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

Ref: T25/26717

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EXECUTIVE SPONSOR	Sally Wise, Nursing Co- Director Neonatal Services Srinivas Bolisetty, Medical Co- Director Neonatal Services
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SUMMARY	To identify potential cases, assist in clinical management and arrange appropriate follow up for neonates affected by NAIT.
Key Words	Neonatal Alloimmune Thrombocytopenia, NAIT, neonate

Contents

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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

Neonatal alloimmune thrombocytopenia (NAIT) or fetomaternal alloimmune thrombocytopenia (FNAIT) is a rare but serious condition. It is associated with significant neonatal morbidity and mortality, including a 20% risk of intracranial haemorrhage (ICH), which can occur either antenatally or postnatally.

The condition occurs due to an immune response caused by differing platelet antigens between the mother and the father. Platelet antigens, inherited from the father and expressed on foetal platelets but not the maternal platelets, are destroyed by maternal alloantibodies developed against such antigens, which cross into the foetal circulation via the placenta. The antibodies are directed against foetal platelet antigens from the human platelet antigen (HPA) system. Approximately 75% of cases in Caucasian populations are caused by anti-HPA-1a and 20% by anti-HPA-5b. In Asian populations, anti-HPA-4b is commonly causative. Other causative antibodies include anti-HPA-3a, anti-HPA-5b, anti-HPA-15a and anti-HPA-15b.

Immediate management includes investigation of the diagnosis, platelet transfusion including use of specific platelets (usually HPA-1bb in the first instance) to keep the platelet count above 30 x 10^9/L and immune-modulatory treatment.

2 RESPONSIBILITIES

2.1 Staff

2.1.1 Medical

- Identify potential cases of NAIT.
- Manage NAIT in a neonate as required
- Inform parent/carer of management plans.
- Liaise with haematology team for management and follow up.
- Complete BloodSafe e-Learning training: Clinical Transfusion Practice.
- Consent parent/cares prior to neonate receiving blood components.
- Complete pre transfusion blood collection for testing.
- Document in the neonate's electronic record the indication for receiving blood component.

- Prescribe the blood component.
- Orders the blood component from Blood Bank.
- Review neonate following an adverse event as required.
- Report any adverse event in the Incident Management System (IMS+).
- Document in the patient's discharge summary that the patient received a blood component.
- Arrange appropriate follow up for neonates affected by NAIT.

2.1.2 Sydney Children's Hospital Haematology Team

- Provide consultation for neonates affected by NAIT in collaboration with NCC Medical team.
- Provide expert advice on the management of a neonate with NAIT.
- Inform parent/carer of management plans.

2.1.3 Nursing

- Assist in clinical management of neonate affected by NAIT.
- Complete BloodSafe e-Learning training: Clinical Transfusion Practice and Blood Component competency assessment.
- Prepare patients to receive blood components.
- Organise transport of blood component.
- Complete patient identity and product compatibility check prior to administration of blood component.
- Monitor patient pre, during and post transfusion, record adverse events on patient record and IMS+.
- Organise returning unused blood product to Blood Bank.

2.1.4 Blood bank

- Dispense blood components.
- Accept return of blood components as required.
- Complete transfusion investigation report as required.

2.1.5 Porter

- Complete BloodSafe eLearning: Transporting Blood.
- Transport parent and neonatal blood samples to pathology.
- Transport blood components.

3 PROCEDURE

3.1 Equipment

- Adult Gold or red clot (no gel) vacutainer tube x1
- Adult EDTA (purple) vacutainer tube x2
- Neosafe® Butterfly needle (blue) for adult blood collection
- Insyte-N™ 24GA intravenous catheter (yellow) (for neonatal blood collection)
- Neonatal EDTA (purple) tube, serum tube (yellow), Newborn blood screen test card (if not collected already)
- 0.5% Chlorhexidine swabsticks x5
- Dressing pack

- 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
- Disinfectant wipes
- For medication administration equipment, refer to relevant Australasian Neonatal Medicines Formulary
- Documentation forms (see documentation list)

3.2 Clinical Practice

3.2.1 When to suspect NAIT:

- Severe thrombocytopenia in an otherwise well neonate, even if no history of NAIT in previous pregnancies (< 50 x 10^9/L) although NAIT can occur with mild/moderate thrombocytopenia (< 150 x 10^9/L)
- Thrombocytopenia in a neonate with petechiae or purpura, or other bleeding such as intracranial bleeding.
- Thrombocytopenia in a neonate with no alternative diagnosis, such as antenatal or postnatal infection, maternal auto-antibodies (especially maternal ITP), maternal medications, neonatal liver disease or collection error.
- NAIT in a prior pregnancy (although NAIT can occur commonly in the first pregnancy)

3.2.2 Diagnosis and immediate management:

- Obtain neonatal urgent full blood count if thrombocytopenia is suspected on history or clinical examination
- If the diagnosis is suspected:
  - Treat as NAIT (confirmatory tests may take a few days)
  - Consult Paediatric Haematology promptly.
  - Call Australian Red Cross Lifeblood (ARCL) – 1300 478 348 (24- hour phone line). Website www.transfusion.com.au
    - Request the Medical Officer on call
    - Request rare platelets type HPA-1bb (also known as HPA-1a negative platelets), unless prior platelet genotyping on the parents is available to suggest use of another human platelet antigen (HPA) group.

Note:
HPA-1bb platelets are used in Australia because the most common mismatch in NAIT causes an alloantibody to HPA-1a platelet antigens, which present on the majority of donated platelet units). If other HPA antigen negative platelets are required, these will need to be sourced by Lifeblood.

- Transfuse to keep neonatal platelet count above 30 x 10^9/L, and above 50 x 10^9/L if there is any suspicion of clinically relevant bleeding.
- It may be possible to provide platelets of another HPA-type if the HPA antibody is known. Rare platelets are sourced from Lifeblood.

- Urgently collect blood from both parents and the baby
  - Complete the "Transplantation and Immunogenetics Services" Sample and Volume Requirements (Appendix A) and Platelet Investigation Request (Appendix B) forms
  - Forms can be downloaded from the ARC Lifeblood website Forms | Lifeblood (enter form names into search bar)
- Collect the following samples within working hours Monday to Friday (testing will not occur on a weekend) (Appendix C)
  - Mother – 12mL serum (clot) tube (no gel) and 18mL EDTA (purple) tube
  - Father – 18mL EDTA (purple) tube only
  - Neonate – 0.5-2ml EDTA (purple) tube (preferred) or buccal swab; AND 1-2 mL serum (yellow), Newborn Bloodspot screen test (if not collected already)
- If samples are collected from both parents and the neonate at the same time, the same form can be used. Otherwise, use a separate form for each sample.
  - Fresh samples (collected within the last 48 hours) must be delivered, transported at ambient temperature, to ARCLS within working hours Monday to Friday (testing will not occur on a weekend)
  - Send blood samples directly with a porter to pathology
  - Advise NSWHP Randwick Blood Bank (extension 23232) and Lifeblood about urgency and transport of samples
  - Blood can be couriered to Lifeblood, to arrive as early as possible.

Note
Solid Phase platelet (intact platelet panels) antibody investigations and HPA genotyping are performed by Lifeblood urgently and results sent out as a preliminary result, which is followed up with definitive MAIPA assays (Monoclonal Antibody-specific Immobilisation of Platelet Antigens assay). MAIPA assays have been developed to allow identification and characterisation of antibodies directed against platelets (with platelet glycoproteins)

- If preliminary results are positive (for example if maternal serum alloantibodies to HPA-1a or other HPA antigens are detected) then the neonate needs **URGENT TREATMENT** to reduce the risk of ICH.
  - Due to the nature of testing, maternal HPA alloantibodies are **NOT** always detected in cases of NAIT, and thus reviewing the maternal and paternal genotype to screen for a HPA mismatch is also very important.
- Arrange head ultrasound to exclude ICH (further imaging may be required)
  - This should be done in all neonates with severe thrombocytopenia, regardless of cause.
  - This should be performed as soon as possible as neonates are at high risk of ICH
- Consent parent/carer for any blood transfusions required (Appendix D)

3.2.3 Treatment:

- **Maintain platelet counts above 30 x 10^9/L and above 50 x 10^9/L if there is suspicion of clinically significant bleeding.**
- Platelet transfusions are the mainstay of initial therapy, followed by Intravenous immunoglobulin (IVIG) and steroids in some cases. As per current ANZSBT guidelines, neonatal transfusions in babies < 28 days should be Cytomegalovirus (CMV) negative. Note, all platelet units are now irradiated. If CMV negative platelets are not available, then discuss with the paediatric haematologist)
- Ensure the neonate is ready to receive the platelet transfusion and is wearing an identification band.
- Ensure a newborn screening test has been completed prior to transfusion.
- Ensure there is a signed valid consent and a prescription for the blood and medication components.
- Ensure the neonate has a patent intravenous access device 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 E) 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
- Treatment guidelines:

Platelet- First line	
Transfusion volume	• 10-20 mL/kg
Duration	• Commence infusion immediately upon arrival, or return to Blood Bank for appropriate storage • Infuse over 1 hour (30 minutes in emergency)
Note	• DO NOT RERIGERATE platelets • Repeat Full blood count (FBC) testing is recommended (for neonates with severe NAIT) one-hour post-platelet transfusion. This can be helpful to determine response to the platelet transfusion and guide timing testing and/or transfusions. • If there is no significant increment to random donor platelets, urgent effort should be made to seek HPA-1a negative platelets (as well as reconsidering the diagnosis e.g. maternal ITP) • Advise Lifeblood of the neonate's clinical status and likely need for further rare platelets • HPA-1a antigen negative platelets are preferred, but random donor platelets can also be used safely and effectively if HPA-1a antigen negative platelets are not available. Do not delay platelet transfusion if HPA-1a negative platelets are not readily available. • Maternal platelet collection for neonatal transfusion is a possibility however this procedure is rarely performed (discuss with Lifeblood and the paediatric haematology

	team. Lifeblood will be the primary contact for this, as this procedure is not carried out in Blood Bank)
Intravenous Immunoglobulin (IVIG)- strongly recommended (refer to ANMF)	
Transfusion volume	• 1g/kg x 2 days
Duration	• 0.5 mL/kg/hour for 60 minutes • Then 1 mL/kg/hour for next 60 minutes • 2 mL/kg/hour for next 60 minutes • Then 4 mL/kg/hour (at a maximum rate of 25 mL/hour)
Note	• Ordered from Lifeblood • All opened bottles must be used immediately. • Do not shake bottles to avoid foaming. • A 'peel-off' identification label with Batch Number and Expiry Date is to be placed on the patient's Blood Component order form. • Allow preparation to reach room temperature and inspect for turbidity or sediments. If seen, return to Blood Bank or pharmacy. • Administration requires a surgically clean procedure. • Given via a dedicated intravenous cannula, central line or long line. • Administered by infusion pump. • A blood filter is not required but may be used.
Methylprednisolone- considered for severe/refractory NAIT	
Note	• Seek advice from paediatric haematology in severe/ refractory NAIT cases • Where possible, it is recommended to be administered separately from other medicines or infusion fluids • Monitor blood pressure, heart rate, and other vital sign before, during and after infusion. • Monitor blood glucose before and 6-8 hourly for 24 hours

- For blood product administration information, refer to Blood Product Transfusion (Neonate), step 3.2.7.
- Treatment side effects to be discussed with the parents include (but are not limited to):
  - IVIG – allergic/anaphylactic reactions, fever, headache, aseptic meningitis
  - Steroids – hypertension (that may require additional treatment), hyperglycaemia, irritability, transient adrenal suppression
- Observations required 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

3.2.4 Follow up

- As NAIT is purely a consequence of maternal alloantibodies directed against paternal platelet antigens, it will often resolve after 1-3 weeks as the maternal antibody titres reduce.
- Monitoring of platelet counts for at least 1-2 months post-delivery is recommended.
- Consider reporting the case to the Australian NAIT registry to inform epidemiological studies – contact Lifeblood for this.
- Arrange paediatric haematology follow-up as an outpatient.
- Arrange referral for parents to a maternal foetal medicine specialist for follow up
- **Advise parents that subsequent pregnancies are at risk and early antenatal, or preferably pre-conception, counselling with a maternal foetal medicine subspecialist is recommended. Note subsequent pregnancies can often be more severely affected.**

3.3 Documentation

- eRIC
- eMR
- Transplantation and Immunogenetics Services Sample and Volume Requirement and Platelet Investigation Request forms
- Blood and blood products administration form
- Authority to Issue Blood Product form
- SEALS Blood Bank Issue Report checklist

3.4 Education Notes

3.4.1 Epidemiology

- NAIT accounts for 3% of all foetal and neonatal thrombocytopenia (defined as platelets < 150 x 109/L) and 27% of severe cases (platelets < 50 x 109/L)
- NAIT is associated with significant neonatal morbidity and mortality, including a 20% risk of ICH.
- NAIT can occur in the first pregnancy.
- Maternal alloantibodies are not always detected and thus HPA genotyping in both parents is required to determine a HPA antigen mismatch.
- Parents can have HPA antigen mismatches without developing NAIT.

3.4.2 Risk factors

- NAIT in a prior pregnancy is a risk factor for NAIT in subsequent pregnancies, especially where there is known discordance between parental HPA (human platelet antigen) types (see table below)
- HPA types vary in frequency across racial groups. The most frequent cause of NAIT in a Caucasian population is anti-HPA-1a antibodies and in Asian populations are anti-HPA-4a antibodies
- Other HPA antibodies implicated in NAIT include anti-HPA-3a, anti-HPA-5b, anti-HPA-15a and anti-HPA-15b
- Severe NAIT and ICH in a prior pregnancy greatly increases the risk of ICH in subsequent pregnancies

3.4.3 Future pregnancies

- Through NAIT testing, parental HPA typing is determined and the risk to future pregnancies can be predicted (see table below)
- In-utero HPA genotyping can be performed on DNA extracted from amniocytes (DNA extraction, and confirmatory testing that DNA is of foetal origin, is performed by the Molecular Genetics Unit at Prince of Wales Hospital) –the DNA is then referred to the Tissue Typing Department at the ARCLS for HPA-genotyping
- Amniocytes should also be cultured in the cytogenetic laboratory to allow for subsequent retesting if needed
- If NAIT is considered likely either from history and/or prenatal invasive diagnosis, antenatal therapy may be institute, usually within the second trimester (this may include IVIG and/or steroids and possible in-utero platelet transfusion)
- Treatment depends on the previous history of severity of thrombocytopenia, including any history of previous ICH
- Lifeblood can be contacted peri-partum to ensure availability of specific platelets. A follow-up antibody screen post-partum is often useful, to confirm genotyping and determine if additional HPA antibodies have developed

Causative Maternal HPA allo-antibody	**Maternal HPA type**	**Paternal HPA type**	**Offspring HPA type**	**Platelets required for transfusion**
Anti-HPA-1a antibody These maternal antibodies are directed against HPA-1a antigens expressed on the neonatal platelets	HPA-1bb	HPA-1aa *or* HPA-1ab	If father HPA-1aa, then 100% of offspring are HPA-1ab, therefore 100% affected If father HPA-1ab, then 50% of offspring affected (HPA-1ab) Offspring who are HPA-1bb will be unaffected	HPA-1bb These are negative for HPA-1a antigens, to which the maternal alloantibodies are directed

3.5 Abbreviations

NAIT	Neonatal Alloimmune Thrombocytopenia	FNAIT	Fetomaternal Alloimmune Thrombocytopenia
ICH	Intracranial Haemorrhage	HPA	Human Platelet Antigen
IMS+	Incident Management System	ARCL	Australian Red Cross Lifeblood
IVIG	Intravenous immunoglobulin	ANZSBT	Australian and New Zealand Society of Blood Transfusion
MAIPA	Monoclonal Antibody-specific Immobilisation of Platelet Antigens	CMV	Cytomegalovirus
FBC	Full blood count	ITP	Immune thrombocytopenia

3.6 Related Policies/procedures

- RHW NCC CBR- Blood product transfusion – Neonate
- RHW NCC CBR- Deteriorating neonate - Recognition and management inside newborn care centre
- RHW NCC CBR- Peripheral Intravenous Cannula Insertion and Dressing
- SESLHD- POWH/SSEH CLIN013_2022 Blood Component Management and Administration
- SESLHD- POWH CLIN018 Blood Component Management and Administration
- NSW Health Policy Directive PD 2018_042 Blood Management
- NSW Health Policy Directive IB 2020_010 Consent to Medical and Healthcare Treatment Manual

3.7 References

1. Bonacossa IA, Jocelyn LJ. Alloimmune thrombocytopenia of the newborn: neurodevelopmental sequelae. American Journal of Perinatology. 1996;13:211-5
2. McQuilten Z, Wood EM, Savoia H et al. A review of pathophysiology and current treatment for neonatal alloimmune thrombocytopenia (NAIT) and introducing the Australian NAIT registry. Australian and New Zealand Journal of Obstetrics and Gynaecology. 2011;51:191-8
3. Serrarens-Janssen VM, Semmekrot BA, Novotny VM et al. Fetal/neonatal allo-immune thrombocytopenia (FNAIT): past, present, and future. Obstetrical & Gynecological Survey. 2008; 63:239-52
4. Burrows RF, Kelton JG. Fetal thrombocytopenia and its relation to maternal thrombocytopenia. New England Journal of Medicine. 1993;329:1463-6
5. Bassler D, Greinacher A, Okascharoen C et al. A systematic review and survey of the management of unexpected neonatal alloimmune thrombocytopenia. Transfusion. 2008; 48:92-8
6. Kiefel V, Bassler D, Kroll H et al. Antigen-positive platelet transfusion in neonatal alloimmune thrombocytopenia (NAIT). Blood. 2006;107: 3761-3
7. Lifeblood. Platelet disorders. Accessed Dec 30 2024 www.lifeblood.com.au/health-professionals/clinical-practice/clinical-indications/platelet-disorders.

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 4 Medication safety
- Standard 5 Comprehensive Care
- Standard 7 Blood Management

7 REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
4/2/2013	1	Sydney Children's Hospital and the Australian Red Cross – Marion Mateos (Haem/Onc Fellow, SCH), Glenn Marshall, Sue Russell, David Ziegler, Helen Pearson RHW NICU – Tim Schindler (NCC Staff Specialist), Srinivas Bolisetty (NCC Lead Clinician), Antonia Shand (MFM Consultant)
5/4/2018	2	NCC LOPS Committee
4/12/2024 5.12.2024	3	Marion Mateos (Paediatric Haematologist/Oncologist), Steven Lamb (Transfusion Senior Scientist), Melanie Jackson (Paediatric Haematologist), Tim Schindler (Neonatologist) Endorsed by NCC CBR Committee
14.4.25	3	RHW BRGC

APPENDIX A: Parental blood sample information

TRANSPLANTATION AND IMMUNOGENETICS SERVICES

Australian Red Cross Lifeblood

RCPA NATA ASHI

Sample Delivery (24 hours)

ASHI accreditation: 02-9-AU-01-1
NATA accreditation: 18808
Accredited for compliance with NPAAC Standards and ISO 15189

Transplantation and immunogenetics services | Lifeblood

Sample and Volume Requirements

REQUEST FORM:

Request forms and sample labels must be completed accurately and have legible handwriting. Alternatively, the request form can be filled out online or a hospital label can be used. Ensure the request form contains a minimum of three unique identifiers (e.g., full name, date of birth, UR/MRN).

Ensure that all tubes, at a minimum, are clearly labelled with the below information and the information on the form matches that on the sample tube(s):

- Patient's full name (family name and given name/s).
- Date of birth.
- Date of collection, as indicated on the request form.

DELIVERIES:

Victorian Transplantation and Immunogenetics Service	NSW Transplantation & Immunogenetics Service	South Australian Transplantation & Immunogenetics Service
Australian Red Cross Lifeblood Melbourne Processing Centre 100 – 154, Batman Street, West Melbourne, VIC 3003 Phone: 03 9694 0354 DL-VICVTISAdmin@redcrossblood.org.au	Australian Red Cross Lifeblood Sydney Processing Centre Dock A – Blood Inwards 17 O'Riordan Street, Alexandria NSW 2015 Phone: 02 9234 2322 DL-NSWTTCBO@redcrossblood.org.au	Australian Red Cross Lifeblood Women's and Children's Hospital Core Laboratory, Level 4, Rieger Building 72 King William Road, North Adelaide SA 5006 Phone: 08 8417 3000 tissuetypingsa@redcrossblood.org.au

SPECIMEN:

Samples (other than frozen samples) should be maintained at room temperature. EDTA or buccal swab can be used in place of ACD except for lymphocyte crossmatch.
Samples for verification typing are to be collected on separate days. If not possible, they must be collected at different collection times.
Samples sent for crossmatch prior to living renal transplantation must be pre-booked. Please email the laboratory (see email address details above).

SOLID ORGAN TRANSPLANTATION

Registration for Transplant waiting list

Testing	Request	Collection tube	Paediatric Vol (minimum)
TWL Work-up	TWL- entry Initial/ verification Re/entry	1x ACD 1x SST	2ml ACD 2ml SST
Serum sample for solid organ	Monthly serum Pre-transplant serum Post-transplant investigation (DSA) ATIR	1x SST	2ml SST

Live Organ transplant workup (LDD)

Testing	Request	Collection tube	Paediatric Vol (minimum)
Recipient	Initial (Stage 1)	1x ACD 1x SST	2ml ACD 2ml SST
Live Donor	Initial (Stage 1)	1x ACD	N/A
Recipient	Verification (stage 2)	1x ACD 1x SST	2ml ACD 2ml SST
Live Donor	Verification (Stage 2)	3x ACD	N/A
Recipient	Final Crossmatch (Stage 3)	1xACD*** 1x SST	2ml ACD*** 2ml SST
Live Donor	Final Crossmatch (Stage 3)	3x ACD	N/A
Recipient	Autologous Lymphocyte Crossmatch only (on request)	3x ACD 1x SST	See below *
Live Donor	Cell storage for KPD	5 x ACD	N/A

*Contact lab for lymphocyte crossmatch volume for paediatrics

*** only required if stage 2 samples not previously collected

STEM CELL TRANSPLANTATION

Testing	Request	Collection tube	Paediatric Vol (minimum)
Initial patient HLA typing	Initial	2x ACD 1x SST**	2ml ACD 2ml SST**
Related donor HLA typing	Family members	2x ACD	2ml ACD
Verification patient testing (VT)	Verification	2x ACD 1x SST	2ml ACD 2ml SST
Verification related donor HLA typing	Verification	2x ACD	2ml ACD
Patient Lymphocyte Crossmatch	N/A	3x ACD 1x SST	See below *
Donor Lymphocyte Crossmatch	N/A	3x ACD	
Patient antibody testing only		1x SST	2ml SST

*Contact lab for lymphocyte crossmatch volume for paediatrics

** If HLA ab testing is required

IMMUNOGENETICS

Testing	Request	Collection tube	Paediatric Vol (minimum)
Disease Association		1x ACD	2ml ACD
Drug Hypersensitivity	Initial and verification	1x ACD	2ml ACD

PLATELET AND NEUTROPHIL IMMUNOLOGY

Please refer to specific forms for sample requirements:

Transplantation and immunogenetics services | Lifeblood

FRM-02565 Version: 4 Date Effective: 29/07/2024

APPENDIX B1: Platelet Investigation Request Form

Australian Red Cross Lifeblood

RCPA

NATA
NATA Accreditation No: 18808

Dr James Daly
Medical Director Pathology Services
221517LF
Accredited for compliance with
NPACC Standards and ISO 15189

Platelet Investigation Request

Instructions for filling in this form. The form can be filled in using your PC:

1. Complete appropriate sections on Page 1 and provide required additional information as indicated on Page 2.
2. Collect the appropriate sample tubes as specified on Page 3.
3. For Fetal/Neonatal Alloimmune Thrombocytopenia (FNAIT), please **complete *FNAIT Investigation Request Form*** found here https://www.lifeblood.com.au/health-professionals/learn/resource-library
4. For Platelet Transfusion Refractoriness (PTR) or Transfusion support inherited platelet function disorder, please **complete *Request for HLA/HPA Compatible Platelets - Clinical Information Form*** found here https://lifeblood.com.au/health-professionals/learn/resource-library

Testing Laboratory	Select		
Please send samples to			
Phone		**Email**	

Patient details					
Last Name		First Name			
Gender	Select	MRN/UR		DOB	

Referring clinician name		Date requested	
Signature		Phone	
Email *All reports will be sent by email.*			

Referring laboratory name			
Email		Phone	
Person completing the form (if different from above)			
Name			
Email		Phone	

Sample collection			
Collector's name		Collection date & time	
Patient's signature		Date	
Please attach sample label/barcode ⇨			

Platelet Investigation Request
FRM-02189
Version: 8

Web lifeblood.com.au
Effective date: 09/09/2024
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APPENDIX B2: Platelet Investigation Request Form

Australian Red Cross Lifeblood

RCPA

NATA Accreditation No: 18808

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Accredited for compliance with
NPACC Standards and ISO 15189

Patient details					
Last Name		First Name			
Gender	Select	MRN/UR		DOB	
Clinical details					

Platelet Immunology – Indication for testing and additional information as required

☐ **Autoantibodies for Immune Thrombocytopenia** *(Only performed if the platelet count is <100 X 10^9/L)*			
Platelet count	x 10^9/L	Date of test	
IVIg received	☐ Yes ☐ No	Date of last IVIg dose	
Platelet transfusion	☐ Yes ☐ No	Date of last transfusion	

☐ **Post Transfusion Purpura (PTP)**				
Date of transfusion		Product/s transfused	☐ PLT ☐ Red Cells ☐ FFP	
Pre-transfusion platelet count	x 10^9/L	Date of test		
Post-transfusion platelet count	x 10^9/L	Date of test		

☐ **Platelet Glycoprotein Expression**

☐ **Drug Induced Immune Thrombocytopenia (DITP)**

(Note: Please discuss with the respective Lifeblood Platelet/Neutrophil Reference Laboratory prior to request. Testing for Heparin Induced Thrombocytopenia (HIT) is not performed at Lifeblood).

Name/s of medication/s implicated *(Samples of medication MUST be sent with specimen)*

Date medication was started		Date of onset of thrombocytopenia	
Pre-medication platelet count	x 10^9/L	Date of test	
Post-medication platelet count	x 10^9/L	Date of test	

Platelet Investigation Request
FRM-02189
Version: 8

Web lifeblood.com.au
Effective date: 09/09/2024
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APPENDIX C: Platelet Sample Collection Guidelines

Australian Red Cross Lifeblood

RCPA

NATA Accreditation No: 18808

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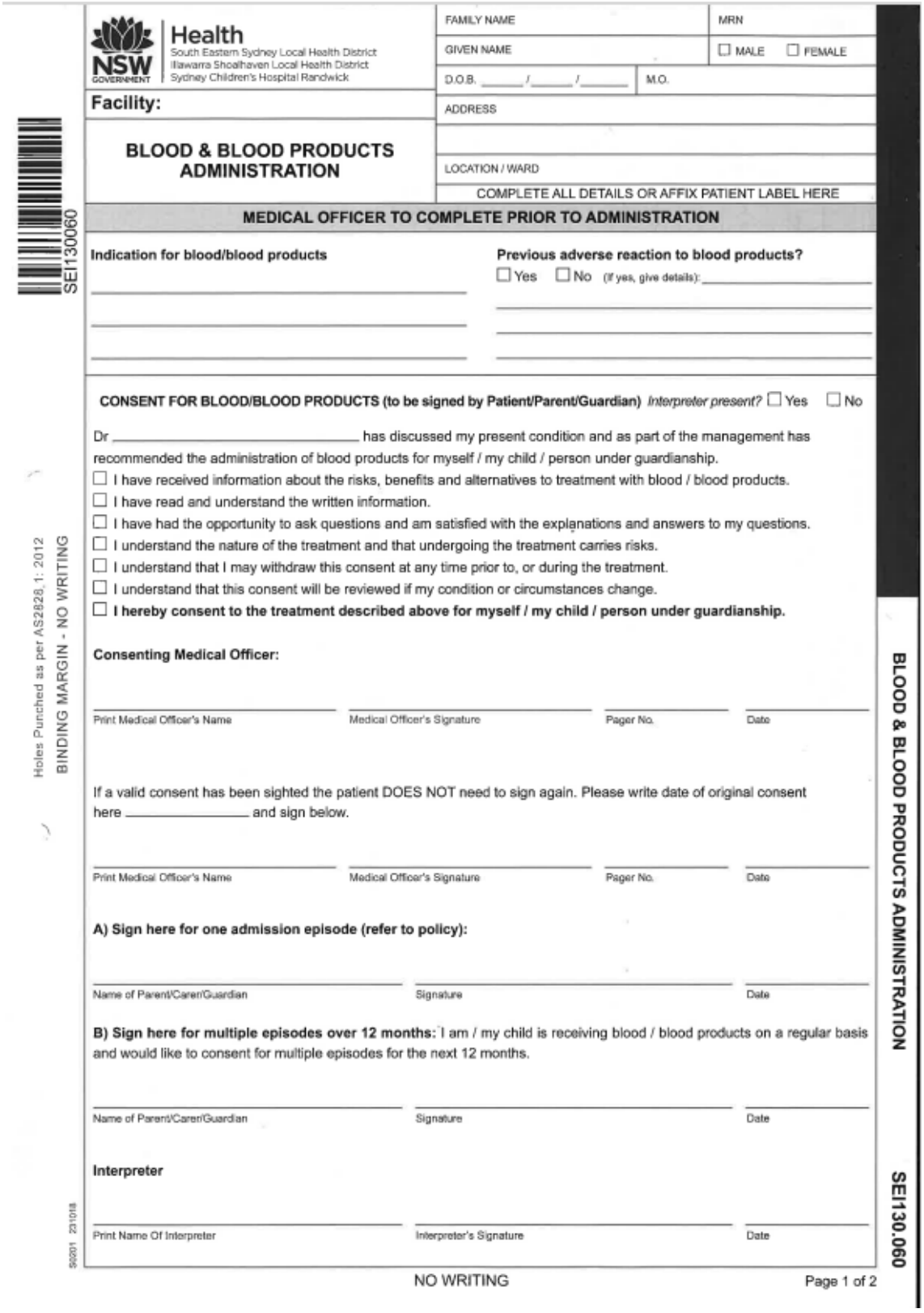
NPACC Standards and ISO 15189

Platelet Immunology Sample Collection Guidelines

Investigation request and samples	Special instructions and indicative turnaround time	Storage and transport instructions
Autoantibodies for Immune thrombocytopenia 18 mL EDTA or ACD **and** 6 mL serum (Clot)	**Testing will only be performed if the platelet count is <100 X 10^9/L.** If difficult, collection from a child 2-4mL serum (clot) only. *Note: Laboratory turnaround time is 6 working days.*	Store and transport at room temperature within 48 hours of collection.
Post Transfusion Purpura (PTP) 8 mL EDTA **and** 12ml serum (clot)	None *Note: Laboratory turnaround time is up to 2 working days*	Store and transport at room temperature.
Platelet glycoprotein expression Adult: 8 mL EDTA **and** 12ml serum (clot) Child: 2-3 mL EDTA only	Collect between 9 am and 3 pm, Monday – Thursday only. Notify Platelet and Neutrophil laboratory when collected. *Note: Laboratory turnaround time is 3 working days*	Do not centrifuge EDTA tubes. Store and transport at room temperature within 24 hours of collection.
Drug Induced Immune Thrombocytopenia (DITP) 8 mL EDTA, 12 mL serum (clot) **and a sample of the medication***	Medications must be sent in the same form as given to patient e.g. tablets, liquid for IV infusion. Provide the dose administered and patient's weight. *Note: Laboratory turnaround time is 10 working days.*	Store and transport at room temperature.

Appendix D: Blood & Blood Products Consent Form



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

Facility:

BLOOD & BLOOD PRODUCTS ADMINISTRATION

SE1130060

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

NO WRITING

Page 1 of 2

BLOOD & BLOOD PRODUCTS ADMINISTRATION SE1130.060

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

S0201 231018

Appendix E Authority to Issue Blood Products

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 _____

Please deliver to the messenger:

Surname: _____

First Name: _____

MRN: _____ D.O.B.: _____

_____ 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