# Blood Management Policy

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# 1. Background

Removing unwanted variation in clinical practice and following best practice guidelines has found to reduce inappropriate care (overuse, misuse and underuse) thus improving health outcomes, reducing preventable harm and decreasing wastage (therefore reducing health expenditure).

# 2. Policy Statement

The purpose of this policy is to establish minimum practice standards for the care and management of Blood and Blood Products throughout the WA Country Health Service (WACHS).

This policy is to be used in conjunction with:

- ANZSBT Guidelines: Administration of Blood[1]
- Australian Red Cross Lifeblood Blood Component Information: An Extension of Blood Component Labels[2]
- CSL's Product Information publication for each plasma product
- PCH Transfusion Medicine Protocols

Further information relating to specialty areas including Child and Adolescent Health Service (CAHS), Women and Newborn Health Services (WHNS) can be found via HealthPoint if not covered in this policy.

## 2.1 Scope

Applies to all WACHS staff that are involved in prescribing, ordering, processing, storing, handling or administering blood and blood products. Blood and blood products include red blood cells, platelets, fresh frozen plasma and cryoprecipitate, fractionated plasma products such as immunoglobulin and clotting factors.

## 2.2 Considerations

Mandatory requirements may include but not be exhausted of:

1. informed consent to be obtained and documented on the MR30G WACHS Consent to Blood Products and filed in the patient's medical record
2. indication for transfusion, prescription including date of planned transfusion, blood product(s), number of units, and duration must be documented on the MR175A WACHS Intravenous Blood Transfusion and Blood Product Treatment Order Chart and signed by the person ordering
3. transfusion duration of Red Cells, Fresh Frozen Plasma and Platelets depends on clinical indication and medical history but must not exceed 4 hours
4. documentation of patient transfusion history
5. compatible fluid: Sodium Chloride 0.9% only to be used for priming and flushing lines
6. administration must commence within 30 minutes of blood and blood products leaving PathWest or approved blood fridge or be returned to PathWest or appropriate blood fridge before the 30 minutes has elapsed
7. blood and blood products are never to be stored in a ward/ unit fridge (even temporarily).

## 2.3 General Information

Blood and blood products will be handled safely and prescribed appropriately and rationally to achieve the best clinical outcome for the patients.

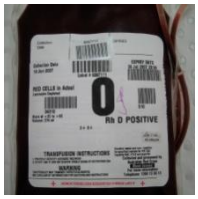
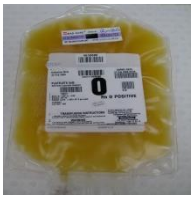
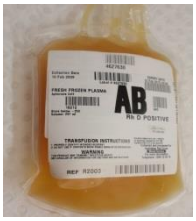
Treatment with blood and blood products can be lifesaving however they are not without risk. Screening and testing of donors and donated blood and ensuring that decisions to transfuse follow consideration of all treatment options, their risks and benefits all contribute to minimising the inherent risks.

The National Blood Authority has produced clinical guidelines for blood management in a variety of clinical areas and these are to guide and direct clinical decision-making around the decision to transfuse blood or a blood product[3-8].

## 2.4 Indications for Blood and Blood Product Usage

### Blood Products

**Table 1: Fresh blood products and their usage**

| Product | Indication for usage |
|---|---|
| **Red Blood Cells (RBCs)**  | RBCs are extracted from whole blood by centrifuge. They are used to treat clinically significant anaemia where the patient is actively symptomatic or where there is active bleeding from trauma or surgery. RBCs are provided in blood groups O, A, B and AB, and Rh (D) negative or positive. It is critical that the blood group is compatible with the patient's blood group. In emergencies, a cross-match sample is to be taken and then O-negative blood may be administered. |
| **Platelets**  | Platelets derived from whole blood and are used to treat bleeding associated with surgery, massive haemorrhage, platelet dysfunction, or for patients with bone marrow failure at high risk of haemorrhage. |
| **Fresh Frozen Plasma (FFP)**  | FFP is derived from whole blood and contains all the clotting factors, including a large volume of Factor VIII and Factor V. It is used to correct coagulopathies such as occur in massive transfusion, cardiac bypass, liver disease or in disseminated intravascular coagulation.<br>Extended life plasma (ELP) is FFP that was not used within 24 hours of thaw. It has decreased levels of F VIII. |
| **Cryoprecipitate**  | Derived from the precipitate left when fresh frozen plasma is thawed at a low temperature. It contains Factor VIII, fibrinogen, Factor XIII, von Willebrand's factor and fibronectin. It is used when there is low fibrinogen associated with major haemorrhage, an invasive procedure or when clotting factors are being massively consumed in disseminated intravascular coagulation (DIC). |

Further information can be obtained from the Australian Red Cross Lifeblood

### Plasma Products

The following is a list of the more commonly used plasma products but is not exhaustive. Lifeblood has links to CSL which lists all the products available.

**Table 2: Plasma products and their usage**

| Product | Indication for usage |
|---|---|
| **Albumin** | A protein solution prepared from pooled human plasma. It is available as both 4% and 20% product. Infuse via a standard IV giving set as per medical orders with a maximum hang time of 4 hours.<br><br>Albumin 20%<br>• Extremely low albumin in critically ill patients<br>• Paracentesis of ascites in patient with cirrhosis of the liver Adult Respiratory Distress Syndrome (ARDS)<br>• Burns<br>• Extremely low albumin in critically ill patients<br>• Haemodialysis<br><br>Albumin 4%<br>• Hypovolaemic shock<br>• Therapeutic plasmapheresis<br>• Cardiopulmonary bypass |
| **Immuno-globulins** | This is a fractionated blood product made from pooled human plasma.<br><br>It is used for primary immunodeficiencies, immunological disorders, neurological disorders and haematological disorders. These products include but not limited to: CMV Immunoglobulin; Hepatitis B Immunoglobulin; Tetanus Ig; and Zoster. |
| **Pro-thrombinex** | Is a freeze-dried concentrate made from human plasma? It contains coagulation factors II, IX and X (2, 9 and 10). It is used for prophylaxis and treatment of bleeding in patients with single or multiple congenital deficiencies of factors II or X (2 or 10). Also, in patients with single or multiple acquired prothrombin complex factor deficiency requiring partial or complete reversal (e.g. warfarin/anticoagulant therapy reversal). Do not give to patients with thrombosis or DIC. |

| | |
|---|---|
| **Rh(D) Immuno-globulin** | Rh(D) Immunoglobulin (Ig) is used to prevent Rh(D) immunisation of Rh(D) negative mothers during and post-partum of a Rh(D) positive baby. Other indications for use include:<br>• Large FMH, when Rh(D) Ig suitable for intravenous administration may be obtained from the ARCBS<br>• Rh(D) positive platelets being transfused to a Rh(D) negative female of child-bearing potential, to prevent alloimmunisation<br>• In the event of administration of Rh(D) positive red cell being transfused to a Rh(D) negative female of child-bearing potential – consult with a haematologist immediately<br>• The sensitising events to which use, and doses relate include:<br>– Miscarriage or termination of pregnancy<br>– Ectopic pregnancy<br>– Chorionic villus sampling, amniocentesis<br>– Abdominal trauma likely to cause FMH<br>– Revealed or concealed antepartum haemorrhage |
| **Biostate Factor VIII** | Is made from human plasma and contains factor VIII and Von Willebrand factors - proteins essential for normal blood clotting. It may be used as a treatment and prophylaxis of bleeding associated with FVIII deficiency due to haemophilia A or the treatment of bleeding episodes in patients with von Willebrand disease when desmopressin (DDAVP) treatment is ineffective or contraindicated. Recombinant Factor VIII (grown and replicated in non-human cells) is now the first choice of treatment for Haemophilia A due to less risk of viral transmission - Consult with haematologist. |
| **Subcutaneous Immunoglobulin (SCIg)** | This is a solution of human proteins and in particular IgG antibodies with a broad spectrum of antibody activity. It is prepared from large pools of human plasma and contains the typical IgG antibodies found in the normal population. It is only approved for patients with primary immunodeficiency diseases with antibody deficiency, specific antibody deficiency, acquired hypogammaglobulinaemia secondary to haematological malignancies, secondary hypogammaglobulinaemia unrelated to haematological malignancies, and chronic inflammatory demyelinating polyneuropathy (CIDP). |

Further information can be obtained from the Australian Red Cross Lifeblood.

## 2.5 Consent

Refer to OD0657/16 WA Health Consent to Treatment Policy

- Provide patient with the WA Health Blood Transfusion Consent Information brochure
- The Clinical Indication / Plan to transfuse, requires the following explanation:
  - Benefits and risks of transfusion
  - Appropriate alternative treatments
  - Risks of non-transfusion
  - Answers to the patient's questions.
- Consent is to be documented on the MR30G WACHS Consent to Blood Products form
- The transfusion of blood and blood products can involve more than one course. Duration of consent must be clearly documented in the patient record or on the MR30G WACHS Consent to Blood Products. This may be up to 12 months, as long as the patient does not withdraw consent or there is not a change in the patient's condition.
- The transfusion discussion and patient's response must be documented in the patient record by the treating clinician

### Emergency Treatment

Urgent transfusion may be necessary to save a person's life or avert serious injury to a person's health. Consent is still to be sought and the key principles of consent set out in OD 0657/16 WA Health Consent to Treatment Policy are to be applied. The circumstances of the emergency and details of communications is to be recorded in the patient's medical record at the earliest opportunity.

In an emergency where a person is incapable of giving consent, treatment may be provided without consent. The treatment in these cases is that which is:

- reasonably required to meet the emergency
- in the patient's best interests
- the least restrictive of the patient's future choices.

The emergency exception (to the requirement to obtain consent prior to treatment) only applies where a person:

- is unable to give consent
- does not have an Advance Health Directive (AHD) or common law directive that is known, immediately available and applicable in the circumstances
- does not have a substitute decision maker who can be readily identified and immediately available to consider consent.

### Refusal of Blood Products

A competent patient has the right to refuse transfusion of blood or blood products, even in life-threatening situations. The treating clinician is responsible for ensuring the patient is fully informed of the consequences of the refusal but must respect the person's autonomy. The treating clinician must document the refusal of blood products on the MR30H WACHS Release of Liability - Refusal of Blood Products form.

An emergency does not permit the treating clinician to override the patient's known wishes for refusal of blood products, particularly if there is an existing Advanced Health Directive stating this.

### Jehovah's Witnesses

There is a variation in the views and beliefs about transfusion held by Jehovah's Witnesses. The treating clinician is to always ascertain the individual patient's views and beliefs. When in doubt, contact the medical director for further advice. Many Jehovah's Witnesses will carry Advanced Health Directives with them to indicate which if any, blood products or procedures involving their own blood they would be willing to consent to.

## 2.6 One Unit Policy

Only one unit of blood is to be ordered if the inpatient does not have clinically significant bleeding. Each unit transfused is an independent clinical decision, as this may reduce the risk of adverse events[17].

A subsequent unit can be requested after the patient has been assessed and remains symptomatic. Indications for second or subsequent units:

- Active blood loss
- Ongoing symptoms of anaemia

## 3. Definitions

| | |
|---|---|
| **Carer** | Carers provide unpaid care and support to family members and friends who have a disability, mental illness, chronic condition, terminal illness, an alcohol or other drug issue or who are frail aged (Carers Australia, 2015). |
| **Consumer** | A person who uses, or may potentially use, health services. Depending on the nature of the health service organisation, this person may be referred to as a patient, a client, a consumer, a customer or some other term. Consumers also include families, carers, friends and other support people, as well as representatives of consumer groups. |
| **Direct supervision** | Direct supervision is considered to be in the company of an RN or medical practitioner or visually via an emergency tele-health service. |

## 4. Roles and Responsibilities

**Clinicians** are required to work within policies, procedures and guidelines and within their identified scope of practice, level of experience and work role.

## 5. Compliance

Standard WACHS audits are used to monitor compliance in the administration and recording of blood transfusions. Audits are available via the WACHS Safety and Quality Clinical Audit page – Blood Management section, or the Standard 7 Indicators/Audit/Evaluation page. Additionally, blood wastage reports are to be monitored routinely to identify areas for improvement.

Failure to comply with this policy document may constitute a breach of the WA Health system MP0124/19 Code of Conduct Policy. The Code is part of the Integrity Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* (WA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

## 6. Records Management

All WACHS clinical records must be managed in accordance with Health Record Management Policy.

## 7. Evaluation

Adverse reactions to blood and blood products including suspected transfusion reactions is to be documented in the patient's clinical record and reported in Datix CIMS. All reported incidents and adverse reactions are to be referred to the local Blood and Blood Products group for review if it is a haemovigilance reportable event against the WA data definitions.

Reportable haemovigilance events are reported to the Office of the Chief Medical Officer by WACHS Blood Management CNC. See Appendix 3 – WACHS Haemovigilance Reportable Adverse Events Review and Data Collection Process

## 8. Standards

National Safety and Quality Health Service Standards
Blood Management Standard 7
Recognising and Responding to Acute Deterioration Standard 8

## 9. Legislation

*Carers Recognition Act 2004*

*Children and Community Services Act 2004*

*Civil Liability Act 2002*

*Criminal Code Act Compilation Act 1913*

*Disability Services Act 1993*

*Equal Opportunity Act 1984*

*Equal Opportunity Regulations 1986*

*Guardianship and Administration Act 1990*

*Health Practitioner Regulation National Law (WA) Act 2010*

*Human Tissue and Transplant Act 1982*

*Mental Health Act 2014*

*Occupational Safety and Health Act 1984*

*Occupational Safety and Health Regulations 1996*

*Privacy Act 1988*

*Public Sector Management Act 1994*

*State Records Act 2000*

## 10. References


1. Australian and New Zealand Society of Blood Transfusion Ltd, Royal College of Nursing Australia. Guidelines for the Administration of Blood Products. 3rd Edition. Sydney, NSW: Australian and New Zealand Society of Blood Transfusion Ltd; 2011. Accessed 4 June 2020.
2. Australian Red Cross Lifeblood. Blood Component Information: An extension of blood component labels. Melbourne, Vic: Australian Red Cross Lifeblood; 2015. Accessed 30 May 2016.
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5. National Blood Authority. Patient Blood Management Guidelines: Module 3 - Medical. Canberra, ACT: National Blood Authority; 2012
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9. CSL Limited. Hepatitis B immunoglobulin-VF. Product Information. Parkville, Vic: CSL; 2014 . Accessed 11 May 2016.
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15. CSL Limited. CMV Immunoglobulin-VF. Product Information. Parkville, Vic: CSL; 2014. Accessed 11 May 2016.
16. Australian Commission on Safety and Quality in Health Care. National safety and quality health service standards. *Standard 7: blood and blood products*. Sydney: Australian Commission on Safety and Quality in Health Care; 2012:48-53.
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18. CSL Limited. RiaStap Human Fibrinogen Concentrate. Product Information. Parkville, Vic: CSL; 2016. Accessed 11 May 2016


## 11. References

Acknowledgment is made of the previous SMHS / WACHS site endorsed work used to compile this Blood and Blood Products Clinical Practice Standard.

## 12. Related Forms

MR 30G WACHS Consent to Blood Products
MR 30H WACHS Release of Liability - Refusal of Blood Products
MR175A WACHS Intravenous Blood Transfusion and Blood Product Treatment Order Chart
MR70B WACHS Rh D Immunoglobulin (Anti D) Record
MR72A WACHS Primary Postpartum Haemorrhage Record

## 13. Related Policy documents

WACHS Blood Fridge Procedure - PathWest On Site
WACHS Documentation Clinical Practice Standard
WACHS Infection Prevention and Control Policy
WACHS Recognising and Responding to Acute Deterioration (RRAD) Policy
WACHS Patient Identification Policy
WACHS Primary Postpartum Haemorrhage Guideline

## 14. Related WA Health System Mandatory Policies

Code of Practice for Clinical and Related Waste Management
MP0095 Clinical Handover Policy
MP0122/19 Clinical Incident Management Policy 2019
MP0086/18 Recognising and Responding to Acute Deterioration Policy
MP0053/17 WA Clinical Alert (MedAlert) Policy
OD0657/16 WA Health Consent to Treatment Policy

## 15. Appendices

Appendix 1: Administration of Blood and Blood Products Procedure
Appendix 2: Management of Transfusion Reaction
Appendix 3: WA Haemovigilance Reportable Adverse Events Review and Data Collection Process
Appendix 4: Massive Transfusion Protocols
Appendix 5: Storage of Blood and Blood Products

**This document can be made available in alternative formats on request for a person with a disability**

| | | | |
|---|---|---|---|
| **Contact:** | WACHS Blood Management Clinical Nurse Consultant | | |
| **Directorate:** | Medical Services | **TRIM Record #** | ED-CO-15-91133 |
| **Version:** | 7.01 | **Date Published:** | 28 November 2023 |

Appendix 1: Administration of Blood and Blood Products Procedure

## Collection of Blood Specimens for Group and Screen

Complete either:

- Computerised Provider Order Examination form (CPOE) **or**
- Transfusion Medicine Request form.

Include:

- Patient family name, given name in full
- Unique medical record number (UMRN)
- Patient's date of birth
- Name and signature of requesting doctor
- Details of request: e.g. test requested, type of product, number of units
- Date and time products required
- Reason for products and parameter e.g. Hb, Plt count
- Current pregnancy if relevant
- Gender.

Specimen labels and Request Forms must be signed at the BEDSIDE by the collector with Date and Time specified as per minimum requirements for Clinical Samples and Request Forms.

If the samples are labelled incorrectly, PathWest will dispose of the samples and re-collection will be required. PathWest follow a no tolerance rule for correct blood specimen labelling to prevent adverse outcomes for patients.

## Prescription of Blood and Blood Products

Blood and blood products will be prescribed on the MR175A Intravenous Blood Transfusion and Blood Product Treatment Order Chart. Blood may be prescribed by a medical officer or a nurse practitioner who's approved scope of practice authorises him/her to prescribe blood. The handwriting must be fully legible.

Where possible elective transfusions are not to take place between 9:00pm and 7:00am as this ensures appropriate levels of staff are available to respond to an emergency.

Clinical assessment of the patient is required in order to determine the infusion rate including the clinical context, age and cardiac status of the patient. In stable, non-bleeding adult patients the typical administration durations are presented in the table below.

Table 3 and 4 are guides only; if unsure seek clarification from a medical officer.

**Table 3: Blood and Blood Product Management and Administration Guidelines**

<table>
<tr><th>Blood Product</th><th>Commencement of Transfusion</th><th>Completion of Transfusion</th><th>Rationale</th><th>Compatibility</th></tr>
<tr><td>Packed Red Cells 200-300mL</td><td>Within 30 minutes of collecting from Blood Bank</td><td>Usually over 60-180 minutes.<br><br>Must be completed within 4 hours</td><td>Reduce risks of bacterial proliferation. Maintain integrity of red cells.</td><td><table><tr><th>Patient Group</th><th>Compatible Group</th></tr><tr><td>A</td><td>A, O</td></tr><tr><td>B</td><td>B, O</td></tr><tr><td>AB</td><td>AB, A, B, O</td></tr><tr><td>O</td><td>O</td></tr></table>To be Rh(D) matched whenever possible but Rh(D) positive patient can have Rh(D) negative red cells.</td></tr>
<tr><td>Platelets</td><td>Usually given stat to 30 minutes</td><td>15-30 minutes per standard adult equivalent dose<br><br>Must be completed within 4 hours</td><td>Reduce risks of bacterial proliferation.<br><br>Preserve platelet function.</td><td>ABO identical platelets preferred.<br>Non- identical ABO platelets may be provided. Phone your transfusion service to confirm.</td></tr>
<tr><td>Fresh Frozen Plasma</td><td>Usually given stat to 30 minutes</td><td>30 minutes per unit (i.e. 10-20mL/kg/hr). Must be completed within 4 hours</td><td>Reduce risks of bacterial proliferation. Avoid any loss of activity of coagulation factors.</td><td rowspan="2"><table><tr><th>Patient Group</th><th>Compatible Group</th></tr><tr><td>A</td><td>A, AB</td></tr><tr><td>B</td><td>B, AB</td></tr><tr><td>AB</td><td>AB</td></tr><tr><td>O</td><td>AB, A, B, O</td></tr></table>No need to Rh(D) match.</td></tr>
<tr><td>Cryoprec-ipitate</td><td>Usually given stat to 30 minutes</td><td>30-60 minutes per standard adult dose (i.e. 10-20mL/kg/hr)<br><br>Must be completed within 4 hours</td><td>Reduce risks of bacterial proliferation.<br><br>Avoid any loss of activity.</td></tr>
</table>

Source: Guidelines for the Administration of Blood Components and Product Information

**Table 4: Other administration considerations**

| Blood Product | Administration notes |
|---|---|
| **Red Blood Cells (RBCs)** | • Once removed from refrigeration, transfusion must be commenced within 30 minutes or returned to the transfusion laboratory.<br>• Red cells may follow platelets through the same blood administration set, but not precede platelets.<br>• All red cells and platelets issued by the Blood Service are leucocyte depleted and therefore additional bedside leucocyte depletion filters are not required. |
| **Platelets** | • Platelets must be administered within one (1) hour or returned to the Transfusion laboratory<br>• They must be transfused through a new blood administration set unless administered in the setting of massive/rapid transfusion when platelets and plasma may need to be transfused through the same administration set<br>• They must not be transfused through a blood administration set which has been used for red cells, as red cell debris may trap infused platelets. |
| **Fresh Frozen Plasma (FFP)** | • Once thawed, it is to be transfused immediately.<br>• Extended life plasma (ELP) may be used up to five (5) days post thaw if Transfusion Unit is accredited for plasma life extension and storage |
| **Cryoprecipitate** | • Once thawed, cryoprecipitate is to be used within six (6) hours if it is a single closed unit or within four (4) hours if units have been pooled |
| **Albumin** | • Transfusion is to not exceed four (4) hours<br>• Albumin and intravenous immunoglobulin formulations that do not require reconstitution may be administered via either a standard IV administration set without a filter, or a blood administration set |
| **Immunoglobulins** | • The administration is different for each product. For example:<br>- CMV Immunoglobulin is administered intravenously<br>- Hep. B Immunoglobulin is administered via intra muscular injection<br>- Tetanus Ig is administered via intra muscular injection<br>- Zoster is administered via intra muscular injection<br>• Refer to the Product Information for each Immunoglobulin product for the specific administration requirements. Product Information can be accessed via the CSL website.<br>• IV administration is to be via a volumetric pump consistent with the Product Information. |

*Continued…*

**Table 4 continued: Other administration considerations**

| | |
|---|---|
| **Prothrombinex** | • Infuse at room temperature via a syringe driver/burette at the rate of 3mL/minute<br>• Refer to the Product Information for the specific administration requirements, accessible via the CSL website. |
| **Rh(D) Immunoglobulin** | • Use immediately after opening as it does not contain an antimicrobial preservative<br>• Rh(D) Ig is given at room temperature and as an intramuscular injection.<br>• For administration including the recommended doses please refer to the Product Information, accessible via the CSL website. |
| **Fibrinogen Concentrate** | • Use immediately after opening as it does not contain an antimicrobial preservative<br>• Fibrinogen is given at room temperature by slow intravenous injection.<br>• Refer to the Product Information for the specific administration requirements, accessible via the CSL website. |
| **Biostate** | • Infuse at room temperature via a standard IV giving set.<br>• Refer to the Product Information for the specific administration requirements, accessible via the CSL website. |

Source: Guidelines for the Administration of Blood Components and Product Information

The CSL Product Information publication for each specific product [9-14]

### Pre-Procedure Key Points

At the time of administration, two (2) qualified staff (one must be an RN or a Medical Officer) must check the following details **independently:**

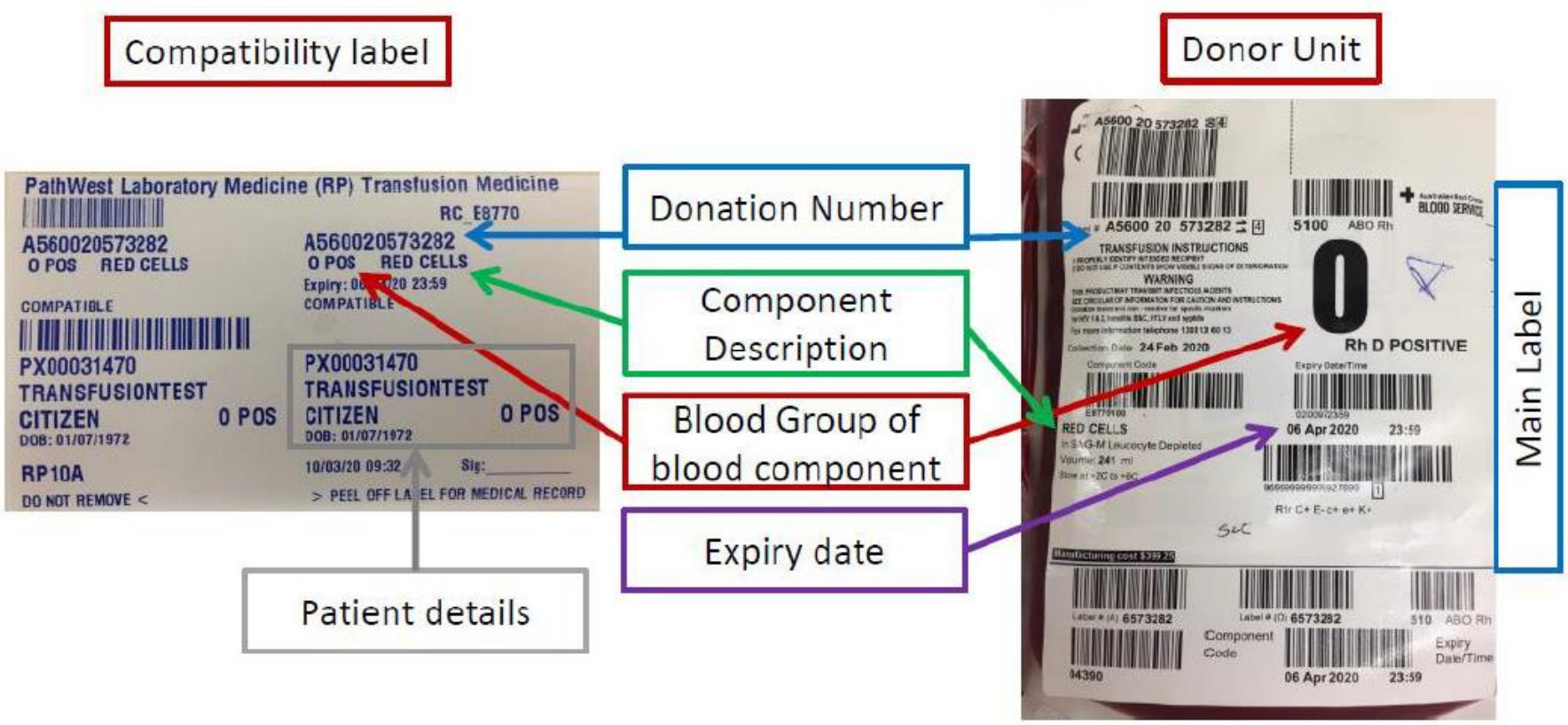
- Ask the patient their full name, date of birth, and check the patient's ID band UMRN matches the label on the prescription MR175A WACHS Intravenous Blood Transfusion and Blood Product Treatment Order Chart.
- For an unconscious patient, have a staff member or relative who knows the patient identify them
- The prescription for the blood or blood product on the MR175A WACHS Intravenous Blood Transfusion and Blood Product Treatment Order Chart.
- The cross-match Report form or compatibility label sticker
- Blood product (Transfusion Medicine Compatibility label for bag number, blood group and expiry date, and Blood Bank Issued label)
- The patient has received the WA Health Blood Transfusion Consent Information brochure, and has provided appropriate consent for blood products.

Unidentified patients are given a temporary UMRN. All blood and blood products issued to the patient are issued against the temporary UMRN. Once the patient is identified and has an existing UMRN all transfusion records and blood results are merged into the existing UMRN and the temporary UMRN is deleted.

### Blood and Blood Product Checking Procedure

The patient must have an identification band attached and a valid consent. Two (2) staff members (One [1] must be a Registered Nurse or Medical Officer) carry out the identification check of the patient and blood at the bedside **immediately** prior to administration. The person spiking/hanging blood product **must** be one of these two staff members checking the blood.

Patient **must** have identification band attached.




**If there is any discrepancy, DO NOT TRANSFUSE**

### Hand Hygiene Considerations

Hand hygiene must be carried out:

- **before and after** touching the patient or undertaking a procedure
- **after** touching a patient's surroundings, a body substance exposure risk or removing gloves.

Staff are to comply with the specific requirements in alignment with the:

- WACHS Infection Prevention and Control Policy.

### Personal Protective Equipment Considerations

Staff are to use personal protective equipment as required. Refer to WACHS Infection Prevention and Control Policy.

### Equipment Required

A standard blood giving set incorporating filter (170 to 200 µm) is to be used in the transfusion line for all blood components, which filters out large clots and aggregates and ensures an effective transfusion flow rate. Most standard blood filters are designed to filter 2 to 4 units of blood, however, each giving set be changed at least 8 hourly or earlier if flow rates are compromised. (Lifeblood's Appropriate Transfusion Practice).

### Patient Monitoring

Observations (respiratory rate, oxygen saturations, heart rate, blood pressure, temperature and level of consciousness) to be monitored and documented as follows:

- baseline immediately prior to administration
- 15 minutes after commencement
- repeat hourly during administration
- on completion of each pack

The patient is to be closely observed for the first 15 minutes after commencement of administration because this is the period when life threatening reactions can occur. Continue to observe throughout and after transfusion for signs of reactions.

If a transfusion reaction is suspected, stop the transfusion immediately and escalate care appropriately. Refer to Appendix 2 – Management of Transfusion Reaction and the Clinical Escalation Including Code Blue Medical Emergency Response (MER) Policy.

## Clinical Communication

### Clinical Handover

Information exchange is to adhere to the WA Health MP0095 Clinical Handover Policy using the iSoBAR framework.

### Critical Information

Critical information, notifiable alerts or clinical risks for the consumer are communicated in a timely manner to clinicians who can make decisions about the care.

### Documentation

Failure to accurately and legibly record and understand what is recorded in patient health records contribute to a decrease in the quality and safety of patient care.

Accurately recording a patient's blood and blood product transfusion history and indications for the use of blood and blood products is essential. The following information is to be routinely documented in the clinical record:

- Consent or refusal of blood products including documentation of the provision of information to the patient/carer
- Relevant medical conditions
- Indications for the transfusion or administration of blood products
- Any special requirements e.g. irradiated products
- Known patient transfusion history
- Blood or blood product identification to ensure traceability
- Blood transfusion compatibility label
- Type and volume of product administered
- Date and time of commencement and completion
- All clinical observations
- Patient's response to blood products, including any adverse reactions

Transfusion details are to be included in discharge documentation.

Refer to WACHS Documentation CPS.

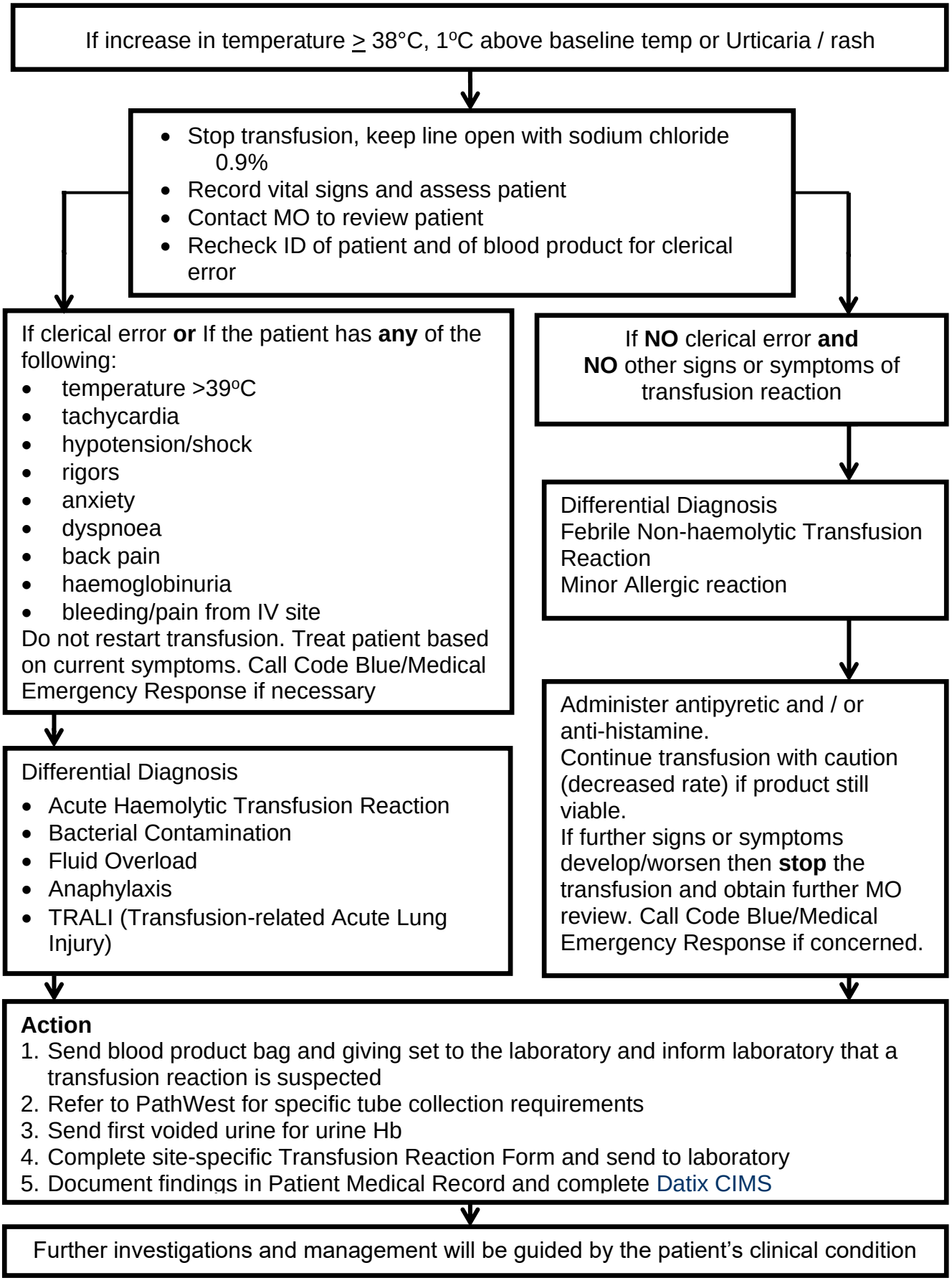
### Related Documents / Forms

- MR 30G WACHS Consent to Blood Products
- MR 30H WACHS Release of Liability - Refusal of Blood Products
- MR175A WACHS Intravenous Blood Transfusion and Blood Product Treatment Order Chart
- MR70B WACHS Rh D Immunoglobulin (Anti D) Record

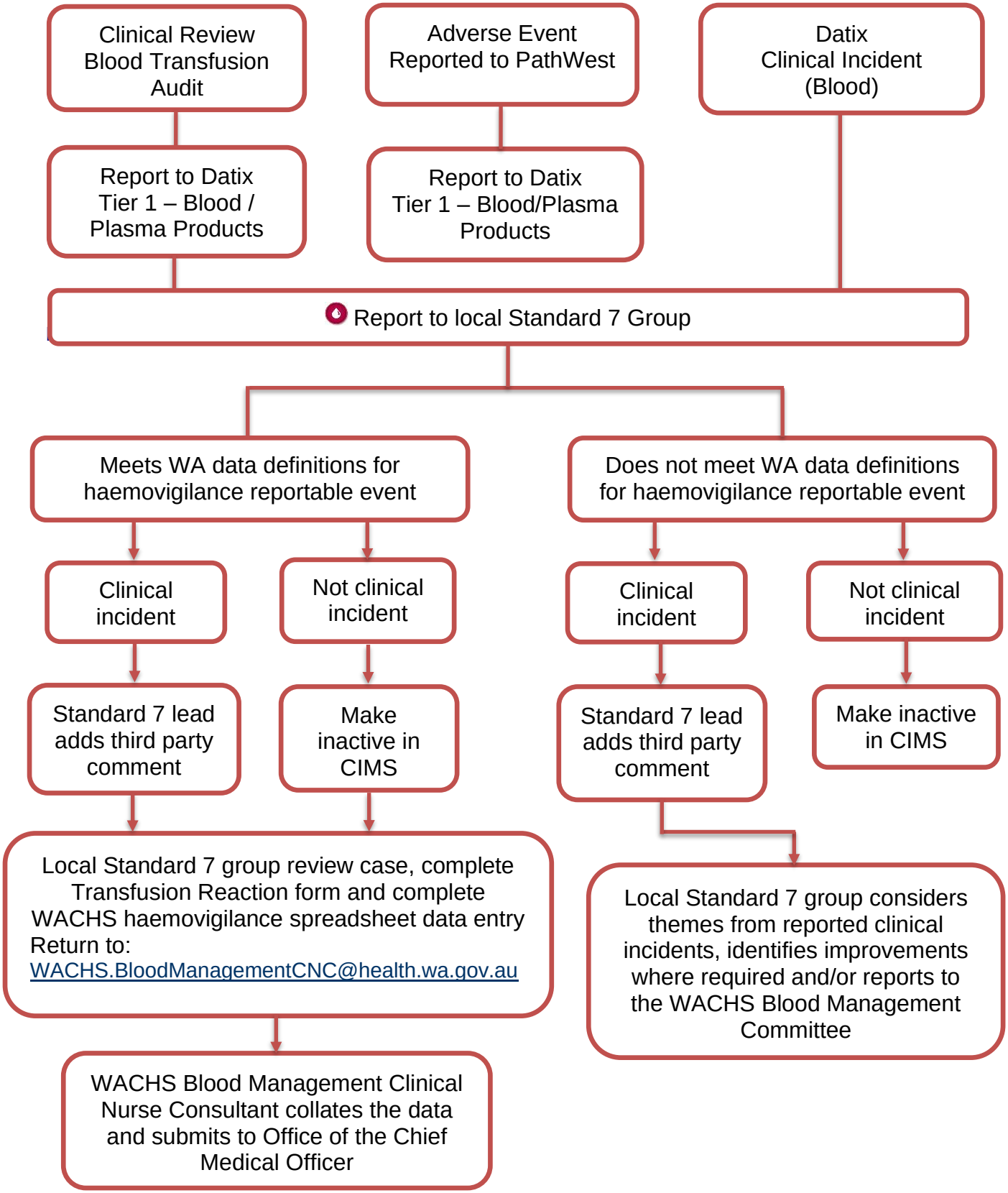
### Consumer information

- WA Health Blood Transfusion Consent Information
- Receiving a Blood Transfusion – Information for Patients
- Yarning About Blood

## Appendix 2: Management of Transfusion Reaction



## Appendix 3: WA Haemovigilance Reportable Adverse Events Review and Data Collection Process



## Appendix 4: Massive Transfusion Protocols

Refer to the WACHS Primary Postpartum Haemorrhage Guideline for guidance of obstetric haemorrhage (includes Guideline for use of Fibrinogen Concentrate during Obstetric Haemorrhage). Document with MR72A WACHS Primary Postpartum Haemorrhage Record

If the senior clinician identifies major haemorrhage and wishes to activate a Massive Transfusion Protocol, they must phone the transfusion service and clearly state the:

- name of senior clinician
- intention to activate a Massive Transfusion Protocol
- location of patient
- patient name and Medical Record Number
- reason / clinical condition
- blood products required

The transfusion service will advise what blood products can be supplied immediately and process for collection.

***Note:*** Blood provided in emergency blood packs are only to be used for requested patient – caution blood pack may include group specific blood only for intended patient.

The senior clinician is to also notify transfusion service at stand-down of the Massive Transfusion Protocol.

### Guiding Principles

These generic procedures, based on the Massive Transfusion Protocol (MTP) provided by the National Blood Authority of Australia, needs to be modified for each WACHS site according to:

- local practice
- local laboratory and blood test availability
- local blood product availability
- Royal Flying Doctor Service (RFDS) resources.

### Editable versions with instructions

WACHS Massive Transfusion Protocol for WACHS sites WITH Blood Products
WACHS Massive Transfusion Protocol for WACHS Sites WITHOUT Blood Products
WACHS Massive Transfusion Protocol for WACHS sites WITH ONLY EMERGENCY Blood Products

## Appendix 5: Storage of Blood and Blood Products

Blood and blood products have highly specific storage requirements, and these must be adhered to. Blood and blood products are never to be stored in a ward/unit refrigerator.

Blood Storage refrigerators must be approved by the transfusion services supplying blood. The refrigerator must meet and be maintained according to the Australian Standard (AS3864) *Medical refrigeration equipment - For the storage of blood and blood products*[7]. All temperature monitoring records, and non-compliance and deviations must be reported to and sent to the transfusion services. Regular review and audit will occur, and compliance must be met to maintain accreditation. Table 5 presents the standard for storage of specific blood products.

**Table 5: Storage Requirements for Specific Blood Products**

| Blood Product | Storage requirements |
|---|---|
| Red Blood Cells (RBCs) | • RBCs are to be stored at 2 - 6°C |
| Platelets | • Platelets last 5 days when stored at 20 - 24°C on a platelet agitator<br>• They must be administered with 1 hour or returned to the Transfusion laboratory |
| Fresh Frozen Plasma (FFP) | • FFP is derived from whole blood and quickly frozen and stored<br>• Store at or below -25°C for up to 12 months<br>• Takes less than 30 minutes to thaw and then transfusion commence immediately<br>• It can be stored in a dedicated blood refrigerator at 2 - 6 °C for 24 hours |
| Cryoprecipitate | • Store at or below -25°C for up to 12 months<br>• Takes less than 30 minutes to thaw and then transfusion is to commence immediately |
| Albumin | • Store below 30 °C.<br>• Protect from light |
| Immunoglobulins | • 2 - 8°C. Refrigerate. Do not freeze. Protect from light<br>• The PI also includes storage requirements specific to the Immunoglobulin product such as the Intragram which once removed from refrigeration, can be stored below 25°C and used within 3 months. |
| Prothrombinex | • Store at 2 - 8°C. Refrigerate. Do not freeze<br>• Can be stored below 25°C for a single period of 6 months. The product must not be returned to refrigeration after storage below 25°C.<br>• Protect from light. |
| Rh(D) Immunoglobulin | • Store at 2 - 8°C. Refrigerate. Do not freeze<br>• Protect from light |
| Biostate | • Store at 2 - 8°C. Refrigerate. Do not freeze<br>• Can be stored below 25°C for a single period of 6 months. The product must not be returned to refrigeration after storage below 25°C.<br>• Protect from light. |

Source: Guidelines for the Administration of Blood Components and Product Information[1] and the CSL Product Information publication for each specific product [9-14]

## Blood Fridge Procedure – PathWest on Site

**Sites WITHOUT PathWest on site** – refer to Receiving Blood in Blood Shippers for Transfusion from PathWest Laboratories Procedure, see Appendix 5, page 26 in the WACHS Blood Management Policy

### Procedure during PathWest working hours

**Weekdays:** **hrs** - **Weekends:** **hrs**

During these hours, nursing and medical staff may access crossmatched blood and EMERGENCY O Negative units for patients by use of the **Pathology Request Form**.

The form is to be sent via

The Blood product will be sent to the requestor as stated on the form via

**Procedures out of working hours**
Nursing staff are to be orientated in this procedure before active duties commence.

**Access to blood fridge**
The blood fridge is situated in

**Access to blood products**
- Once the crossmatch is completed, blood units are to be placed in the marked area on the upper shelves of the Blood Fridge. These shelves are marked clearly: "Cross matched Blood for Patients"
- Uncrossmatched O Negative units are kept on the marked area on the upper shelves.

### Blood Fridge Alarm

- The blood fridge has a 24 hour monitored alarm system.
- The blood fridge will alarm if the temperature range is outside 2.5 to 5.5°C
- This will be audible from the fridge.
- The alarm will go directly to the
- The out of hours, the is to **call Pathology immediately** as blood stored outside these temperatures for more than 30 minutes will have to be discarded.
- The will contact the on call Hospital Engineer
- Blood may need to be moved to another Blood Fridge - This may be done in some circumstances under the direction of the PathWest Scientist on call.

**Blood Fridge Power**
The Blood fridge is to remain connected to emergency power.

**Blood fridge failure.**
In the event of Blood Fridge failure, and the consequent removal of blood from the fridge by Pathology, O-ve (emergency blood) and all other blood products are to be accessed by calling Pathology directly.

Printed or saved electronic copies of this policy document are considered uncontrolled

### Removing Blood from the Fridge

**To reduce the risk of patients receiving blood and/or blood products intended for another patient, staff must not remove products for more than one patient at a time**

- Staff who are authorised to remove blood are: Clinical staff or those who have completed the module BloodSafe: Transporting Blood (BLDTB EL2)
- Take patient identification details to the fridge (i.e. Blood prescription form, patient notes with addressograph etc.)

**This identification information is extremely important so that the patient details can be cross-checked against the units from the fridge.**

- Locate and remove blood from the marked area on the upper shelves of the fridge only.
- Only one unit of blood is to be removed from the blood fridge at a time to avoid wastage of Red Blood Cells unless extremely rapid transfusion of large quantities of blood is needed.
- Take blood unit to the Blood Fridge Register located near the blood fridge.
- Complete all details in Blood Fridge Register next to the duplicate of the label of the unit of blood just retrieved from the fridge:

| Hospital staff to complete section below<br>NOTE: Compatibility labels MUST remain on donor unit |
|---|
| HE Number print clearly please: |
| Date: Time: |
| Ward / Transfer / RFDS: |

- Please check iCM for Cross-match report
- **Please return blood to Pathology immediately if it is not going to be used, blood should not be used after 30 minutes outside the blood fridge. Upon returning blood, please sign the product back into the register and notify a lab staff member of the return.**

All the information required above may be obtained from the corresponding blood bag label.

- If you require Uncrossmatched O Negative unit in an emergency, these are stored on the marked area on the upper shelves. Please keep the paperwork intact. The attached "Uncrossmatched Blood" form must be filled out by the Medical Officer and returned to PathWest.

Always source the current version from WACHS HealthPoint Policies.

Access Blood Fridge Procedure - PathWest On Site

## Receiving Blood in Blood Shippers for Transfusion from PathWest Laboratories Procedure

1. WA Country Health Service (WACHS) hospitals **with** a temperature-controlled blood fridge which is *AS 3864* * compliant are to unpack blood units from the shipper on receipt, and place directly into the fridge.

2. WACHS hospitals **without** an AS 3864* compliant blood fridge are to proceed as follows:
   a) Keep the blood shipper at room temperature, in an air-conditioned room if possible, and out of direct sunlight.
   b) Note packing date and time on label to ascertain the duration of validated transport time - see table below.
   c) Once the patient is ready for transfusion, open shipper noting number and order of frozen ice bricks, cold ice bricks and other packing constituents.
   d) Remove the first blood donor bag and paperwork. Repack any additional blood donor packs according to original packing.
   e) Reseal shipper.
   f) Commence transfusing unit within 30 minutes of removal from shipper.
   g) Retrieve subsequent units as above and transfuse as above.

3. Any queries regarding validated transport time or general questions regarding the above process are to be referred to the issuing laboratory.

| Ambient Temperature | Validated Storage Time |
|---|---|
| 42 degrees C | 10hr :40 min |
| 35 degrees C | 20hr :00 min |
| 24 degrees C | 24hr :00 min |

*AS 3864.2-2012 (Medical refrigeration equipment – for the storage of blood and blood products – user-related requirements for care, maintenance, performance verification and calibration).