Royal Hospital for Women (RHW)
NEONATAL BUSINESS RULE
COVER SHEET

Health
South Eastern Sydney
Local Health District

Ref: T24/52986

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SUMMARY	To provide staff within NCC guidelines on blood product transfusion and management.
Key Words	Blood transfusion, blood storage, blood administration, blood transportation, platelets, plasma, red blood cells, cryoprecipitate

Royal Hospital for Women (RHW)
NEONATAL BUSINESS RULE

Health
South Eastern Sydney
Local Health District

Blood Product Transfusion and Management (Neonate)

RHW CLIN075

Contents

Blood Product Transfusion and Management (Neonate)

RHW CLINXXX

This Clinical Business Rule (CBR) is developed to guide safe clinical practice at the Royal Hospital for Women (RHW). Individual patient circumstances may mean that practice diverges from this Clinical Business Rule. Using this document outside RHW or its reproduction in whole or part, is subject to acknowledgement that it is the property of RHW and is valid and applicable for use at the time of publication. RHW is not responsible for consequences that may develop from the use of this document outside RHW.

Within this document we will use the term woman, this is not to exclude those who give birth and do not identify as female. It is crucial to use the preferred language and terminology as described and guided by each individual person when providing care.

1 BACKGROUND

The decision to transfuse and the consideration of blood management strategies is based on a thorough clinical assessment of the neonate's condition.
The aim of this CBR is to guide clinicians of the complex process in the safe management of blood product administration.

2 RESPONSIBILITIES

2.1 Staff (medical, midwifery, Nursing, Allied health)

2.1.1 Medical

- Completes BloodSafe e-Learning training: Clinical Transfusion Practice
- Consents patients prior to receiving blood components
- Completes/requests pre transfusion blood collection for testing
- Documents in the patient's electronic record the indication for receiving blood component
- Prescribes the blood component
- Orders the blood component from Blood Bank
- Reviews patients following an adverse event as required
- Documents in the patients discharge summary that the patient received a blood component

2.1.2 Nursing

- Completes BloodSafe e-Learning training: Clinical Transfusion Practice and Blood Component competency assessment.
- Completes pre transfusion blood collection for testing
- Prepares patients to receive blood components
- Organises transport of blood component
- Completes patient identity and product compatibility check prior to administration of blood component
- Monitors patients pre, during and post transfusion, record adverse events
- Organises returning unused blood product to Blood Bank

2.1.3 Porter

- Completes BloodSafe e-Learning: Transporting Blood
- Transports blood components

2.1.4 Blood bank

- Dispenses blood components
- Accepts return of blood components as required
- Completes Transfusion Reaction Investigation Reports as required

3 PROCEDURE

3.1 Equipment

- Alaris closed neonatal blood set with 200µm filter
- Syringe driver
- 50mL syringe
- 2% chlorhexidine and 70% Isopropyl alcohol wipes x3
- 3mL syringe
- Sodium Chloride 0.9% ampoule
- Sodium Chloride 0.9% label
- 18G drawing-up needle
- Blue tray
- Non-sterile gloves

3.2 Clinical Practice

3.2.1 Decision to transfuse

- **Packed Red Blood Cells (PRBC)**
  - For treatment of anaemia represented by altered Haemoglobin (Hb) level

Days of life	Hb (g/L)*	
	No respiratory support	Respiratory support#
0-7 days	≤100	≤110
8-14 days	≤85	≤100
>14 days	≤70	≤85
*#Some clinical situations may warrant transfusion at higher Hb levels: e.g. prior to surgery, haemolysis, phlebotomy, critical illness.		

- **Fresh Frozen Plasma (FFP)**
  - For treatment of active bleeding where coagulopathy is a contributing factor.
  - If any invasive procedure is planned and International Normalised Ratio (INR) ≥2.0 (higher INR can be tolerated in some scenarios)

- **Platelets**
  - Correction of platelet count per cubic millimetre (pcm).

Indication	Platelet threshold (pcm)
General	<20000
Peri-operative	<50000

Alloimmune thrombocytopenia
• No active bleeding
  ○ Term neonate
  ○ Preterm neonate
• Bleeding in other sites
• Intracranial bleed
	
	<30000
	<50000
	50,000
	<100,000

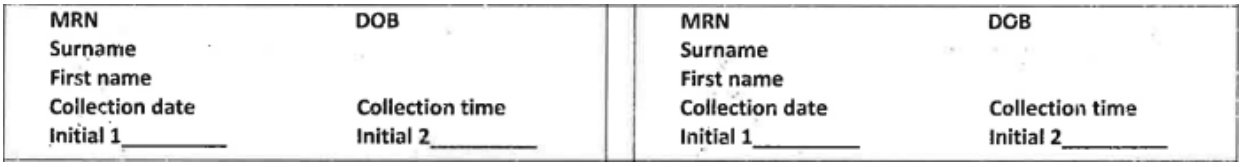
- **Cryoprecipitate**
  - For the treatment of active bleeding when the fibrinogen level is <1.5 g/L.
  - A target level of 2 g/L may be appropriate in certain situations (e.g. when critical bleeding is occurring or anticipated).
- **Albumin 5%**
  - Volume resuscitation/expansion in hypovolemia.
- **Albumin 20%**
  - Correction of hypoalbuminemia

3.2.2 Pre-transfusion sample collection

- Collect Cross Match and Group and Hold sample or check validity of previously collected sample result.
- Collect Newborn Bloodspot Screening Test (NBST) sample prior blood product transfusion if not previously collected. Sample **must be** collected if blood products are to be given <24 hours of age.

NOTE
Specimen labels **MUST BE handwritten, DO NOT USE A PATIENT LABEL.** Ensure the information and signatures are identical to that on the request form and electronic record including:
- Patient's name, date of birth and Medical Record Number (MRN) (when available)
- Date and time of collection
- Double signed on the label
- Complete and double sign the verification section on the request form with the same person.

Label templates are kept in the cupboard above blood gas machine. (Picture 1)



Picture 1

3.2.3 Consent for blood products

- A medical officer must obtain valid informed written consent including alternative therapies and the right to refuse transfusion from the parent/guardian before prescribing any blood products[8] on the Blood & Blood Products Administration form (Appendix 1).
- A parent/guardian may refuse the use of blood or blood components as part of their neonates treatment. This may be due to religious reasons (as for Jehovah's Witnesses) or for other personal reasons. In these situations alternative therapies may be necessary to treat or prevent anaemia. The Health Care Record should contain clear documentation that the parent/guardian is aware that the planned procedure/treatment may entail a higher risk in the event of further complications. A clinical haematology review is recommended.

3.2.4 Prescribing and Ordering

- Document indications for transfusion in patient's health care record.
- Check if patient has valid group and hold for crossmatch.
- Order the blood product, except albumin, in eMR Powerchart. Send the printed request form to SEALS laboratory.
- Albumin can be directly collected from Blood Bank using the 'Authority to Issue Blood Products Form' (pink form) (Appendix 2).
- For urgent blood requests, call to alert blood bank of the urgent request.
- Check blood product availability in Patient Product Enquiry tab of Powerchart.
- Order the blood product, desired volume and infusion rate in eRIC.

Packed Red Blood Cells	
Transfusion volume	15-20 mL/kg
Duration	• Commence within 30 minutes of dispatch from the blood bank • Infusion must be complete within 4 hours of the start time. • If delay in starting transfusion, complete the PRBC transfusion within total time of 4.5 hours. • For acute blood loss, infuse over 5-30 minutes depending on the severity and gestational age. Extremely preterm infants – slower transfusion up to 30 minutes.
Type of PRBC	Non-emergency: • CMV negative PRBC. • Either non-irradiated or irradiated • Cross matched against neonate. Emergency: • non-cross matched O group Rhesus negative blood may be transfused.
Platelet	
Transfusion volume	10-20 mL/kg
Duration	• Commence infusion immediately, or return to Blood Bank for appropriate storage • Infuse over 1 hour (30 minutes in emergency)

Type of Platelet	• Cross matched when possible • ABO incompatible units may be used at the discretion of the medical team depending on the patients' condition and indication for use in ○ Fetal and neonatal alloimmune thrombocytopenia: • Use of random donor platelets is acceptable if antigen-matched platelets cannot be obtained. • Repeated transfusion is likely to be needed. ○ Refractory thrombocytopenia secondary to non-immune causes (i.e. splenomegaly, sepsis) • Use fresh, ABO-compatible, single-donor platelets may improve platelet increment. ○ Refractory thrombocytopenia of unknown cause • Screen for Human Leukocyte Antigens (HLA) bodies and consider HLA matched platelets. • Screening for human platelet antigen antibodies and use of human platelet antigen matched platelets if screen is positive.
Fresh frozen plasma	
Transfusion volume	10-15 mL/kg
Duration	• Commence infusion immediately or return to Blood Bank for appropriate storage. • Administer over 60 minutes (30 minutes in emergency)
Type of FFP	• ABO-compatible • If not available, then AB FFP will be issued until the patient's blood group can be determined. • If there is no group AB FFP then group A FFP may be used.
Cryoprecipitate	
Transfusion volume	10-15 mL/kg
Duration	• Commence infusion immediately, or return to Blood Bank for appropriate storage • Do not refrigerate • Administer over 60 minutes (30 minutes in emergency)
Type of cryoprecipitate	• ABO-compatible • If not available, then AB FFP will be issued until the patient's blood group can be determined. • If there is no group AB FFP then group A FFP may be used.
5% ALBUMIN- Refer to ANMF https://www.anmfonline.org/clinical-resources/	
Transfusion volume for resuscitation	10 to 20 mL/kg
Duration	• Do not refrigerate • Over 5 to 60 minutes titrated to clinical response • Must be infused within 4 hours following commencement
20% ALBUMIN- Refer to ANMF https://www.anmfonline.org/clinical-resources/	
Transfusion volume for correction	2.5 to 5 mL/kg/dose (0.5 to 1 g/kg/dose)

Duration	• Do not refrigerate • Over 2–4 hours • Must be infused within 4 hours following commencement

3.2.5 Request for blood products

- The administration of CMV negative products is indicated for neonates up to 28 days
- Complete the Blood Transfusion Request Form, including:
  - Patient identification details
  - Clinical notes
  - Pre-transfusion history
  - Blood products required
  - Transfusion checklist (including reason for transfusion)
  - Requesting practitioner details
  - Urgency of the transfusion
  - Date and time the transfusion will take place

3.2.6 Collection, storage and transport

- Ensure the neonate is ready to receive the blood component and is wearing an identification (ID) band.
- Ensure that a signed valid consent and a prescription for the blood component forms is completed. (Appendix 1)
- Ensure the neonate has a patent intravenous access to receive the blood component
- Check to see if the blood component is ready to be dispensed from Blood Bank via Patient Product Inquiry or phoning Blood Bank if not on eMR.
- Complete an 'Authority to Issue Blood Products Form' (pink form) (Appendix 2) ensuring special requirements section is completed (i.e. Irradiated, CMV negative etc.).
- Blood components are collected from Blood Bank (Level 4 Campus Centre) by a PSA, Porter, EN, RN or MO.

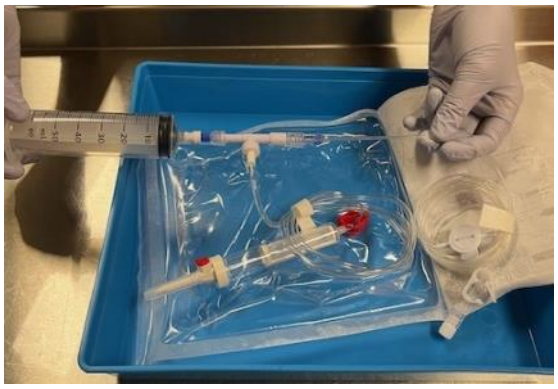
Note
Packed Red Blood Cells MUST commence within 30 mins of leaving a designated blood fridge or returned within 30 minutes to a designated blood fridge to prevent wastage with a Return Blood Product To Blood Bank form. (Appendix 5)

3.2.7 Administration

1. Check and record baseline observations (refer to 3.2.10).
2. Complete the compatibility check at the PATIENT'S BEDSIDE with a second RN or MO prior to the administration of ALL blood components.
3. Complete the 'SEALS Blood Bank Issue Report' checklist (Appendix 3) sent by blood bank with all blood products to be infused including:
   - Consent has been obtained
   - Validate patient details against patient identifier band
   - Validate blood product against issue report
   - Validate donation number and blood group on blood product against issue report
   - Visually inspect the blood product

- Cross check for any special instructions
- Check product expiry date
- Check crossmatch expiry date

4. Perform hand hygiene. Put gloves and goggles on.
5. Prepare infusion using standard ANTT.
6. Open the blood transfusion filter set (not applicable for albumin infusion, which uses standard intravenous [IV] extension line).
7. Attach the 50mL syringe to the T-junction of the line blood filter set. (Picture 1)
8. Puncture the mini-blood pack at the appropriate site. (Picture 2)

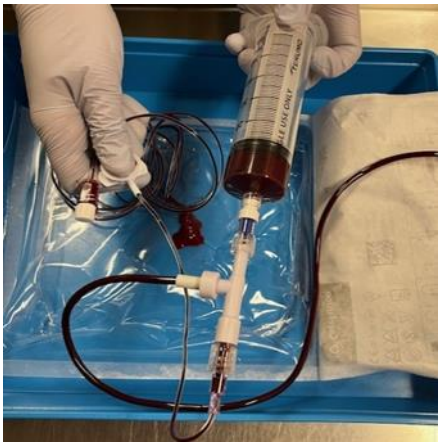


Picture 1

Picture 2

9. Withdraw slowly the prescribed volume plus 4mL priming volume into the syringe. (Picture 3)
10. Push syringe plunger to prime the line to the prescribed volume and the air is expelled from the air filter. (Picture 4)

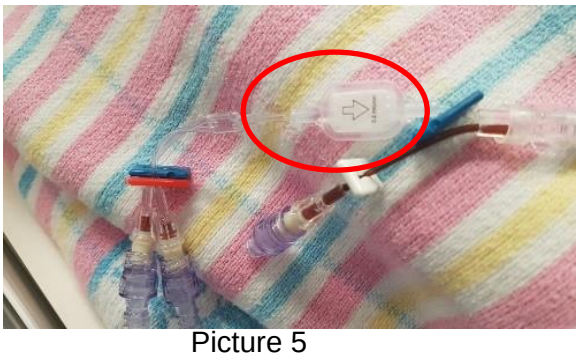
Picture 3



Picture 4

11. Clean the IV access site 3 times with 2% chlorhexidine and 70% Isopropyl alcohol swab (one swab per 5 seconds).

Note
Ensure the IV inline particle filter is removed from the infusion line. (Picture 5)



Picture 5

12. Confirm patient identification before attaching the blood infusion line to the T-piece connection.
13. Load syringe into syringe driver and commence transfusion at the prescribed rate.
14. Document observations in eRIC.
15. Observe and document for transfusion reactions (Appendix 4)
16. Flush IV access post transfusion with sodium chloride 0.9%.
17. Complete documentation.
18. Continue cardiorespiratory monitoring for 4 hours post transfusion.

3.2.8 Observations pre and post transfusion

Observations	Timing
• Temperature • Respirations • Heart rate • Blood Pressure • IV site	• Baseline pre commencement of transfusion • 15 min after commencement of transfusion • Hourly until completed of transfusion • At completion of transfusion

3.2.9 Return of Blood Components

- Blood components MUST be returned to Blood Bank as soon as possible to prevent wastage if not administered.
- PRBC MUST be returned to Blood Bank or to a designated satellite blood fridge within 30 minutes.
- Complete the back section 'Return of Blood or Blood Product(s) to Blood Bank' on the 'Authority to Issue Blood Products Form' (pink form) (Appendix 5) and send to Blood Bank with the blood component.

Note
Pneumatic tube systems MUST not be used for obtaining or returning blood components.

3.2.10 Monitoring and adverse events

- Side effects of blood transfusion vary from mild to severe. Early detection and prompt intervention is required to successfully manage severe reactions. (Appendix 4)

3.3 Documentation

- eRIC

- eMR
- Blood and blood products administration form
- Authority to Issue Blood Product form
- SEALS Blood Bank Issue Report checklist

3.4 Education Notes

- **Valid informed consent** should contain a clear explanation of the potential risks and benefits of blood component therapy (including signs and symptoms related to adverse reactions) and alternative therapies, particular to the patient being treated including the right to refuse transfusion.
- Section 174 the Children and Young Person's (Care and Protection) Act provides a Medical Practitioner with authority to treat a minor in an emergency without consent.
  However, where the various treatment options are known well before the treatment becomes urgent, treatment options should be discussed with the parent(s) before the situation becomes an emergency. This would apply in situations such as where a family has a known objection to blood products. Where consensus cannot be reached between the treating team and the family, it may be necessary to obtain a court order to provide guidance as to whether the treatment can proceed before the situation deteriorates into an emergency. Legal advice can be sought from the Ministry of Health's Legal Branch.
- A group and hold should be collected when it is anticipated that a blood component may be required for a patient. A cross match will be performed on request when it is known that blood components are required.
- **Specimen Validity** for a patient that is <4 months old the group and hold sample is valid for 120 days or until discharge.
- **Compatibility**

Table 1 Red cell ABO compatibility

Donor / Recipient	O	A	B	AB
O	X			
A	X	X		
B	X		X	
AB	X	X	X	X

- Platelets will be ABO matched when possible.
- **Leucocyte depletion**
  All red cells and platelets issued by ARCL are leucocyte depleted.
- **Irradiation**
  Red cells are irradiated to prevent Transfusion Associated Graft versus Host Disease.Irradiation inactivates T-lymphocytes present in blood while preserving the function of other cells.
  All blood components are irradiated off-site at Red Cross
- The administration of **CMV negative products** to CMV negative recipients is indicated for pregnancy, intra-uterine transfusion, exchange transfusion and neonates up to 28 days.

3.5 Abbreviations

PRBC	Packed Red Blood Cells	Hb	Haemoglobin
FFP	Fresh Frozen Plasma	INR	International Normalised Ratio
PCM	Per Cubic Milimetre	NBST	Newborn Bloodspot Screening Test
NETS	Newborn Emergency Transport System	MRN	Medical Record Number
CMV	Cytomegalovirus	HLA	Human Leukocyte Antigens
ANMF	Australasian Neonatal Medicine Formulary	ID	Identification
ANTT	Aseptic Non- Touch Technique	IV	Intravenous

3.6 CBR Implementation Plan

The revised CBR will be distributed to all medical, nursing and midwifery staff via @health email. The CBR will be discussed at ward meetings, education and patient quality and safety meetings. Education will occur through in-services, open forum and local ward implementation strategies to address changes to practice. The staff are asked to respond to an email or sign an audit sheet in their clinical area to acknowledge they have read and understood the revised CBR. The CBR will be uploaded to the CBR tab on the intranet and staff are informed how to access

3.7 Related Policies/procedures

- RHW NCC Medical- Neonatal Alloimmune Thrombocytopenia (NAIT)
- RHW NCC Medical- Exchange Transfusion
- ANMF Albumin 5% https://www.seslhd.health.nsw.gov.au/sites/default/files/groups/Royal_Hospital_for_Women/Neonatal/Neomed/Albumin%205_ANMFv1.0_20231026.pdf
- AMNF Albumin 20% https://www.seslhd.health.nsw.gov.au/sites/default/files/groups/Royal_Hospital_for_Women/Neonatal/Neomed/neomed19albumin20full.pdf
- NSW MoH Policy Directive IB2020_010 Consent to Medical and Healthcare Treatment Manual
- SESLHD- POWH CLIN018 Blood Component Management and Administration
- SESLHD- POWH CLIN072 Critical Bleeding Protocol (CBP)
- NSW Health Policy Directive PD 2018_042 Blood Management
- NSW Health Policy Directive IB 2020_010 Consent to Medical and Healthcare Treatment Manual
- SESLHD- POWH/SSEH CLIN013_2022 Blood Component Management and Administration

3.8 References

1. NSW Health. https://www.health.nsw.gov.au/policies/manuals/Pages/consent-manual.aspx Consent to Medical and Healthcare Treatment Manual 23 January 2024
2. NSW Health Policy Directive PD 2018_042 Blood Management

3. NSW Health Policy Directive IB 2020_010 Consent to Medical and Healthcare Treatment Manual
4. NSW Health Policy Directive PD2017_032 Clinical Procedure Safety
5. Australian and New Zealand Society of Blood Transfusion. 2024. Guidelines for the administration of blood products. 3rd edition.
6. National Blood Authority (NBA) (2016). Patient Blood Management Guidelines: Module 6 – Neonatal and Paediatrics. NBA, Canberra, Australia.
7. Kirpalani H, Bell EF, Hintz SR, et al. Higher or lower hemoglobin transfusion thresholds for preterm infants. New England Journal of Medicine. 2020 Dec 31;383(27):2639-51.
8. Franz AR, Engel C, Bassler D, et al. Effects of liberal vs restrictive transfusion thresholds on survival and neurocognitive outcomes in extremely low-birth-weight infants: the ETTNO randomized clinical trial. Jama. 2020 Aug 11;324(6):560-70.
9. Zerra PE, Josephson CD. Transfusion in neonatal patients: review of evidence-based guidelines. Clinics in laboratory medicine. 2021 Mar 1;41(1):15-34.
10. Kirpalani H, Whyte RK, Andersen C, et al. The Premature Infants in Need of Transfusion (PINT) study: a randomized, controlled trial of a restrictive (low) versus liberal (high) transfusion threshold for extremely low birth weight infants. The Journal of pediatrics. 2006 Sep 1;149(3):301-7.
11. Sydney Children's Hospital Network (SCHN) guideline No: 2007-8092 v10. Guideline: Transfusion of blood and blood components – Paediatrics. Accessed
12. Blood and Blood Product Transfusion - Neonates – NSLHD. Prompt Doc No: NSHD0173248 v2.0. Dated 22/04/2022.

4 ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

- Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.
- When clinical risks are identified for an Aboriginal and/or Torres Strait Islander woman or family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services

5 CULTURAL SUPPORT

- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours
- If the woman is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters.

6 NATIONAL STANDARDS

- Standard 1 Clinical Governance

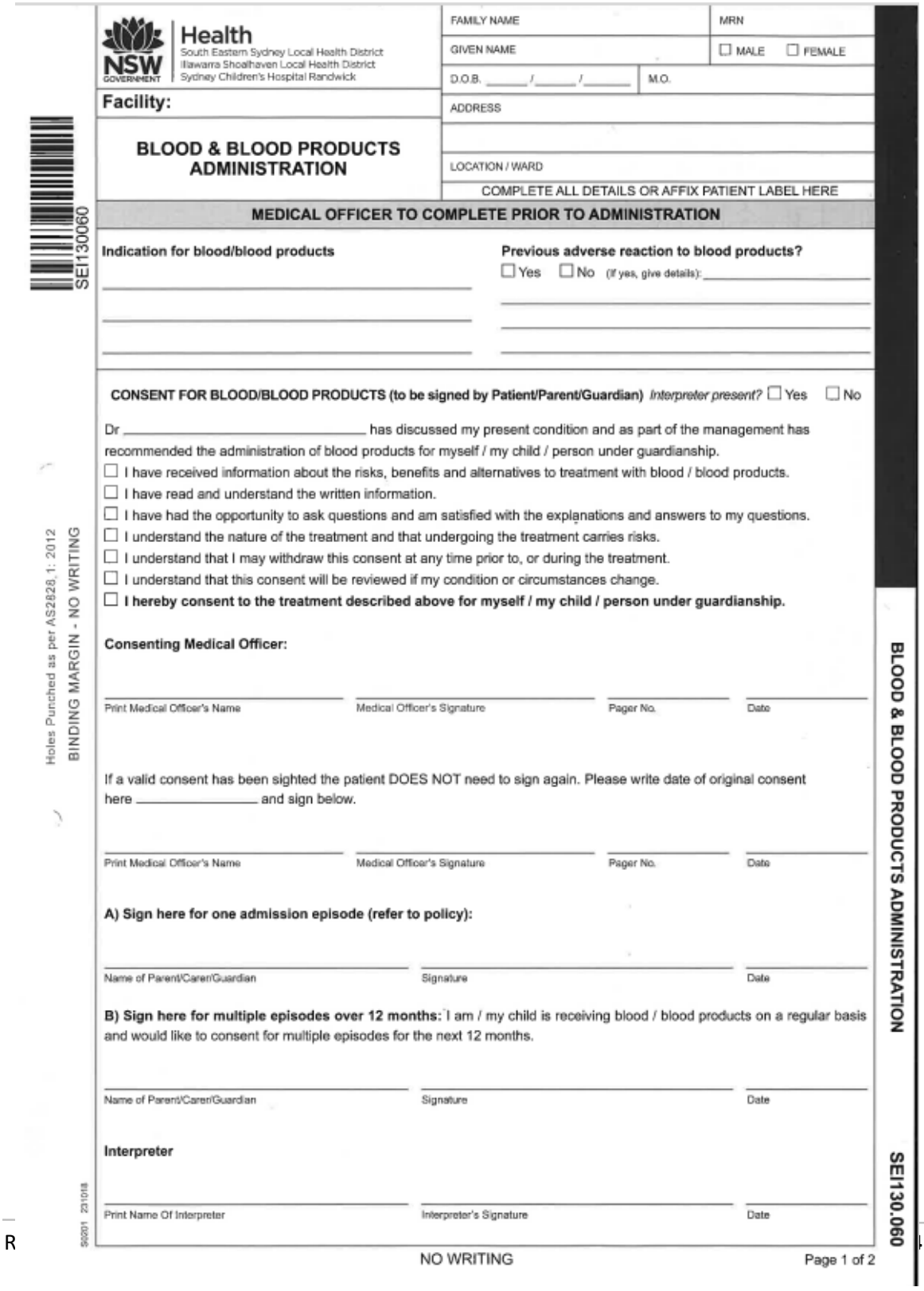
- Standard 2 Partnering with Consumers
- Standard 3 Preventing and Controlling Infections
- Standard 5 Comprehensive Care
- Standard 6 Communicating for Safety
- Standard 7 Blood Management
- Standard 8 Recognising and Responding to Acute Deterioration

7 REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
20.1.2010	1	NCC LOP Committee
2.10.2014	2	NCC LOP Committee
15/08/2018	3	S Walsh (CNE). Endorsed by NCC LOP Committee
18.7.2024	4	S Bolisetty (Medical Co- Director Neonatal Services), S J Tapawan CMO, R Jackson NE, E Jozsa CNS, S Walsh (CNE). Endorsed by NCC CBR Committee
29.7.24	4	Endorsed RHW BRGC

Appendix 1

Blood & Blood Products Administration form



Health
South Eastern Sydney Local Health District
Illawarra Shoalhaven Local Health District
Sydney Children's Hospital Randwick

NSW GOVERNMENT

Facility:

BLOOD & BLOOD PRODUCTS ADMINISTRATION

SEI130060

FAMILY NAME | MRN
GIVEN NAME | ☐ MALE ☐ FEMALE
D.O.B. ____/____/____ | M.O.
ADDRESS
LOCATION / WARD
COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

MEDICAL OFFICER TO COMPLETE PRIOR TO ADMINISTRATION

Indication for blood/blood products

Previous adverse reaction to blood products?
☐ Yes ☐ No (If yes, give details): _____

CONSENT FOR BLOOD/BLOOD PRODUCTS (to be signed by Patient/Parent/Guardian) *Interpreter present?* ☐ Yes ☐ No

Dr _____ has discussed my present condition and as part of the management has recommended the administration of blood products for myself / my child / person under guardianship.

☐ I have received information about the risks, benefits and alternatives to treatment with blood / blood products.
☐ I have read and understand the written information.
☐ I have had the opportunity to ask questions and am satisfied with the explanations and answers to my questions.
☐ I understand the nature of the treatment and that undergoing the treatment carries risks.
☐ I understand that I may withdraw this consent at any time prior to, or during the treatment.
☐ I understand that this consent will be reviewed if my condition or circumstances change.
☐ **I hereby consent to the treatment described above for myself / my child / person under guardianship.**

Consenting Medical Officer:

Print Medical Officer's Name | Medical Officer's Signature | Pager No. | Date

If a valid consent has been sighted the patient DOES NOT need to sign again. Please write date of original consent here _____ and sign below.

Print Medical Officer's Name | Medical Officer's Signature | Pager No. | Date

A) Sign here for one admission episode (refer to policy):

Name of Parent/Carer/Guardian | Signature | Date

B) Sign here for multiple episodes over 12 months: I am / my child is receiving blood / blood products on a regular basis and would like to consent for multiple episodes for the next 12 months.

Name of Parent/Carer/Guardian | Signature | Date

Interpreter

Print Name Of Interpreter | Interpreter's Signature | Date

59201 231018

Holes Punched as per AS2828.1: 2012
BINDING MARGIN - NO WRITING

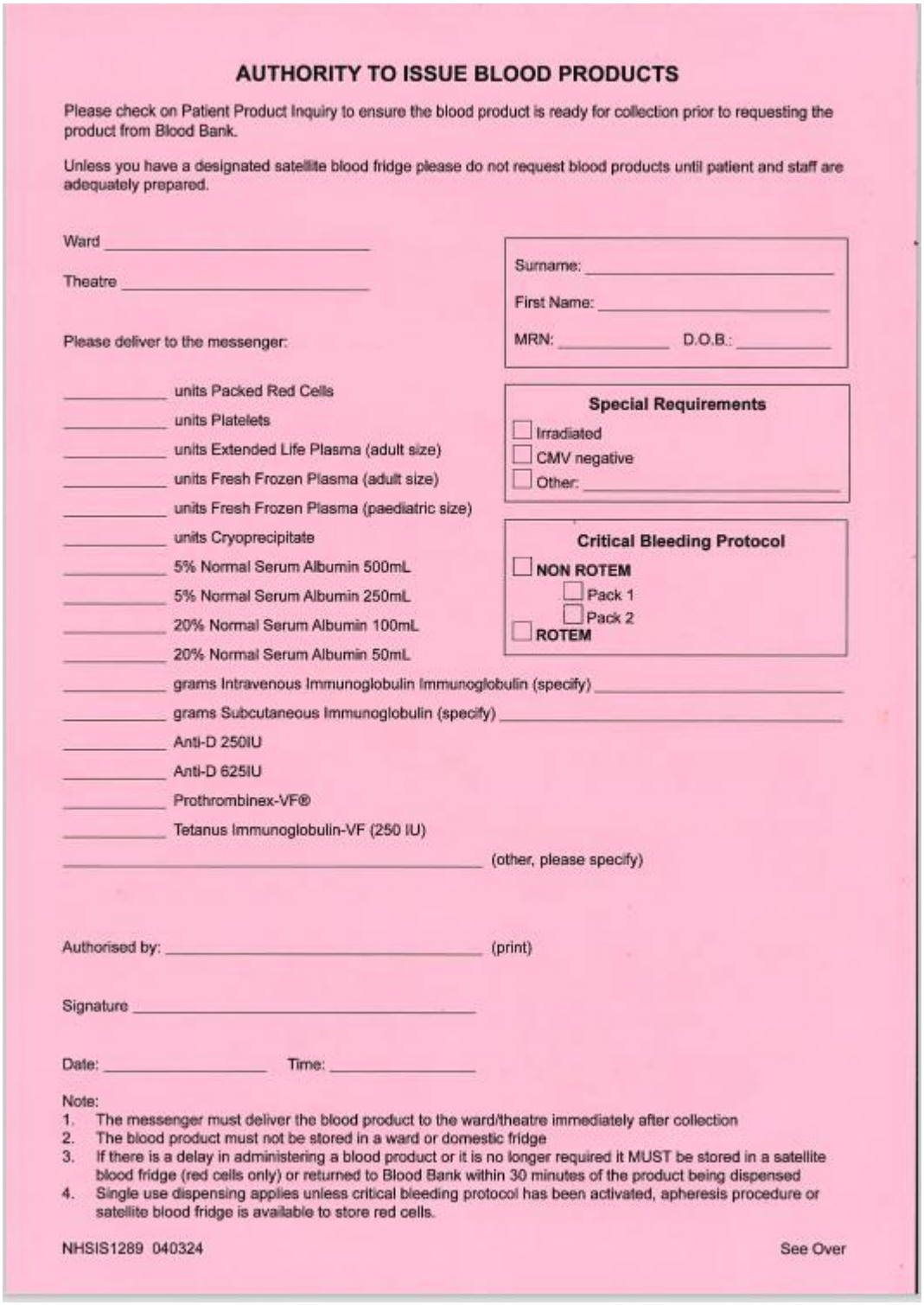
BLOOD & BLOOD PRODUCTS ADMINISTRATION
SEI130.060

NO WRITING

Page 1 of 2

Appendix 2

Authority to Issue Blood Products Form (pink form)



AUTHORITY TO ISSUE BLOOD PRODUCTS

Please check on Patient Product Inquiry to ensure the blood product is ready for collection prior to requesting the product from Blood Bank.

Unless you have a designated satellite blood fridge please do not request blood products until patient and staff are adequately prepared.

Ward _____

Theatre _____

Surname: _____

First Name: _____

MRN: _____ D.O.B.: _____

Please deliver to the messenger:

_____ units Packed Red Cells
_____ units Platelets
_____ units Extended Life Plasma (adult size)
_____ units Fresh Frozen Plasma (adult size)
_____ units Fresh Frozen Plasma (paediatric size)
_____ units Cryoprecipitate
_____ 5% Normal Serum Albumin 500mL
_____ 5% Normal Serum Albumin 250mL
_____ 20% Normal Serum Albumin 100mL
_____ 20% Normal Serum Albumin 50mL
_____ grams Intravenous Immunoglobulin Immunoglobulin (specify) _____
_____ grams Subcutaneous Immunoglobulin (specify) _____
_____ Anti-D 250IU
_____ Anti-D 625IU
_____ Prothrombinex-VF®
_____ Tetanus Immunoglobulin-VF (250 IU)
_____ (other, please specify)

Special Requirements

☐ Irradiated
☐ CMV negative
☐ Other: _____

Critical Bleeding Protocol

☐ **NON ROTEM**
☐ Pack 1
☐ Pack 2
☐ **ROTEM**

Authorised by: _____ (print)

Signature _____

Date: _____ Time: _____

Note:
1. The messenger must deliver the blood product to the ward/theatre immediately after collection
2. The blood product must not be stored in a ward or domestic fridge
3. If there is a delay in administering a blood product or it is no longer required it MUST be stored in a satellite blood fridge (red cells only) or returned to Blood Bank within 30 minutes of the product being dispensed
4. Single use dispensing applies unless critical bleeding protocol has been activated, apheresis procedure or satellite blood fridge is available to store red cells.

NHSIS1289 040324 See Over

Appendix 3

SEALS Blood Bank Issue Report' checklist

NSW GOVERNMENT Health Pathology

creating better health & justice systems
www.pathology.health.nsw.gov.au

NSWHP East–South Blood Bank Issue Report

Antibodies:

Patient Name: [redacted]
Date of Birth: 23 JUN 2024
Patient Blood Group: O Pos
Special Instructions:

Facility/MRN: [redacted]

Issued to: NICU RHW

Issued at: 24 JUN 2024 17:15
Issued by: 60277804

Hx Name: [redacted]

Hx MRN: [redacted]

Crossmatch Expiry: 21 OCT 2024 23:59

Transfusion Administration Checklist:

The following details must be independently checked by 2 accredited staff members, and both staff must sign this issue report

- ☐ 1. Check patient has received education (verbal / written) and is ready for procedure
- ☐ 2. Check that consent has been obtained
- ☐ 3. Validate patient details against patient identification band
- ☐ 4. Validate blood product against the issue report
- ☐ 5. Validate donation number and blood group on blood product against issue report
- ☐ 6. Visually inspect the blood product
- ☐ 7. Crosscheck for any special instructions and determine if premedication is required
- ☐ 8. Check Product Expiry date
- ☐ 9. Check Crossmatch Expiry date

Product Type	Product No.	Blood Group	Expiry Date & Time	Checked by: Signature	Administered by: Signature	Start Date	Start Time	Finish Date	Finish Time
PC IRR LD	2382230	O Pos	04 JUL 2024 23:59	[signature]	[signature]	17 4 0	24/6/24		

RCPA NATA

Phone 1800 073 257

Transfusion

Appendix 4

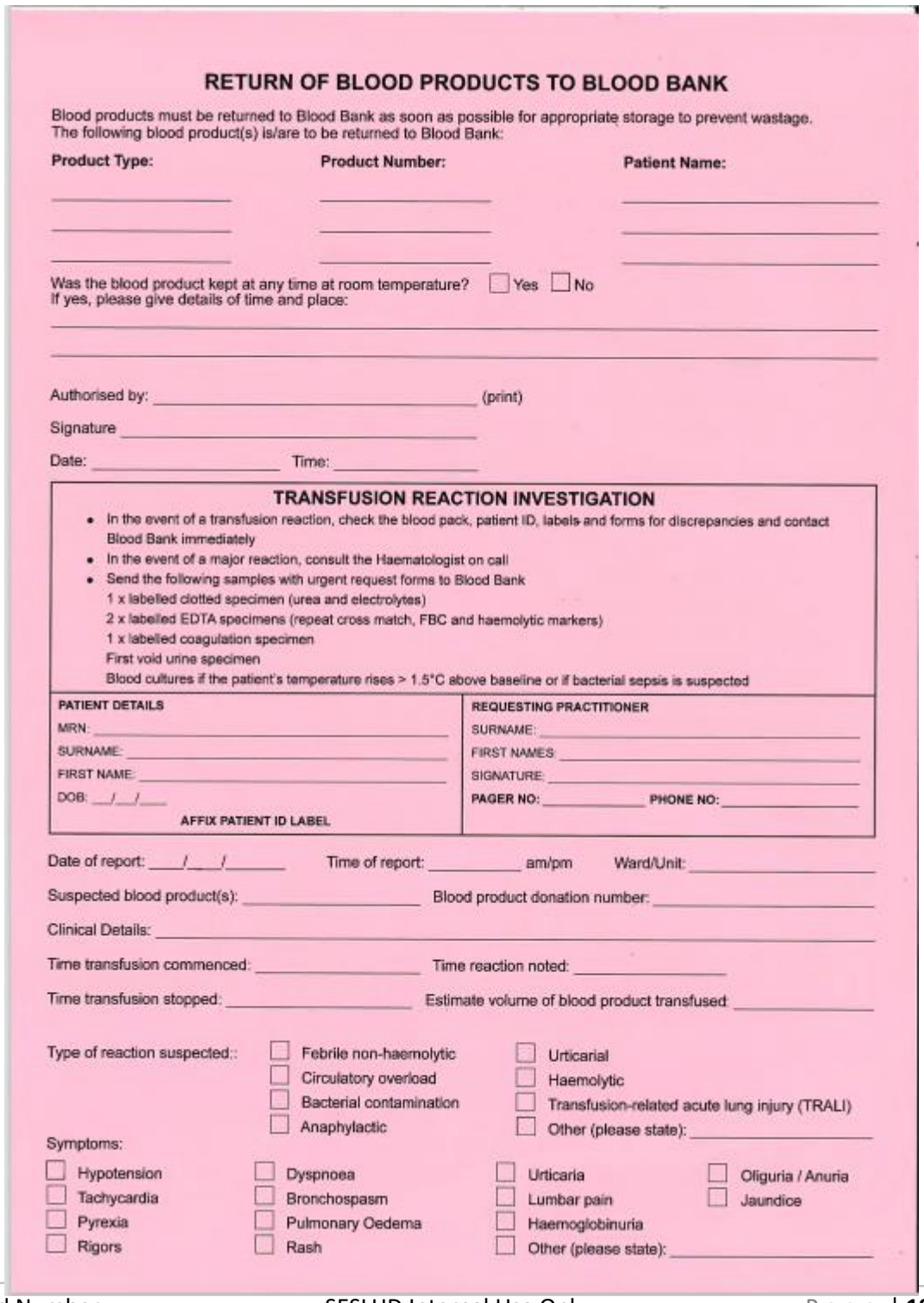
Transfusion Reactions – Signs and Symptoms

Reaction Type	**Signs and Symptoms**
Mild allergic	Localised urticaria/rash, pruritis
Severe allergic	Hypotension, tachycardia, flushing, wheezing, anaphylaxis
Febrile	Unexpected fever >38C
Acute haemolytic	Rigors, fever, flank pain, pain along IV line, tachycardia, dyspnoea, hypotension, dark urine, uncontrolled bleeding
Bacterial contamination and septic shock	Very high fever, rigors, profound hypotension, nausea and/or diarrhoea
Transfusion Associated Circulatory Overload (TACO)	Respiratory distress, tachycardia, increased blood pressure, large positive fluid balance or compromised cardiac status
Transfusion Related Lung Injury (TRALI)	Acute respiratory distress, bilaterally symmetrical pulmonary oedema, hypoxaemia, chills, fever, bilateral lung infiltrates on chest x-ray, absence of other risk factors for acute lung injury (i.e. pneumonia, multiple trauma, aspiration). TRALI develops within 6 hours of transfusion.
Delayed haemolysis	Fever, jaundice, lower than expected haemoglobin following transfusion
Transfusion associated graft versus host disease (TA-GvHD)	Fever followed by skin rash, pancytopaenia, abnormal liver function and diarrhoea. In adults the usual onset is 8-10 days post transfusion
Head	• Restless • Crying • Increased anxiety • Hypoxia/cyanosis • Angio-oedema • Periorbital oedema • Unexpected lethargy
Chest	• Respiratory distress • Tachycardia • Hypotension • Tachypnoea

	• Cough • Wheeze/Stridor • Apnoea
Arm or IV site	• Pain at infusion site • Unexpected bleeding (DIC)
Back	• Loin/back pain • Dark urine
Skin	• Pyrexia >1ºC • If baseline >37ºC, rigors • Urticaria • Pruritis • Flushing

Appendix 5

Return of Blood or Blood Product(s) to Blood Bank at the back of the Authority to Issue Blood Products Form (pink form)



RETURN OF BLOOD PRODUCTS TO BLOOD BANK

Blood products must be returned to Blood Bank as soon as possible for appropriate storage to prevent wastage.
The following blood product(s) is/are to be returned to Blood Bank:

Product Type:	Product Number:	Patient Name:

Was the blood product kept at any time at room temperature? ☐ Yes ☐ No
If yes, please give details of time and place:

Authorised by: _____ (print)

Signature _____

Date: _____ Time: _____

TRANSFUSION REACTION INVESTIGATION

- In the event of a transfusion reaction, check the blood pack, patient ID, labels and forms for discrepancies and contact Blood Bank immediately
- In the event of a major reaction, consult the Haematologist on call
- Send the following samples with urgent request forms to Blood Bank
  1 x labelled clotted specimen (urea and electrolytes)
  2 x labelled EDTA specimens (repeat cross match, FBC and haemolytic markers)
  1 x labelled coagulation specimen
  First void urine specimen
  Blood cultures if the patient's temperature rises > 1.5°C above baseline or if bacterial sepsis is suspected

PATIENT DETAILS	REQUESTING PRACTITIONER
MRN:	SURNAME:
SURNAME:	FIRST NAMES:
FIRST NAME:	SIGNATURE:
DOB: __/__/____	PAGER NO: _____ PHONE NO: _____
AFFIX PATIENT ID LABEL	

Date of report: ____/____/_____ Time of report: _____ am/pm Ward/Unit: _____

Suspected blood product(s): _____ Blood product donation number: _____

Clinical Details: _____

Time transfusion commenced: _____ Time reaction noted: _____

Time transfusion stopped: _____ Estimate volume of blood product transfused: _____

Type of reaction suspected::
☐ Febrile non-haemolytic ☐ Urticarial
☐ Circulatory overload ☐ Haemolytic
☐ Bacterial contamination ☐ Transfusion-related acute lung injury (TRALI)
☐ Anaphylactic ☐ Other (please state): _____

Symptoms:

☐ Hypotension	☐ Dyspnoea	☐ Urticaria	☐ Oliguria / Anuria
☐ Tachycardia	☐ Bronchospasm	☐ Lumbar pain	☐ Jaundice
☐ Pyrexia	☐ Pulmonary Oedema	☐ Haemoglobinuria	
☐ Rigors	☐ Rash	☐ Other (please state): _____	

Appendix 6

Storage requirement

Blood Component	Storage Requirements	Guidelines if Transfusion Delayed
Red Cells Only 1 unit may be collected at one time unless dedicated blood fridge is available or Critical Bleeding Protocol (CBP) is initiated	2 – 6 ^{0}C In a designated blood fridge	Maximum time outside of storage requirements prior to commencing transfusion is **30 minutes**. Red cells must be infused within 4 hours of leaving controlled storage If delay is anticipated immediately return to Blood Bank or designated blood fridge within 30 minutes.
Platelets	On a platelet rocker **Do Not Refrigerate**	Platelets will start to clump as soon as they are removed from the rocker. Commence infusion immediately, or return to Blood Bank for appropriate storage.
Fresh Plasma Products stored frozen takes 20 minutes to thaw **Plasma Derivatives**	Once thawed infuse immediately **or** Store in Blood Bank fridge for up to 24 hours	**FFP** and cryo-depleted plasma may be used up to 24 hours after being thawed depending on the indication for use. If delay is anticipated return to Blood Bank ASAP **Cryoprecipitate** must be used within 6 hours of thawing. Keep at room temperature **Do Not Refrigerate**

Fractionated Products	Storage Requirements	Guidelines if Transfusion Delayed
Albumin 5%	Albumin 5% 250ml and 500ml must be stored below 25^{0}C	Albumin must be infused within 4 hours following commencement [5] If delay is anticipated immediately return to Blood Bank
Albumin 20%	Alburex® 20 AU 100 ml must be stored below 25^{0}C Contains 140mmol/L or ~ 320mg sodium Caution in patients requiring sodium restriction Albumex 20% 10 ml must be stored at 2-6^{0}C	