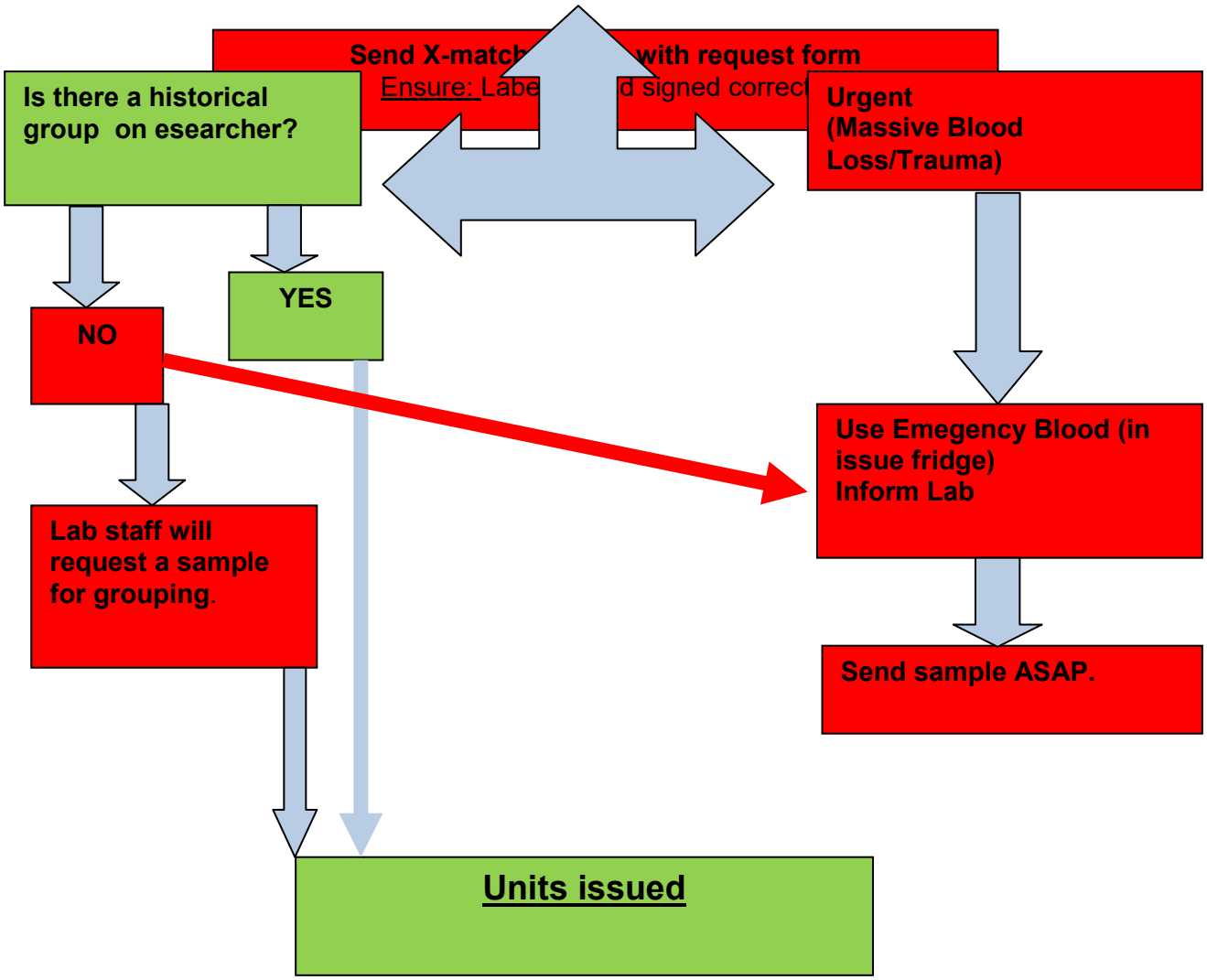
Guidance for Paediatric transfusion, calculate volumes to be administered in each weight category.

Weight	Red Cells * Group , Group specific or Crossmatched (dependant on availability)	FFP	Platelets
< 5kg	2 paediatric units (80-100mls)	2 'neonatal' units of Methylene Blue (MB) treated FFP (100mls)	1 Paediatric pack of platelets (50mls)
5-10kg	1 Adults unit (250mls)	1 Paediatric unit MB treated FFP (225mls)	2 Paediatric packs of platelets (100ml)
10-20kg	2 Adult units (500mls)	2 Paediatrics units of MB treated FFP (450mls)	1 Adult apheresis pack (200mls)
> 20kg	4 Adult units (1000mls)	4 Paediatric units MB treated FFP (900mls)	1 Adult apheresis pack (200mls)

Table 2- **After reassessment – transfusion guidandance.**

Weight	Red Cells * Group , Group specific or Crossmatched (dependant on availability)	FFP	Platelets	Cryo Request if fibrinogen > 1.5g/L
< 5kg	2 paediatric units (80-100mls)	2 'neonatal' units of Methylene Blue (MB) treated FFP (100mls)	1 Paediatric pack of platelets (50mls)	1 single donor unit MB treated (40mls)
5-10kg	1 Adults unit (250mls)	1 Paediatric unit MB treated FFP (225mls)	2 Paediatric packs of platelets (100ml)	2 single donor units (80mls)
10-20kg	2 Adult units (500mls)	2 Peadiatric units of MB treated FFP (450mls)	1 Adult apheresis pack (200mls)	1 pool (5 units) 200mls
> 20kg	4 Adult units (1000mls)	4 Paediatric units MB treated FFP (900mls)	1 Adult apheresis pack (200mls)	2 pools (10units) 400mls

Appendix D: Transfusion Request Flowchart



Do NOT take 2 samples together and ensure request and samples are correctly hand written and signed by the person taking the