



Red Blood Cell Management for Sites with No Laboratory Procedure

1. Purpose

This procedure outlines the correct strategies for managing fresh blood products in accordance with [AS 3864.2-2012](#) (Australian Standard Medical refrigeration equipment – For the storage of blood and blood products. Part 2: User-related requirements for care, maintenance, performance verification and calibration) at sites that do not have a transfusion laboratory, but are required to hold fresh blood products for emergency use.

This procedure is intended to promote the following outcomes:

- care, maintenance, performance verification and calibration procedures are undertaken at the desired intervals
- alarm activation temperatures are correctly set on refrigerator:
 - high temperature: 5.5°C
 - low temperature: 2.5°C
- any reference or certified thermometer used for calibration or verification testing has been calibrated in accordance with national calibration requirements and has a current calibration traceable to the national standard.

2. Procedure

2.1 Daily Tasks

The temperature ranges of all blood fridges must be reviewed and recorded daily as per the following:

- the thermograph acts as a maximum/minimum thermometer. It is necessary to check the temperature range for the time period since the previous check.
- record temperature reading of both thermograph (to the nearest 0.5°C) and digital display on [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#). Variation between thermograph and digital thermometer must not exceed +/- 1.0°C. Differences in readings must be noted, investigated and documented.
- the thermograph must be checked daily to ensure a visible continuous trace. Record this check on [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#). **NOTE:** it is good practice to monitor the thermograph frequently during the day when accessing fridge.
- any deviations outside of acceptable temperature ranges (e.g. alarm check, product restock, cleaning) must have the reasons and corrective actions recorded (on the [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#)) and be signed by the person investigating the non-conformance.
- the deviation on the thermograph must also be signed/dated to record acknowledgement by a Health Service Manager (HSM), Director of Nursing (DON), Clinical Nurse Manager. Blood Management Clinical Nurse Consultant (CNC) to be contacted with deviation details.
- if there is no thermograph fitted, there must be another method of checking that the temperature has remained within acceptable range since the previous check (usually daily). This check may involve one or more of:

- the use of a maximum/minimum thermometer
- checking of visual display

2.2 Weekly Tasks

Where thermograph recorder is used, the following procedures shall apply:

- the thermograph shall be changed weekly according to the manufacturer's instructions.
- the person changing the thermograph shall annotate both the old and newly replaced thermographs with their initials and date/time this was done.
- after changing the thermograph, check that the pen/marketing device is aligned with the current day (or date) and time.
- the following must be documented on the thermograph using the form [Hospital Blood Refrigerator Thermograph Chart](#) (see [Appendix A](#) for example):
 - asset number of blood fridge
 - date AND time of start of thermograph with the initials of the person who performed this duty
 - date AND time of end of thermograph with the initials of the person who performed this duty
 - once completed, the [Hospital Blood Refrigerator Thermograph Chart](#) is emailed to the WACHS Blood Management CNC @ WACHS.BloodManagementCNC@health.wa.gov.au.
 - [Hospital Blood Refrigerator Thermograph Chart](#) must be maintained for 3 years. These will be stored digitally by the Blood Management CNC.

2.3 Monthly Tasks

The following tasks must be completed on a monthly basis:

- alarm function test – perform a self test of the alarm system to make sure that it is functioning and record the activation of the alarm(s) on [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#).
- alarm back-up battery test – the status of the alarm's back-up battery must be checked to ensure that if the power to the units is cut, that the alarm system will still work. This can be tested via:
 - ensuring battery is still within expected battery life
 - voltage check of battery (note that this is also done at 6 monthly check)
 - turn off power to unit and run alarm test function (this would include the alarm function test above). Turning the power off for a short amount of time will not cause any negative effects, however, turn power back on immediately once test is complete
 - refer to manufacturer's instructions for alternative means of checking the back-up battery (contact Blood Management CNC if unable to find with fridge details)
- ensure that the remote alarm is working for the alarm triggered and record on [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#).
- cleanliness check – all internal doors and seals to be checked for cleanliness and cleaned, if necessary, with 70% Ethanol. Record check on [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#) (only applicable for sites that have this)
- upon monthly completion of [Blood Product Refrigerator Temperature Monitoring and Maintenance Chart](#), it should be stored locally and emailed to the WACHS Blood Management CNC @ WACHS.BloodManagementCNC@health.wa.gov.au.

2.4 Six-Monthly and Annual Tasks

Maintenance and calibration of blood fridges should be carried out by a NATA accredited service provider at 6 monthly and 12 monthly intervals.

WA Calibrations is the current contractor used for maintenance of WACHS blood fridges and freezers. Contact: service@wacalibrations.com.au

2.5 Receiving Red Blood Cells

Upon receipt of a red shipper containing red blood cells:

- ensure the yellow tag is intact.
 - intact – unpack all units of red blood cells and place into blood fridge promptly
 - not intact – the units may be compromised, contact Queen Elizabeth II (QEII) Medical Centre Transfusion Medicine Unit (TMU) immediately and replacement units will be arranged asap
- check that the red logger has a black tick in the top left-hand corner to ensure temperature has been within limits
 - black tick – no further action needed
 - black cross - the units may be compromised, contact QEII TMU immediately on 6383 4018 and replacement units will be arranged asap (available 24/7)
- complete the [Shipper Label for PathWest Red Shippers \(TMFF055\)](#) that accompanied the red shipper and send to QEII TMU.
- complete the [Hospital Red Cell Record](#) that accompanied the red shipper (this will be required when site has approval to send back units of red blood cells).
- blue and white belts to be stored as per [Appendix B](#).
- store the extra red logger in 'READY' status in the fridge and the spare yellow security tag with the red shipper on site (these will be required when site has approval to send back units of red blood cells).
- pack excess used red loggers with spare red shippers to be collected for pick-up.

2.6 Ordering Red Blood Cells

Routine orders for replacing expiring units of red blood cells should be undertaken as follows:

- place order via email to QETMtransport.pathwest@health.wa.gov.au stating:
 - location
 - number of units required
 - expiry date of current units
 - date required by
- if no response from QEII TMU within 24hrs, call QEII TMU on 6383 4018.
- QEII TMU will dispatch between Mon - Thurs.

Urgent orders due to unforeseen circumstances (i.e. used or taken by Royal Flying Doctor Service) should be undertaken as follows:

- place order via email to QETMtransport.pathwest@health.wa.gov.au stating quantity needed and reason for urgent request **AND** call QEII TMU on 6383 4018.
- QEII TMU will dispatch units of red blood cells on the next available flight.

2.7 Transporting Red Blood Cells



ATTENTION

When transporting red blood cells for patient use, ensure packing of units that are closest to expiry.

Refer to [Appendix B](#) Transporting blood: How to pack a shipper and MyLearning module, [Packing a Blood Shipper Declaration \(PABS EL1\)](#).

3. Roles and Responsibilities

Nursing staff at the site with no laboratory are responsible for all tasks related to blood and blood products. This includes the management of the blood fridge storing these products and adherence to the process listed above in accordance with [AS 3864.2-2012](#).

The **Blood Management Clinical Nurse Consultant** is responsible for supporting these sites to maintain adherence to process and local storage of documentation.

All staff are required to comply with the directions in WACHS policies and procedures as per their roles and responsibilities. Guidelines are the recommended course of action for WACHS and staff are expected to use this information to guide practice. If staff are unsure which policies procedures and guidelines apply to their role or scope of practice, and/or are unsure of the application of directions they should consult their manager in the first instance.

4. Monitoring and Evaluation

Monitoring of compliance of this policy is to be undertaken by:

- review of required documentation adhering to correct process of completion by the Blood Management CNC and the Blood Management Committee
- documenting and reporting of breakdown in procedure to Blood Management CNC and Blood Management Committee

This procedure will be evaluated to determine effectiveness, relevance and currency. At a minimum it will be reviewed every 5 years by the WACHS Blood Management Committee and the WACHS Blood Management CNC.

5. References

[Standards Australia. AS 3864.2](#) (2012) Medical refrigeration equipment for the storage of blood and blood products: Part 2: user-related requirements for care, maintenance, performance verification and calibration

PathWest. TMP525. (2024) [Blood Product Refrigerator and Freezer Temperature Monitoring and Maintenance](#)

6. Definitions

Nil

7. Document Summary

Coverage	WACHS wide
Audience	Nursing
Records Management	Health Record Management Policy
Related Legislation	Health Services Act 2016 (WA)
Related Mandatory Policies/Frameworks	<ul style="list-style-type: none"> MP 0134/20 National Safety and Quality Standards Accreditation Policy MP 0007/16 WA Health Compliance Management Policy
Related WACHS Policy Documents	<ul style="list-style-type: none"> Patient Blood Management Policy
Other Related Documents	<ul style="list-style-type: none"> Hospital Blood Refrigerator Thermograph Chart Blood Product Refrigerator Temperature Monitoring and Maintenance Chart Hospital Red Cell Record Standards Australia. AS 3864.2 (2012) Medical refrigeration equipment for the storage of blood and blood products: Part 2: user-related requirements for care, maintenance, performance verification and calibration
Related Forms	Nil
Related Training	Available from MyLearning : <ul style="list-style-type: none"> Packing a Blood Shipper Declaration (PABS EL1)
Aboriginal Health Impact Statement Declaration (ISD)	ISD Record ID: 4086
National Safety and Quality Health Service (NSQHS) Standards	7.01, 7.02, 7.09, 7.10
Aged Care Quality Standards	Nil
Chief Psychiatrist's Standards for Clinical Care	Nil
Other Standards	Nil

8. Document Control

Version	Published date	Current from	Summary of changes
1.00	07 April 2025	07 April 2025	New Procedure

9. Approval

Policy Owner	Executive Director Clinical Excellence
Co-approver	Executive Director Nursing and Midwifery Services
Contact	Blood Management Clinical Nurse Consultant
Business Unit	Patient Safety and Quality
EDRMS #	ED-CO-25-94449
<p><i>Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the Copyright Act 1968, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.</i></p>	

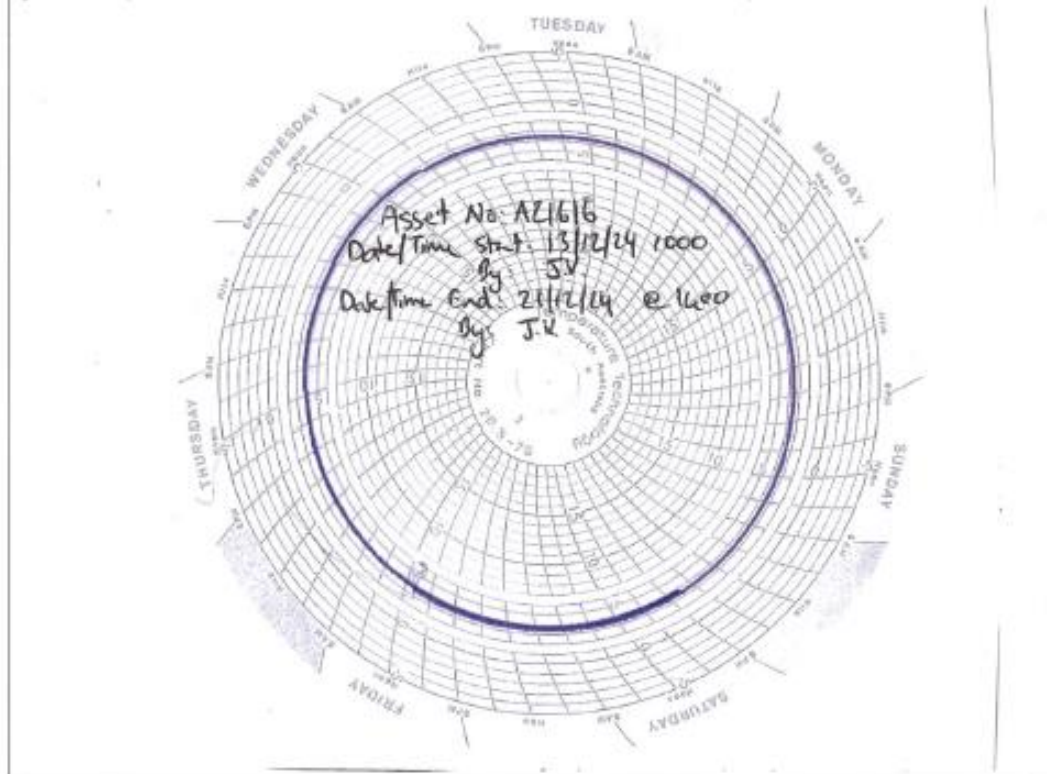
This document can be made available in alternative formats on request.

Appendix A: Example

Hospital Blood Refrigerator Thermograph Chart

Hospital Name:	Contact:
Blood Fridge Asset/Serial number:	Phone Number:

Position thermograph in this space and DOCUMENT ON THE THERMOGRAPH ITSELF: asset number, date & time from with reviewers name and date & time to with reviewers name. Then photocopy.



Comments: _____

Please scan and send completed forms to: WACHS.BloodManagementCNC@health.wa.gov.au

Appendix B: Transporting blood: How to pack a shipper



Transporting blood: How to pack a shipper



1. Line shipper with the blue freezer belt.



2. Place the white refrigerator belt on the inside of blue freezer belt.



3. Remove data logger from the fridge and activate it by pressing the white button for 5 seconds. Check the 10-minute countdown timer has started.



4. Place data logger in between the units of blood, and then into the red plastic bag.



5. Immediately place the red bag into the shipper and make sure the zipper is closed.



6. Once shipper is closed, secure with a tamper proof device (e.g. a zip tie). Complete TMFF055 and place in outside plastic pouch.

Preparation of cold items

1. Place blue belt in a -20°C (**NOT below -25°C**) freezer for a minimum of 12 hours (usually overnight).
2. Place white belt in the **monitored blood fridge (2-6°C)** for a minimum of 12 hours (usually overnight).
3. Store Temprecord™ loggers in the **monitored blood fridge (2-6°C)** for minimum 20 minutes before reuse