Reference Number: UHBOBS116 Version Number: 5	Date of Next Review: 03/2022 Previous Trust/LHB Reference Number:

Declining Blood Products in Obstetrics Guideline

Introduction and Aim

The majority of women accept blood transfusion if the clinical reasons for its use are fully and appropriately explained. However, a few women may decline blood products and blood transfusions because of specific religious or personal beliefs. The main group of women who may decline for religious reasons are Jehovah's Witnesses, who believe that theBible forbids the transfusion of blood. This is a deeply held core value and they regard a non- consensual transfusion as a gross physical violation (RCOS 2002).

It is important that professionals know in advance if women are likely to decline blood or blood products so that management plans can be made as to what to do if haemorrhage occurs, whilst ensuring that the mother's beliefs are acknowledged and respected. Obstetric haemorrhage is often unpredictable and can become life threatening in a short space of time. Significant obstetric haemorrhage is an emergency, which must be treated promptly in all patients (see Obstetric Haemorrhage Guideline).

If it is known in advance that a woman is likely to decline blood or blood products, it is important to clarify which blood products the woman will decline and which, if any, she will accept. This should be documented on the Cardiff & Vales Acceptance of Blood Products checklist.

In addition, a specific management plan for care in the antenatal, intrapartum and postnatal period should be documented clearly in her records, using Cardiff & Vale's 'Refusal of Blood or Blood Products' Care Plan.

Support and assistance can be obtained from the local Hospital Liaison Committee for Jehovah's Witnesses. Further information can also be obtained from the "Care Plan for Women in Labour Refusing a Blood Transfusion" (referred to in *RCOG News* and posted on the Department of Health's transfusion guidelines website) and the Royal College of Surgeons' Code of Practice.

Objectives

To provide clarity for staff caring for women who decline blood products

Scope

This policy applies to all healthcare professionals in all locations including those withhonorary contracts

Equality Health Impact Assessment	*An Equality Health Impact Assessment (EHIA) has not been completed.*

Documents to read alongside this Procedure	*Antenatal Care Guideline* *Intrapartum Care Guideline*
Approved by	*Maternity Professional Forum*

Accountable Executive or Clinical Board Director	*Ruth Walker, Executive Nurse Director*
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Disclaimer

If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate.

Summary of reviews/amendments

Version Number	Date of Review Approved	Date Published	Summary of Amendments
1		*Oct 2005*	
2	April 2008	April 2008	
3	April 2011	April 2011	Reviewed and Updated by P Amin
4	Feb 2014	April 2014	Reviewed and Updated by P Amin
5	Dec 2018	March 2019	Reviewed and Updated by A Robb, E Powell and T Reed
6	Apr 2022	May 2022	Reviewed by MPF: no major changes. Title changed to 'Declining Blood Products in Obstetrics'. Reference to Anaemia guideline/monofer infusions.

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2 Booking/Antenatal Care

Hand held notes, maternity computer system E3 and care plan: All women should be asked at booking if they would decline blood or blood products and their answer should be documented in the dedicated space in the handheld maternity record and on the maternity computer system E3. If she would decline blood or blood products, the patient must be referred to a Consultant Obstetrician for review at 16 weeks. A plan of care for the pregnancy should be discussed and documented on Cardiff & Vale's 'Declining blood or blood products' Care Plan (Appendix 8.3). The care plan should be secured in the woman's hand held notes and completed throughout the pregnancy, labour and the postnatal period.

Referral: At this consultation the woman should be asked to identify acceptable and unacceptable treatments (see Appendix 8.1). These should then be clearly documented and signed on the Cardiff & Vale Checklist for Acceptance of Blood or Blood Products (Appendix 2) and filed in her hand held notes.

Patient Information: The woman should also be given Cardiff & Vale's Patient Information Leaflet 'Women who decline blood and blood products in pregnancy'(Appendix 8.3).

Blood Status: Blood group and antibody status should be checked in the usual way.If the patient is rhesus negative, the use and potential future implications of declining anti-D should be discussed at their antenatal clinic appointment.

Haemoglobin, ferritin, B12, folate: Hb should be checked at booking, 20 weeks, 28 weeks and 36 weeks. Hb should be maximised, aiming for at least 130g/L. *[Association of Anaesthetists 2018 Guideline 'Anaesthesia & Perioperative Care for Jehovah's Witnesses and patients who decline blood' p2, Recommendation 3]*.

An initial check for B12, folate and ferritin should be undertaken at booking, and these should be repeated if anaemia develops. Patients with borderline low ferritin levels (30-200micrograms/L) are at risk of developing iron deficiency anaemia and so should be started on low dose oral iron.

The importance of taking iron should be emphasised.

- Ferritin <30micrograms/L: start ferrous fumerate 210mg BD
- Ferritin 30 – 200micrograms/L: start ferrous fumerate 210mg OD
- Ferritin >200micrograms/L: patient does not require oral iron supplementation

Any patient taking oral iron should have their haemoglobin and ferritin rechecked 4 weeks after commencing treatment.

If a patient is iron deficient, and this is causing anaemia despite oral iron, consider use of intravenous iron infusion (see Anaemia guideline). This should be used with caution, in accordance with hospital guidelines. The Medicines and Healthcare products Regulatory Agency (MHRA) issued the following statement on the use of IV iron infusion in pregnancy;

> *"Iron-deficiency anaemia in the first trimester of pregnancy can usually be treated with oral iron (i.e., IV iron should not be used.) Later in pregnancy, any*

> *benefits of using IV iron should be carefully weighed against the risks: anaphylactic or anaphylactic reactions could have serious consequences for both mother and fetus."*

Discuss the case with a haematologist if any concerns or if intravenous iron is not effective.

Rh D Status: Where the woman is Rh D negative, the use of Anti D should be explained and the woman informed that this is a blood product. Her decision regarding whether she would accept fractionated blood products such as anti-D should be documented.

Complications: If any complications are noted during the antenatal period the consultant obstetrician must be informed.

Cell Salvage: Consent for this procedure should be sought and documented early in the pregnancy. Some Jehovah's Witnesses will only accept cell salvage with continuous connection and this must be clarified with the theatre team (see Appendix 2). Where this is sought the UKCSAG Technical Factsheet will provide step-by-step guidance.

Pre-deposit Autologous Donation (PAD). PAD is not available. The procedure is also unacceptable to patients who are Jehovah's Witnesses.

Antiplatelet agents and anticoagulants: These should only be prescribed if the benefit outweighs the risk.

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3 Labour

Specific instructions regarding the woman's care in labour should be documented on the care plan in the hand held notes.

Delivery: The woman should be actively encouraged to deliver on labour ward andnot at home or in the birthing suite.

Admission and Observation: The on-call obstetric and anaesthetic registrars must notify the on call obstetric and anaesthetic consultants when a woman who has refused blood or blood products is admitted in labour. The woman may choose to wear a "no blood" wristband to highlight her refusal (which she will bring with her). (RCOG Green top Guideline 47, p8 #10). Experienced staff should manage the labour routinely. On admission, a senior obstetrician should review the woman's care plan and develop a final plan of care for labour, which should be documented in theclinical notes. **There should be a low threshold for seeking senior advice.**

Caesarean Section (C/S): Vaginal delivery is associated with lower blood loss than caesarean section and therefore C/S should only be performed if there is a clear maternal or fetal indication**.**

All relevant issues should be highlighted at the time of the team briefing and duringthe WHO Surgical Safety checklist before the start of anaesthesia.

Cell salvage should be used if the patient consents.

- Elective C/S: Ensure consultant obstetrician available on planned day for C/S.
- Emergency C/S: The on-call consultant obstetrician should be informed and should be present at the procedure where possible. In an emergency the mostexperienced surgeon available should carry out the C/S, knowing that the on call consultant is en route to obstetric theatres.

Cord clamping: Delay cord clamping when not contraindicated, keeping the baby at or below the level of the placenta until the cord is clamped**.**

Third Stage: The third stage of labour should be actively managed. The woman should be closely observed and her vaginal blood loss monitored on the delivery suite for a minimum of 1-hour post delivery. There should be a low threshold for using an intravenous infusion of oxytocin.

Surgical Intervention: If surgical intervention becomes necessary at any time, the standard Cardiff & Vale Consent Form allows documentation of procedures, which the woman does not wish to be carried out without further discussion.

Postnatal Bleeding: Women who would decline blood products must be monitored during the post-natal period. Staff must ensure that this fact is effectively communicated at EACH handover and attention must be paid to any concerns over bleeding or apparent increase in lochia at this time. Staff must also communicate effectively with the GP about

any necessary follow-up

When the woman is discharged home, she should be advised to report immediatelyif she has any concerns about bleeding during the puerperium.

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4 Treatment of Haemorrhage

Manage as per OBS Cymru 4 stage major-haemorrhage protocol, incorporatedwithin Cardiff & Vale “Haemorrhage” guideline.

Speed, Vigilance and Senior Involvement: The principles of management of haemorrhage in these cases are to **AVOID DELAY** and ensure senior assistance is summoned early; rapid decision making may be necessary, particularly with regard to surgical intervention.

Inform obstetric and anaesthetic consultants early: If bleeding occurs at any time during pregnancy, labour or the puerperium, the on-call consultant obstetrician and anaesthetist should be informed and standard management commenced promptly with a lower intervention threshold than in most other cases.

Inform family: The woman and her family should be kept fully informed about whatis happening, with information presented in a professional way by someone known and trusted.

Consent issues: If the situation is critical, the woman should be asked again, without pressure, and if possible without birthing partners present, whether she would accept transfusion in case she has changed her mind. If she continues to decline blood or blood products, her wishes must be respected. Any adult who has the necessary mental capacity is entitled to decline treatment, even if this may result in death. No other person can consent to or refuse treatment on her behalf.

Fluid resuscitation: Judicious intravenous fluid resuscitation is vital.

Clotting problems: Consider the possibility of clotting abnormalities early in the course of PPH in women declining blood products. Extra vigilance should be exercised to quantify any abnormal bleeding and detect complications such as clotting abnormalities.

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5 Pharmacological interventions:

Pharmacological interventions include antifibrinolytics such as Tranexamic acid. n In Post partum haemorrhage the advice is 1g IV as soon as abnormal bleeding is identified and then a further 1g if bleeding is on-going after 30mins

Treat as per the ROTEM protocol with fibrinogen concentrate if acceptable. If further coagulopathy occurs liaise with haemostasis consultants to discuss PCC and further options including fVIIa

Tisseel, a fibrin sealant topical haemostat, has been successfully used for haemostasis following placental abruption despite failure of other strategies. Tisseel is derived from human plasma and may therefore not be acceptable to all patients who decline blood products.

Antepartum haemorrhage: In cases of life-threatening antepartum haemorrhage where the fetus is still alive; a caesarean section should be performed promptly withthe mother's consent.

Surgical Interventions: Massive Obstetric Haemorrhage usually occurs in the form of a post-partum haemorrhage (see All Wales PPH Guideline). Early decision for surgical interventions such as B- Lynch Suture, Bakri intrauterine balloon, bilateral ligation of uterine or internal iliac arteries should be considered. Hysterectomy is normally the last resort in the treatment of obstetric haemorrhage but in women refusing blood transfusion delay in making the decision may be fatal. Performing a hysterectomy before the haemoglobin has fallen to life threatening levels may save the woman's life, though even this may not guarantee success.

Hysterectomy: The timing for hysterectomy should be made by the on-call Consultant. When the hysterectomy is performed the uterine arteries should be clamped as early as possible in the procedure.

Interventional Radiology: Consider the involvement of interventional radiology, for whom there is a 24/7 on call service.

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6 Post haemorrhage considerations

Erythropoietin can be used in cases of life threatening anaemia

Erythropoietin (EPO) is not an alternative to red cell transfusion in major haemorrhage, as it takes 10-14 days to increase haemoglobin levels. This was reiterated by the Centre for Maternal and Child Enquiries report "Saving Mother's Lives 2006-2008. This should be discussed with women who decline blood products and their families.

The suggested dose epoetin (alfa or beta) 300units/kg/day IV OR if epoetin alfa or beta unavailable use Darbepoietin (Aranesp) 6.75 micrograms/kg IV as an initial dose then weekly or less frequently depending upon response.

N.B the use of erythropoietins in these situations is unlicensed; see cautions, contraindications and side effects of the relevant Summary of the Product Characteristics – available on-line via. http://emc.medicines.org.uk/

Bereavement Support: If, in spite of all care, the woman dies, the relatives will require support in the same way as any bereaved family. The situation will also be very distressing for the staff involved. Support should be made available for staff in these circumstances and the members of the Hospital Liaison Committee for Jehovah's Witnesses are willing to share in a support programme if requested.

Useful contact details for members of the Wales Hospital Liaison Committee for Jehovah's Witnesses:- These can be found in the telephone book at reception on delivery suite, UHW

Email: info@hlcwales.org

(A full Contact list can also be obtained from the Transfusion Practitioners Office)

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7 References

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- Joint UK Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee. Transfusion Handbook. Chapter 12. Management of patients who do not accept transfusion. http://www.transfusionguideli nes.org/transfusion-handbook/12-management-of-patients-who-do- not-accept-transfusion

- Royal College of Surgeons. Professional and Clinical Standards. Caring for patients who refuse blood. A guide to good practice for the surgical management of Jehovah's Witnesses and other patients who decline transfusion. November 2016. https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/caring-for-patients-who-refuse-blood

- North Bristol NHS Trust guideline "CG50: Policy for the treatment of Jehovah's Witnesses"

- Saving Mothers' Lives: Reviewing maternal deaths to make motherhood safer- 2006-2008 (CEMACH)

- Care Plan for Women in Labour Refusing a Blood Transfusion – referred to in RCOG News and accessible at http://www.transfusionguidelines.org.uk/docs/pdfs/bbt-04_care-plan.pdf

- RCOG Green top Guideline 47 Blood Transfusion in Obstetrics (2015)

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8 Appendices

8.1 Acceptable/Choice/Unacceptable Treatment for Jehovah's Witnesses

Acceptable Treatments: Jehovah's Witnesses accept most medical treatments, surgical and anaesthetic procedures, devices and techniques, as well as haemostatic and therapeutic agents that do not contain blood.

They will accept:

- Non-blood volume expanders such as crystalloids (e.g. Saline, Hartmann's, Dextrose)and colloids (e.g. Gelatin, Hetastarch);
- Techniques such as hypotensive anaesthesia, meticulous haemostasis and diathermy;
- Agents such as ESAs (e.g. Erythropoietin), Desmopressin, Tranexamic acid, vasoconstrictors
- Non-blood derived topical haemostatic agents (e.g. Surgicel, Celox)
- Blood tests

Matters of Patient Choice:

Each Witness will decide whether she wishes to accept the following as a matter of personal choice. ***Hence it is essential to discuss with each patient whether or not these procedures are acceptable:***

- Autologous procedures including intra and postoperative cell salvage, haemodialysis.
- 'Fractions' of plasma or cellular components (e.g. immunoglobulins including anti-D, clotting factors, PCCs, albumin, plasma-derived vaccines, cryoprecipitate, factor VIIa and RiaSTAP®, Fibrinogen Concentrate)
- Topical haemostatic agents such as Tisseel (contains plasma-derived fibrin)
- Serums
- Blood patches (i.e.: by anaesthetist)

Unacceptable Medical Treatments:

Transfusions of whole blood, packed red cells, white cells, plasma and platelets

- Preoperative autologous blood collection and storage for later reinfusion.
- Elective termination of pregnancy (if, at the time of childbirth, a choice must be madebetween the life of the mother and the child, those concerned will make a personal decision).

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8.2 Cardiff and Vale Checklist

CHECKLIST FOR PATIENTS 18 YEARS AND OVER WHO REFUSE BLOOD TRANSFUSIONS		
Patient Name	Address	Date of Birth
		Telephone

In order to assist my treating team, I set out below the treatments I am willing to accept (where clinically indicated) during my hospital stay, procedure, or delivery:

	TREATMENTS	WILLING TO ACCEPT?	
1.	**NON-BLOOD THERAPIES / AGENTS** *(Normally acceptable to Jehovah's Witness patients)*		
	Haematinics e.g. intravenous iron, oral iron, folic acid, vitamin B12	Yes	No
	Erythropoiesis-stimulating agents e.g. recombinant erythropoietin [EPO]	Yes	No
	Thrombopoietic agents e.g. Romiplostim, Eltrombopag	Yes	No
	Granulocyte Colony-stimulating Factor [G-CSF]	Yes	No
	Procoagulants e.g. desmopressin [DDAVP], vitamin K	Yes	No
	Antifybrinolytics e.g. Tranexamic Acid [TXA], Aprotinin	Yes	No
	Vasoconstrictors e.g. vasopressin	Yes	No
	Other? (specify)	Yes	No
2.	**AUTOLOGOUS PROCEDURES / STRATEGIES** *(Individual choice for Jehovah's Witness patients)*		
	Intraoperative Blood Cell Salvage [ICS]	Yes	No
	If "Yes" to ICS:		
	- Should it be set up as a continuous circuit?	Yes	No
	- If accidental disconnection occurs, is reconnection acceptable?	Yes	No
	- Is swab washing acceptable?	Yes	No
	Postoperative Blood Cell Salvage (from wound drainage)	Yes	No
	Autologus patch e.g. platelet gel, epidural blood patch	Yes	No
	Other? (specify)	Yes	No
3.	**BLOOD FRACTIONS / DERIVATIVES** *(Individual choice for Jehovah's Witness patients)*		
	Cryoprecipitate	Yes	No
	Fibrinogen Concentrate	Yes	No
	Human Albumin Solution	Yes	No
	Immunoglobulins including Anti-D	Yes	No
	Tissue Sealants (plasma-derived) e.g. FloSeal, Tisseel	Yes	No
	Prothrombin Complex Concentrates [PCCs] e.g. Beriplex, Octaplex	Yes	No
	Recombinant Factor VIIa (may contain traces of animal immunoglobulin)	Yes	No
	Other? (specify)	Yes	No
4.	**BLOOD / BLOOD COMPONENTS** *(Unacceptable to Jehovah's Witness patients)*		
	Plasma, Fresh Frozen Plasma, Octaplas, lyophilized plasma e.g. LyoPlas	Yes	No
	Platelets / thrombocytes	Yes	No
	Red cells / erythrocytes	Yes	No
	White cells / leukocytes	Yes	No
5.	**ADVANCE DECISION TO REFUSE TREATMENT [ADRT]**	*Completed?*	*Attached?*
	If an ADRT has been completed, attach a copy of the ADRT document	Yes / No	Yes / No

This form & any ADRT attached should be made available to all health professionals involved in my care.

Patient (Signature).....**Date**.....

Form Received By (Signature).....**Date**.....

Form Received By (Name & Designation).....

(*Wales Hospital Liaison Committee for Jehovah's Witnesses.* Email: info@hlcwales.org)

8.3 Patient information to be provided at booking

Cardiff and Vale, Blood Refusal in PregnancyJanuary 2019

This leaflet gives you information about your right to decline blood transfusion orblood products during your pregnancy. **If you are a Jehovah's Witness, you may have heard 'blood products' described as 'fractions.'**

Can anyone decline a blood transfusion?

Yes. Cardiff and Vale University Health Board wants to be sure that we treat every woman in a way that recognises and respects their individual, cultural and religious beliefs.

As a Health Board we have a program to conserve blood and minimise the number of transfusions given to all patients. If you decline treatment with blood products we want to ensure that you make an informed decision; your doctor or midwife will discuss the possible risks and benefits of treatment **with and without** blood products.

It is **your** decision whether or not you are willing to accept the risks refusing blood transfusion and blood products. If you are a Jehovah's Witness you maywish to discuss this with your ministers.

What if I am thinking of becoming pregnant?

You may wish to talk to a doctor before you conceive, so that you can find out more about how you will be cared for during your pregnancy and how to become as fit as possible prior to conception. Your General Practitioner (GP) can arrange for you to see a hospital specialist to discuss your options further.

What if I am already pregnant?

Once you are pregnant you should inform your GP and midwife that you DO NOT wish to receive a blood transfusion or blood products. **Please make yourwishes clear in writing and ensure that they are included in your handheldmaternity notes and your medical notes.** If you are a Jehovah's Witness youmay already carry an 'Advance Decision to Refuse Specified Medical Treatment' (sometimes known as a 'No Blood Form') or a 'Treatment Checklist'please show these documents to your obstetrician and midwife so that they canmake copies and include them in your notes.

We also strongly recommend that you choose to have your baby in a Consultant-Led Unit, rather than a home birth or birth centre delivery. Your midwife will refer you to a Consultant Antenatal clinic where they will discuss your options and how you will be cared for during your pregnancy. Specific things that will be covered at this appointment are:

- Iron and folic acid supplements throughout your pregnancy.
- Regular blood tests will be taken to aim for your haemoglobin (blood count) to be above **130g**/L. *[Association of Anaesthetists 2018 Guideline 'Anaesthesia & Perioperative Care for Jehovah's Witnesses and patientswho decline blood' p2,*

Recommendation 3] This may not always be achievable in pregnancy. If your haemoglobin remains low despite supplements, and you have low iron stores, we may recommend an infusion of 'liquid iron' into a vein.

- As for all pregnant women you have a detailed scan to check the positionof the placenta (afterbirth), a low-lying placenta can increase your risk of bleeding during pregnancy.
- You will be able to discuss the risks and benefits of blood transfusion and blood products. If, **following this discussion, you confirm that you do NOT wish to receive blood and specified blood products this** will be clearly documented in both your medical notes and your handheld maternity notes.
- Other treatments and procedures to limit blood loss will also be discussed and it will be documented as part of your plan for care in your maternity notes.
- If you are at particular risk of bleeding, for example due to a low-lying placenta, we will discuss the use of blood salvage techniques.
- The anaesthetic department will be notified that you are pregnant and when your baby is due.
- If your blood group is Rhesus negative we will recommend that you have Anti-D injections during your pregnancy and after delivery. Anti-D is a protein obtained from blood plasma, there is **currently** no non-blood derived alternative. If you are a Jehovah's Witness you may wish to discuss this with your local minister or a member of the **Hospital** LiaisonCommittee.

What happens during labour and after delivery?

When you come into hospital in labour, the consultant obstetrician and consultant anaesthetist will be made aware of your arrival. You will be looked after as normal in labour, however we recommend that you have an injection following delivery of your baby, to help with delivery of the placenta (active management of the third stage of labour). If there are risk factors for bleeding we recommend insertion of an intravenous drip so that urgent drugs may be given without delay. If there are any complications a senior team will be available and your care plan will be followed.

You can be confident that even in an emergency your wishes will be followed and you will receive the best possible care and treatment during your time on the maternity unit.

To help us respect your wishes:

- Inform us in writing that you do not wish to receive blood transfusion or blood products. This can be done by completing the Trust 'Checklist for Jehovah's Witnesses and Other Patients who Decline Blood Transfusion'.
- Carry an 'Advance Decision Form' with you at all times, so that if you **are**found unwell and cannot communicate, your wishes will be respected. You may wish to wear a 'No Blood' wristband.
- Before an operation you will sign a standard consent form, clearly indicating that you consent to the planned procedure but that you DO NOT consent to blood

transfusion/products.

I have further questions…

If you have any further questions or concerns that are not covered by this leaflet please discuss them with a member of your medical team. If they are unable to answer your questions then we will find someone who can.

Further help is available for Jehovah's Witnesses from:

- Your local minister
- The Wales Hospital Liaison Committee for Jehovah's Witnesses. Contact details can be provided by a member of your medical team, oralternatively you can make contact by e-mail: info@hlcwales.org

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8.4 Care plan: Management of Women who decline blood or blood products in obstetrics

For full information on management refer to Cardiff & Vale Guideline: Management of women who decline blood or blood products in Obstetrics

Plan of Care	Signature	Date
Booking Visit		
- Ascertain if the woman objects to blood or any blood products. If a woman is likely to decline blood products, this should be entered in the dedicated place in the hand held notes and on the maternity computer system E3.		
- Discussion should include risks and possible consequences of declining a blood transfusion; major haemorrhage, increased risk of requiring a hysterectomy, and potentially death if a life threatening haemorrhage		
- Discussion should also include the use of immunoglobulins, such as Anti D		
- Refer for Obstetric Consultant opinion, and booked in a Consultant unit with facilities for prompt management of haemorrhage. (Obstetric and Surgical expertise)		
- Cardiff & Vale Refusal of Blood or blood products Information Sheet given?		
At Consultant appointment:		
- Consultant to discuss risks and possible consequences of declining a blood transfusion, major haemorrhage and increased risk of requiring a hysterectomy.		
- Refer to Anaesthetic Clinic for Anaesthetic Consultant review		
- Ensure Cardiff & Vale Checklist for Blood Product Acceptance is completed, signed and filed in hand held notes		

Plan of Care	Signature	Date
Antenatal Care		
Blood tests **(please document results)**		
BOOKING - Woman's blood group: …….. - Antibody status: …….. - Haemoglobin: …….. - Serum ferritin (yellow tube): …….. - Folate (yellow tube): ……... - B_{12} (yellow tube): …… 20 WEEKS - Haemoglobin*: …… 28 WEEKS - Antibody status: …….. - Haemoglobin*: …….. 36 WEEKS - Haemoglobin*: …… *Repeat ferritin, folate, B_{12} if patient found to be anaemic		
- Prescribe oral iron if required; Ferritin <30micrograms/L: 210mg ferrous fumerate BD Ferritin 30-200micrograms/L: 210mg ferrous fumerate OD		
- Document placental site:		

CARE PLAN FOR WOMEN IN LABOUR REFUSING A BLOOD TRANSFUSION

(As referred to in the *RCOG News* of the Royal College of Obstetricians & Gynaecologists)

This document is an aid for medical staff and midwives managing a Jehovah's Witness (JW) or other patient who declines blood. Autologous procedures such as **blood salvage** and the use of **plasma-derived products** such as clotting agents are matters of **personal choice** for each Witness. Most will carry an advance decision document expressing their wishes. Please check with the patient.

Risk management

- All Jehovah's Witnesses and others declining a blood transfusion should be seen in a consultant clinic.
- Clinicians should **plan in advance for blood loss.** If the Hb is ≤ 105gm/L use **ferrous sulphate 200mg tds and folic acid**–with acidic fruit juice or 100mg ascorbic acid to aid absorption. If unresponsive to oral iron, use **IV iron** which replenishes iron stores faster and more effectively than oral iron (IV iron is contraindicated in the first trimester; see overleaf for current iron preparations)[1,2]. To further enhance response to a critically low Hb, the addition of **recombinant human erythropoietin (EPO)** has been reported safe in pregnancy[3,4].
- High-risk patients should be booked into a unit with **facilities such as interventional radiology, blood salvage, and surgical expertise.** All elective surgery must be planned as far ahead as possible.
- For **high-risk caesarean section**, e.g. abnormal placentation, consider with the interventional radiologist elective preoperative insertion of balloon catheters for intraoperative **uterine artery embolisation** as needed, and arrange **blood salvage**.
- At the time of labour ensure the **consultant obstetrician and anaesthetist are aware a Jehovah's Witness has been admitted.**
- **The third stage of labour should be actively managed with oxytocics** as well as **prophylactic syntocinon** infusion.
- **Delay umbilical cord clamping** for at least 1 minute for healthy term infants and up to 3 minutes for healthy pre-term infants to allow time for a transfusion of placental blood to maximise their Hb level[5].
- **Check patient's vital signs and evidence of uterine contraction** every 15 minutes for 1 to 2 hours after delivery.
- **Contact the Hospital Liaison Committee for Jehovah's Witnesses in an emergency** (contact details over page).

Management of active haemorrhage

First steps: AVOID DELAY. Involve obstetric, anaesthetic, and haematology consultants. Establish IV infusion, along with **uterine massage** (every 10 minutes for 1 hour can reduce blood loss[6]). **Give oxytocic drugs first, then exclude retained products of conception or trauma** (this could save time). Proceed with **bimanual uterine compression**. Give oxygen. Catheterise and monitor urine output. Consider CVP line. **Slow, but persistent blood loss requires action**. Anticipate coagulation problems. Keep patient fully informed. Proceed with following strategies if bleeding continues:

Oxytocic agents: **Ergometrine with oxytocin (Syntometrine)** marginally more effective than oxytocin alone. If patient is hypertensive, give 5 IU **oxytocin** by slow IV injection then reassess, if bleeding not settled or uterus not contracted after a few minutes, give another 5 IU[7,8]. **Carboprost (Hemabate)** 250µg/ml IM, can be repeated after 15 minutes. Direct intra-myometrial injection is faster (less hazardous at open operation).

Misoprostol (Cytotec): Useful option in atonic PPH where first-line treatment has failed. Can be given either by **sub-lingual** (600-800µg) or **rectal route** (800-1000µg)[9,10]. **Intrauterine route** (800µg) also reported to be effective[11]. Control of haemorrhage reported for rectal and intrauterine routes when unresponsive to oxytocin, ergometrine, and carboprost[10,11].

Intrauterine balloon tamponade: Use 500 ml **Bakri tamponade balloon** (Cook Medical). Drainage of blood and cessation of bleeding can be observed via the catheter drainage shaft. Continue oxytocin. Expulsion of balloon can be prevented by vaginal packing. To minimise bleeding-risk during removal, use graduated deflation or slowly deflate to half volume and observe; if no bleeding, continue deflation; if bleeding starts, reinflate[12]. Alternatively, in emergency, stomach balloon of **Sengstaken-Blakemore oesophageal catheter** can be used, average indwell time of balloon 24 hours[13]. **Bakri balloon used to control PPH due to vaginal lacerations** when suturing or vaginal packing fails[14].

Haemostatic agents:

Tranexamic acid: Antifibrinolytic agent well-established for controlling haemorrhage (1gm IV x tds slowly)[15]. Also consider IV **vitamin K.**

Fibrinogen concentrate (RiaSTAP), plasma-derived **alternative to cryoprecipitate**: Fibrinogen enhances clot strength and is used to normalise coagulation in PPH[16,17]. A reduced fibrinogen level is a critical marker for the severity of PPH, with greatest risk if the level falls < 2g/l[18,19]. For ongoing bleeding consider 4gm (70 mg/kg) fibrinogen concentrate.

Prothrombin complex concentrates (PCCs) (**Beriplex** & **Octaplex**): Widely prescribed in preference to FFP in Europe. Use 15-20 U/kg.

PCCs combined with fibrinogen concentrate: Used to effectively replace FFP as first-line therapy in 80 cases of trauma coagulopathy[20]. The *refusal of FFP by JWs may be resolved to a large extent by the use of these plasma-derived products which are a matter of patient choice.*

Recombinant factor VIIa (NovoSeven) [Note: may contain traces of animal serum proteins]: Consider off-licence use under consultant guidance for life-threatening PPH unresponsive to standard therapies. 90 µg/kg provides site-specific thrombin-generation, repeat if unresponsive. Successfully used to control bleeding in 88% of 118 massive PPH cases and in 17 anecdotal PPH cases complicated by DIC, also to prevent hysterectomy in 20 of 22 patients when all other methods failed[21,22,23]. To avoid possible failure of rFVIIa **ensure fibrinogen level is adequate** and use antifibrinolytics (tranexamic acid) to stabilise the clot beforehand, also correct acidosis (pH<7.2) and hypothermia which decrease the efficacy of rFVIIa[17].

Tissue sealants (plasma-derived): Can be a useful adjunct to control surface bleeding in life-threatening situations. **FloSeal**: Used (off-license) to control intractable massive bleeding in surgical bed following obstetric hysterectomy[24]; **Tisseel**: Used to arrest uncontrollable bleeding of complicated vulval and vaginal lacerations in 2 cases when suture haemostasis and other methods failed due to friable/oedematous tissue[25,26].

Non-inflatable anti-shock garment: Recently-developed neoprene Velcro-fastened garment (zoexniasg.com) can be applied in 2 minutes and allows perineal access for obstetric procedures. Can reduce blood loss and reverse hypovolaemic shock within minutes by the transfer of blood from the lower body and abdomen to the vital organs. Enables patient to be stabilised e.g. in home birth while awaiting transfer or in hospital while awaiting more definitive treatment. Successful trials have been conducted with more than 400 women experiencing PPH in developing countries[27].

Uterine or internal iliac artery embolisation or ligation: Emergency interventional radiology can be performed in theatre using angioplasty balloon catheters for temporary occlusion, with transfer for later definitive embolisation[28].

B-Lynch uterine compression suture: The B-Lynch brace suture can also be successfully **combined with intrauterine balloon catheter** if bleeding persists[29,30]. **Prophylactic insertion of this suture** has been used in high-risk caesarean section[4]. For some the **Hayman suture technique** may be a simpler procedure and quicker to apply as the lower uterine segment is not opened[31].

Intraoperative blood salvage: Endorsed for use during caesarean section by NICE (2005) and RCOG guidelines (2008). Should be set up whenever possible (check if acceptable to the patient). Either single- or double-suction methods can be used for collection. However, to maximise blood recovery, there is good evidence that single-suction is a safe procedure[32,33]. Swab-washing also increases RBC recovery. A 'collect-only' setup of the anticoagulation/suction tubing will enable blood salvage to begin within minutes[33]. Conventionally a leukocyte filter has been used when reinfusing, though in an emergency situation the filter may be removed completely to maximise the flow rate, as prior to availability of filters no adverse events were reported. These are clinical decisions based on the balance of benefit/risk.

Hysterectomy and care in theatre: Subtotal hysterectomy can be just as effective, also quicker and safer. Use Flowtron Excel to decrease risk of DVTs. Avoid hypothermia (impairs coagulation), use fluid warmer, Bair Hugger, hats etc. Avoid unnecessary over-dilution.

Management of postpartum anaemia—see over page

Management of postpartum anaemia

Consider IV iron with vitamin B_{12} & folic acid for severe anaemia, as oral iron can be slow and unreliable due to limited absorption and adverse gastrointestinal effects. Three postpartum anaemia studies have shown that IV iron sucrose (2 x 200mg, 48 hours apart) can raise the Hb rapidly and effectively[34,35,36]. Mean Hb increments from baseline in the 3 studies after 1 week were 25, 19 and 18 gm/L respectively and after 2 weeks 38, 31 and 28 gm/L. These Hb increases in 1 week on IV iron are considerably faster than oral iron and comparable to a 2U blood transfusion[35]. IV iron preparations now have a very low level of life-threatening adverse drug events. Four preparations are currently available in the UK: iron sucrose (Venofer), low-molecular-weight iron (III)-hydroxide dextran (CosmoFer), plus two more recent additions of ferric carboxymaltose (Ferinject) and iron (III)-isomaltoside (MonoFer), neither of which require a test dose and both can be given as total dose infusion up to 1000 mg[1].

Erythropoiesis-stimulating agents (ESAs): Administer **together with IV iron** in life-threatening anaemia to further accelerate erythropoiesis or where the patient is unresponsive to IV iron[37]. An EPO dosage of 300 IU/kg (20,000 IU) for 4 consecutive days together with 200mg IV iron, also for 4 days, has proved efficacious for postpartum anaemia[38]. JWs suffering blood loss with extremely low Hb (between 15 and 25 gm/L) have been successfully treated with an EPO dosage of 600 IU/kg together with IV iron on alternate days. As a general guide, the eMC (Medicines Compendium UK) recommends 300 IU/kg daily for 15 days to raise the preoperative Hb before orthopaedic surgery or 600 IU/kg twice a week to raise the Hb for a predonation programme.

Check oxygen saturations: Give **100% oxygen** if necessary (no contraindications for 48-72 hours of use). Use **microsampling techniques** to conserve blood (e.g. HemoCue), as well as **paediatric sample tubes**. If bleeding continues consider reinfusing washed drain fluid.

Hyperbaric oxygen therapy: Option in life-threatening obstetric anaemia[39]. For suitable and available centres contact 0151 648 8000 [24 hours].

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This document has been reviewed by consultants in obstetrics, gynaecology, anaesthesia, and haematology (including experts in haemostasis). It reflects current clinical and scientific knowledge and is subject to change. The strategies are not intended as an exclusive guide to treatment. Good clinical judgement, taking into account individual circumstances, may require adjustments.

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