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Date	Amendment	Lead

Purpose

To provide guidance in managing major haemorrhage in adults, secondary to trauma, in instances whereby a patient refuses one or more blood products.

Scope of document

This guidance is applicable to all staff who are involved in the resuscitation and/or inpatient care of adult major trauma patients.

A patient may refuse blood due to religious beliefs. However, there may be patients outside of these groups that do not want to receive blood and/or any of its components.

Whilst the views and wishes of an adult patient with full capacity to make decisions around blood transfusions must be honoured, this is not always the case where children are concerned. Therefore, this guidance is only applicable to those patients aged 18 years or more.

Introduction

A patient may refuse blood and its components for a number of reasons, but most commonly due to religious beliefs e.g. Jehovah's Witness or Orthodox Rastafarian patients. Clinicians must ensure that an individual's wishes are respected and that alternative options to transfusion are explored to provide optimal management.

When presenting with a traumatic injury, particularly one that has resulted in major haemorrhage, blood refusal may further complicate management. Challenges arise surrounding consent and in those where consent is not easily obtainable, often decisions need to be made quickly in the patient's best interest to achieve the best outcome for the patient.

Refusal of blood by a child (person under 18 years of age) is a complex matter and therefore will not be covered in this guideline. Please consult local guidelines and legal teams for more information.

Principles

This guideline is to be used for adult (aged 18 years or above) patients with significant traumatic injury where there is a clinical need for blood transfusion but the patient refuses blood products.

In the event of an emergency, please see Appendix 1 – Massive Haemorrhage in Patients Refusing Blood Products Flowchart for a quick reference guide

Blood Refusal

A patient may refuse blood and its components for a number of reasons, but most commonly due to religious beliefs. Jehovah's Witnesses are the most likely religious group to present refusing blood products, but Orthodox Rastafarians also refuse blood on religious grounds. We need to ensure that an individual's wishes are respected whilst exploring alternative options to transfusion to best optimise their management.

It is the responsibility of the capacitous patient to ensure their decision to refuse blood products is drawn to the attention of the healthcare professionals attending them. In the event of major trauma this can be difficult, particularly if a patient's ability to consent is compromised. Clinical decisions often need to be made quickly and information gathering may be time pressured. If refusal of blood products is based on non-religious grounds, for example, fear of transfusion transmitted infection, the risks should be as explained as the situation allows to ensure those with capacity can make informed consent.

Regarding Jehovah's Witnesses, the use of whole blood and its four primary components (red cells, white cells, platelets, and plasma) are commonly refused on religious grounds. However, there are no specific rules regarding derivatives or fractions of primary blood components. The table below summarises products available, and the likelihood a Jehovah's Witness will accept those products. Each individual must decide for themselves if these treatments are acceptable. Clinicians have a responsibility to go through the full list with patients who have capacity as early as possible in their assessment to guide future management. It may be that the patient will receive blood products in the 'generally not acceptable' column when they are faced with a life-threatening scenario. The individual patient preferences should not be assumed.

Table 1 - Likelihood of Blood Product Acceptance by Jehovah's Witnesses

Generally, Not Acceptable	May Be Acceptable	Generally Acceptable
Red cells	Haemoglobin (human, animal, synthetic)	Crystalloids/colloids
White cells	Interferons or interleukins	Erythropoietin
Plasma	Albumin Immunoglobulins Cryoprecipitate Clotting factors e.g. Human Prothrombin Concentrate, Plasma derived factors XIII and IX, Fibrinogen concentrate Anti-D	Recombinant factor VIIa
Platelets	Platelet factor 4	Artificial blood substitutes
	Intraoperative and Postoperative cell salvage Cardiopulmonary bypass	

Some hospitals may have access to a Jehovah's Witness Hospital Liaison Committee (HLC) to help staff and patients with guidance and clarification on these matters. Their involvement may depend on the time critical nature of treatment decisions. Even if they have not been contacted during the initial presentation and immediate treatment has been given, their involvement during periods of clinical stability may be particularly valuable for the patient and therefore their assistance should be sought where possible.

Advanced Decisions (or otherwise known as Living Wills)

An advance decision enables someone aged 18 and over, while still capable, to refuse specified medical treatment for a time in the future when they may lack the capacity to consent to or refuse that treatment.

The High Court has confirmed that a competent adult patient's anticipatory refusal of consent remains binding and effective notwithstanding that he has subsequently become incompetent (*HE v NHS Trust A and AE* [2003] EWHC 1017 (Fam), a case concerning a refusal of blood transfusion).

Advance Decisions may only be considered valid if;

- The patient is aged 18 or over when they made that decision and at that time had the capacity to make, understand and communicate it
- It specifies clearly which treatments are to be refused
- It explains the circumstances in which the patient wishes to refuse treatment
- It is signed by the patient (and by a witness of the patient want to refuse life-sustaining treatment)
- The patient must have made the advance decision of their own accord, without any harassment by anyone else
- The patient has not said or done anything that would contradict the advance decision since they made it (for example, saying that they had changed their mind)

An advance decision is not applicable to life-sustaining treatment unless;

- The decision is verified by a statement by the patient to the effect that it is to apply to that treatment even if life is at risk
- It is in writing
- It is signed and witnessed

No Blood Card

Regarding Jehovah's Witnesses many carry a "No Blood" card which is a form of Advance Decision absolutely refusing blood, even if their life is at risk. If the patient has an advance decision but it is not on their person at presentation to hospital, often a copy can be obtained from their GP or the HLC.

If an Advance Directive is presented, a copy should be filed in a prominent position in the patient's notes and on EPR. Clear documentation of its presence and the patient's refusal of blood products should be documented in the main body of the medical notes and communicated at every patient handover during the admission process.

Capacity and Consent

Emergency admissions create another layer of complexity regarding consent and refusal for blood product use. One of the key challenges is establishing capacity, which in turn is more challenging when you consider the varying conscious levels of Major Trauma patients along with the inevitable presence of a distracting injury and pain. Ultimately, this means that assessing capacity to consent can be difficult. Providing treatment in the absence of valid consent in a patient with capacity may constitute assault. If there is any doubt when determining capacity and ability to consent to refusal of blood products, a haematologist or member of the legal department should be contacted via switchboard.

Assessing Capacity

The Mental Capacity Act (2005) outlines a two-stage test of capacity to decide whether a person has the capacity to make a particular decision.

1. Does the person have an impairment of the mind or brain, or is there some sort of disturbance affecting the way their mind or brain works? *In terms of trauma, this may include extreme pain from distracting injuries and injuries or cardiovascular instability leading to a reduction in conscious levels*
2. Does that impairment or disturbance mean that the person is unable to make the decision in question at the time it needs to be made?

The following is the test for assessing capacity.

- Is the patient able to understand, retain, use, and weigh up the information relevant to this decision?
- Can the patient communicate their decision? This may be verbally, using sign language or any other means.

It is a principle of the Mental Capacity Act that a person must be assumed to have capacity unless it is established they do not have capacity. In the circumstance of an advance decision it should be assumed that the patient had capacity to make the advance decision unless there are reasonable grounds to doubt that the patient had the capacity at the time.

An interpreter may be required. Best practice is to utilise a professional interpreter. In emergency cases, where this is not possible, a health care professional could be used. Relatives and friends should not interpret when gaining consent unless circumstances do not allow otherwise.

Lasting Powers of Attorney (LPA)

LPA is a way of choosing a decision maker to act on an individual's behalf in the event of a loss of mental capacity. Under an LPA, people aged over the age of 18 appoint an attorney to make decisions about their personal and/or health welfare for a future time when they may lack capacity to make decisions themselves. An LPA must include prescribed information and be registered with the Office of the Public Guardian to be valid. If possible, contact the legal department regarding any queries if an LPA is to be used to refuse blood products or where there is a lack of evidence to support a decision to refuse blood products when life and limb is at risk.

Best Interests

Where a patient does not have capacity to make the specific treatment decision required, a best interests decision will need to be made. The Act does not define the

term “best interests”, instead it provides a checklist of common factors which must always be considered in a situation where a decision is being made for a person lacking capacity. These factors have been broadly summarised below and must be given equal consideration and without discrimination.

- Consider all relevant circumstances
- Whether the person has a chance to regain capacity or not
- Permitting and encouraging the patient’s involvement
- Special consideration required for life sustaining treatment
- The person’s wishes and feelings, beliefs, and values

The views of other people (where practical and appropriate), for example, the next of kin should be sought on what they believe the patient would have wanted had they been competent to make that decision. Having considered the above matters and consulted with next of kin the best interests decision is the doctor’s decision.

Where the family disagree with the proposed treatment and this cannot be resolved by further clinical input and discussion, then advice from the Legal Department should be sought if possible. Consideration should be given to whether an emergency Court of Protection application should be made.

The Conscious Adult with Capacity

A conscious adult, with capacity, has the right to refuse blood products or choose alternative treatments and this must be explored and respected. They also have the right to change their mind during treatment or in an emergency. Their consent or dissent from blood product administration, especially if a change to their decision occurs, should ideally be recorded in writing. If unable to do so, documentation by the clinician with a witness is recommended. It is recommended that two senior clinicians (ideally Consultants) are involved in this process.

Patients with capacity, or those who have made an advance decision, may address the decisions needed in respect of all the possible blood products and alternatives available. Whilst a patient has capacity, any blood products not listed in the advance decision should be discussed and appropriate consent taken with documentation of the patient’s wishes. This is particularly important in major trauma as patients may lose capacity whether that is through deterioration or need for surgery and general anaesthesia. Establishing acceptability of all products and drugs on offer prior to this will enable the patient’s wishes to be adhered to.

The use of a standardised list of treatments available is effective in ensuring all options are discussed. An example of an “Acceptability of Blood Product/Alternatives to Transfusion Form” is given in Appendix 2, please check if your own trust has their own version. Where available, this form should be completed for all patients with capacity

regardless of the presence of an Advance Decision. This form should be filed prominently in the patient's medical notes. It is imperative that all health care personnel involved in that patient's care are aware of their refusal of blood/components.

The Unconscious Adult or Adult Lacking Capacity

The treatment of a patient lacking capacity will be guided by what is in the patient's best interests (please see guidance on assessing best interests on page 9) and, if available, the presence of an advance decision.

If the patient does not have **capacity**, there is no **advance decision** and despite reasonable effort it has been impossible to obtain evidence as to their wishes from relatives, it will be necessary to proceed to act in the patient's best interests. Treatment necessary to preserve life, health or well-being may be given without consent. This may involve giving blood or any of its components.

If a patient has **no capacity** but has a **valid advance decision** refusing blood products, it must be respected.

There may be occasions whereby a patient is unable to positively identify themselves, for example they are unconscious at initial point of contact with healthcare professionals with no accompanying adults. If an advance decision is present in these circumstances, positive identification of the patient is required, such as a driving licence or confirmation of patient details by next of kin.

If the patient is lacking capacity and it is brought to the doctors' attention that an advance decision exists refusing blood products but a copy is not available, every effort should be made to avoid the use of blood and blood products where appropriate and to obtain a copy of the advance decision and to check its validity.

If life or limb is imminently at risk, then clinicians should act in the patient's best interests which may mean giving blood products. This is a complex decision-making process, the most senior team members should be involved. For example, the Trauma Team Lead (usually Emergency Department Consultant) along with one of the following Anaesthetic Consultant/Intensive Care Consultant (often present) or the Consultant Haematologist.

Pregnancy

A women's decision to decline blood products or any alternatives should be identified at her pregnancy booking appointment and documented. Advanced planning for delivery and management of any bleeding should be made at the earliest possible opportunity. Further details regarding blood refusal in pregnancy is beyond the scope of this guideline and local blood refusal policies should be consulted.

Recommendations

Clinical Guidance for Major Haemorrhage in Trauma Patients

The overall aim for these patients is to have as little variation from the standard of care that patients accepting blood receive. Each individual case will present its own management queries. The following points highlight areas where consistency must be maintained as well as suggestions for deviation from care.

Please note that the following is based on protocols in place at University Hospitals Coventry and Warwickshire and may differ from your own trust. It is used as an example to demonstrate which staff and resources are available to support clinical care.

Major Haemorrhage Protocol (MHP) - Trauma

- Regardless of acceptance of blood, a major haemorrhage protocol should be activated when blood is clinically indicated (even if refusal of blood has already been established).
- The activation of MHP – Trauma serves many other purposes other than the triggering of blood bank to ready the first MHP pack. In addition to staff already present at a "Trauma Alert", personnel notified by the MHP activation include
    - Porter – useful for sending blood samples and retrieving medications that may not be readily available in the emergency department, theatres, or interventional radiology – see drugs section below.
    - Emergency Theatre Coordinator – this patient may need rapid transfer to theatre and this early alert allows planning for this eventuality.
    - Duty/Consultant Anaesthetist or Senior Resident Doctor On Call - They can facilitate blood refusal consent/dissent, information gathering, preparation for definitive treatment e.g. transfer to theatres or interventional radiology.
    - When activating an MHP – Trauma, blood bank will need patient details. Please notify them of a patient's refusal of blood, if this has been established, as to not waste blood products.
- Ensure early haemorrhage control to minimise further blood loss. Contact consultants of appropriate surgical specialities early and involve the relevant theatre or interventional radiology teams along with the Anaesthetic Consultant or Senior Resident Anaesthetist On Call to facilitate transfer to the site of definitive care.
- Follow TRAUMATIC principles (see appendix 3) to ensure that other treatment of major haemorrhage is optimised (excluding blood product administration).
    - Ensure appropriate clotting investigations are undertaken e.g. INR, aPTT, fibrinogen levels and TEG/ROTEM if available. This can give guidance on the necessity of certain clotting products – either to advise the patient on best treatment or to guide the clinician on whether a product is necessary as part of

the ongoing resuscitation. Discussion with haematology is advantageous when making decisions where capacity is lacking.

- Although, fluids are generally avoided in major traumatic haemorrhage and vasopressor use limited to traumatic brain and/or spinal cord injury, they may play a more prominent role in cardiovascular stabilisation of patients refusing blood.

Group and Save Blood Sampling

For any patient clinically triggering the activation of MHP – Trauma, send **two** group and save samples to the lab as per trust policy. These should be delivered in person to the lab and not sent via a pod system – if MHP – Trauma activated, the MHP porter can be used for this task.

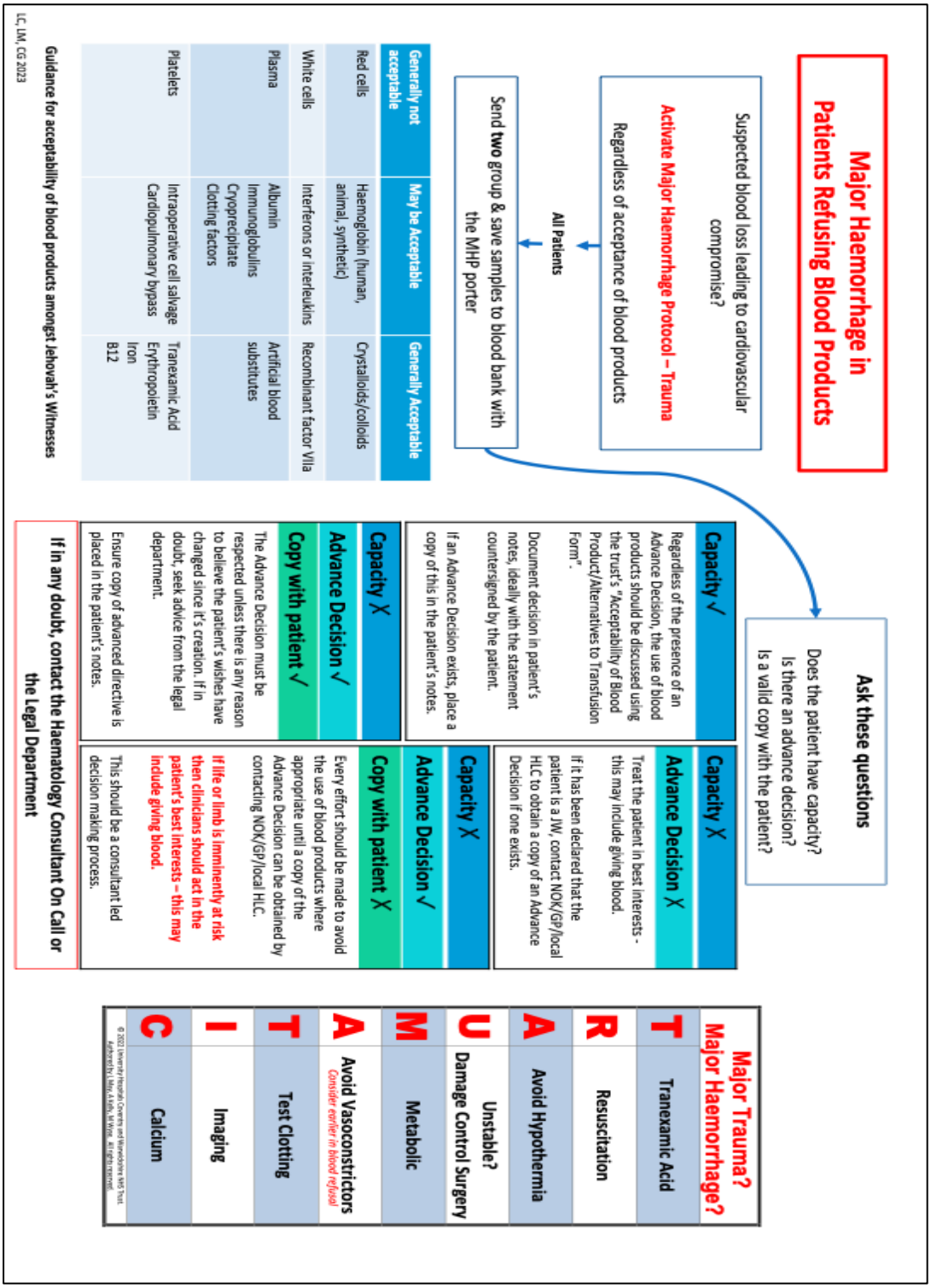
The rationale for this is that it is unlikely capacity has been fully assessed at the point of first blood sampling and therefore a patient's refusal of blood products not yet established. In the event that a patient consents to blood products, appropriately cross matched products are safest and a delay in obtaining these could put a patient at unwarranted risk of transfusion reactions.

Areas that may give rise to unexpected challenges

- Location of drugs - Several of the drugs listed in the "Acceptability of Blood Product/Alternatives to Transfusion Form" are not usually kept in the Emergency Department, Theatres or Interventional Radiology. Each trust will have a list of locations of medications either accessed via pharmacy, online trust documents or via searching within an automated dispensing system such as an Omnicell.
- Staff Well-being – There can be profound psychological consequences on the multidisciplinary team where significant morbidity or mortality may result from restrictions placed on their practice by a patient's beliefs. If the situation allows, alternative arrangements should be made with clinicians who are prepared to be involved with such a case. In scenarios where this is not possible, appropriate debriefing is integral to maintain staff well-being.

Appendices

Appendix 1 Major Haemorrhage in Patients Refusing Blood Products Flowchart



Appendix 2 Acceptability of Blood Product/Alternatives to Transfusion Form

Acceptability of Blood Products and Alternative to Transfusions

This form is to facilitate discussions with patients who may refuse blood or any of its components.

Blood Product/Drug/Alternative Therapy	**Acceptable? (Please delete as appropriate)**
Red Blood Cells	Yes / No
Fresh Frozen Plasma (FFP)	Yes / No
Platelets	Yes / No
Cryoprecipitate	Yes / No
Other clotting factors e.g. Human Prothrombin Concentrate, Plasma derived factors XIII and IX, Fibrinogen Concentrate, Recombinant factor VIIa	Yes / No
Anti D	Yes / No
Immunoglobulins	Yes / No
Albumin	Yes / No
Iron Supplementation (including Oral/IM/IV routes)	Yes / No
Erythropoietin	Yes / No
Intra-operative and/or Post-operative Cell Salvage where deemed clinically appropriate	Yes / No
Cardiopulmonary Bypass	Yes / No

Actions taken;

Doctor Signature	…….	Patient Signature	…….
Print Name	…….	Print Name	…….
Date	…….	Date	…….

Appendix 3 TRAUMATIC Aide Memoire

T	**Tranexamic Acid**	• Initial 1g bolus: · Often already given pre-hospital · Otherwise, administer only if within 3 hours of injury or ongoing hyperfibrinolysis · Do not delay, every minute counts • Subsequent 1g infusion over 8 hours
R	**Resuscitation**	• Activate Major Haemorrhage Protocol • Transfuse 1:1:1 avoiding crystalloid use, & consider: · Rapid infuser and cell salvage · Time-limited hypotensive resuscitation (<1hr) avoiding in children, pregnancy, head & spinal injury · Pelvic binder / splint fractures / tourniquet
A	**Avoid Hypothermia**	• Target temperature > 36^0C · Increase ambient theatre temperature · Remove wet clothing and sheets · Warm all blood products & irrigation fluids · Warm the patient using forced-air warming device, blanket and / or mattress
U	**Unstable? Damage Control Surgery**	• If unstable, coagulopathic, hypothermic or acidotic, perform damage control surgery of: · Haemorrhage control, decompression, decontamination and splintage • Time surgery aiming to finish < 90mins and conduct surgical pauses at least every 30 minutes
M	**Metabolic**	• Perform regular blood gas analysis • Base excess and lactate guide resuscitation · Adequate resuscitation corrects acidosis • If lactate > 5mmol/L or rising, consider stopping surgery, splint and transfer to ICU • Haemoglobin results are misleading
A	**Avoid Vasoconstrictors**	• Use of vasoconstrictors doubles mortality · However, use may be required in cases of spinal cord or traumatic brain injury • Anaesthetic induction - Suggest Ketamine • Maintenance - When BP allows, titrate high dose Fentanyl and consider Midazolam
T	**Test Clotting**	• Check clotting regularly to target transfusion: · Laboratory or point of care (TEG / ROTEM) • Aim platelets > $100x10^9$/L • Aim INR & aPTTR ≤ 1.5 • Aim fibrinogen > 2g/L
I	**Imaging**	• Consider: · CT: The most severely injured and / or haemodynamically unstable patients gain most from CT · Interventional radiology
C	**Calcium**	• Maintain ionised Calcium > 1.0 mmol/L · Administer 10mls of 10% Calcium Chloride over 10 minutes, repeating as required • Monitor Potassium and treat hyperkalaemia with Calcium and Insulin / Glucose

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