LOCAL OPERATING PROCEDURE

NEONATAL SERVICES DIVISION

Approved by Quality & Patient Care Committee
August 2018

TRANSFUSION OF BLOOD PRODUCTS

This Local Operating Procedure is developed to guide safe clinical practice in Newborn Care Centre (NCC) at The Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this Local Operating Procedure.
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1. AIM

- To safely transfuse a blood product

2. PATIENT

- Newborns

3. STAFF

- Medical and nursing staff

4. EQUIPMENT

- Alaris closed neonatal blood set with 200µm filter
- Alaris volumetric syringe driver
- 50mL syringe
- 3M SoluPrep Antiseptic Wipe (2% chlorhexidine and 70% Isopropyl alcohol)
- 3mL syringe
- Sodium Chloride 0.9% ampoule
- Sodium Chloride 0.9% label
- 18G drawing-up needle
- Blue tray
- Non-sterile gloves

NOTE:

- **Newborn bloodspot screening sample should be collected before blood product transfusion if not previously collected**
- **Blood products administered via a 24G Peripherally Inserted Central Catheter (PICC) or Central Venous Access Device (CVAD) must be discussed with the on-call neonatologist**
- **Blood products must be administered via a dedicated line**
- **Enteral feed regime alterations are at the discretion of the on-call neonatologist**

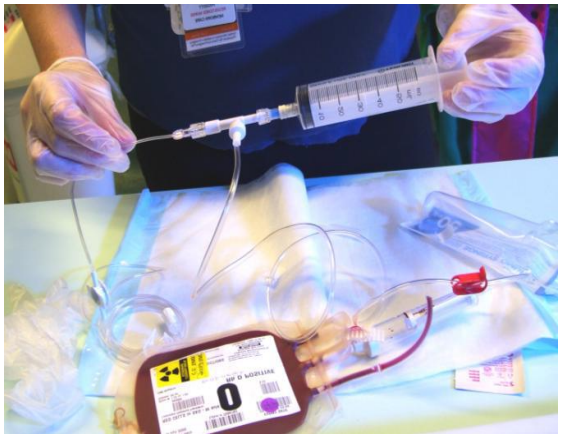
5. CLINICAL PRACTICE

Procedure:

1. Confirm clinical indication for blood product transfusion is documented on eMR.
2. Confirm consent is signed by parent or guardian on the 'Blood and Blood Products Administration' form.
3. Blood products must be prescribed by a medical officer on the 'Blood and Blood Products Administration' form and check by two registered nurses.
4. Assess intravenous access availability and patency prior to requesting delivery of blood product.
5. Assess the skin condition prior to transfusion for a rash.
6. Commence continuous cardio respiratory monitoring and saturation monitoring.
7. Complete an 'Authority to Issue Blood Products' form (pink form), ensuring special requirements section for products is completed (eg. Irradiated, CMV negative).
8. Blood products (except Albumin) must be returned to Blood Bank or a dedicated blood fridge within 30 minutes if an infusion is delayed for any reason.

TRANSFUSION OF BLOOD PRODUCTS cont'd

9. Complete the 'SEALS Blood Bank Issue Report' checklist sent by blood bank with all blood products to be infused. This includes:
   - Check that 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 cross-match expiry date
10. Perform hand hygiene. Put gloves and goggles on.
11. Prepare infusion using ANTT.
12. Open the blood transfusion filter set (not applicable for albumin infusion, which uses standard syringe driver infusion line).
13. Attach the 50 mL syringe to the T-Junction of the line blood filter set (Picture 1).
14. Puncture the mini-blood pack at the appropriate site (Picture 2)

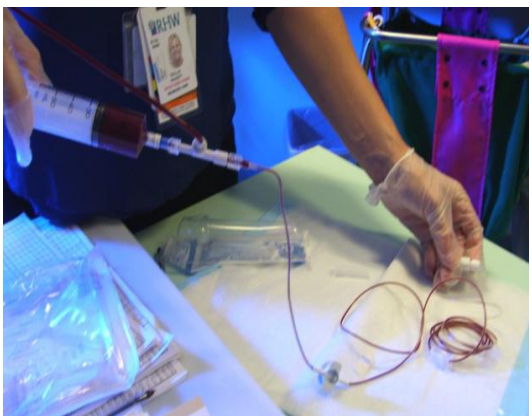


Picture 1

Picture 2

15. Withdraw slowly the prescribed volume plus 4mL priming volume into syringe (Picture 3).
16. Push syringe plunger to prime the line to the required amount (Picture 4).
17. Check filter is primed and air expelled.

Picture 3



Picture 4

TRANSFUSION OF BLOOD PRODUCTS cont'd

18. Clean the IV access site with SoluPrep (2% chlorhexidine & 70% Isopropyl alcohol).
19. Confirm patient ID before attaching the blood filter line to the T-Piece connection.
20. Commence transfusion at the prescribed rate.
21. Document observations and infusion volumes on the observation chart (see Appendix 1).
22. Observe for transfusion reactions (see Appendix 2).
23. Flush IV access post transfusion with Sodium Chloride 0.9%.
24. Complete documentation.
25. Continue cardiorespiratory and saturation monitoring for 4 hours post transfusion.

6. DOCUMENTATION

- eMR notes
- Neonatal Observation Chart
- NICUS database
- Blood and Blood Products Administration form
- Authority to Issue Blood Products form
- SEALS Blood Bank Issue Report checklist

7. RELATED POLICIES/PROCEDURES/CLINICAL PRACTICE LOP

- Nil

8. RISK RATING

- Low

9. NATIONAL STANDARD

- Standard 1 Governance for Safety and quality in Health Service Organisation
- Standard 3 Preventing and Controlling Healthcare Associated Infections
- Standard 5 Patient Identification and Procedure Matching
- Standard 7 Blood and Blood Products
- Standard 9 Recognising and Responding to Clinical Deterioration in Acute Health Care

10. ABBREVIATIONS AND DEFINITIONS OF TERMS

NCC	Newborn Care Centre	CMV	Cytomegalovirus
PICC	Percutaneous Intravascular Central Catheter	ANTT	Aseptic Non-Touch Technique
CVAD	Central Venous Access Device	IV	Intravenous

11. REFERENCES

- National Blood Authority (NBA) (2016). Patient Blood Management Guidelines: Module 6 – Neonatal and Paediatrics. NBA, Canberra, Australia.
- Australian and New Zealand Society of Blood Transfusion (2018). Guidelines for the administration of blood products. 3rd edition, Sydney, Australia.

12. AUTHOR

Primary	15/8/2018	S Walsh (CNE)

REVISION & APPROVAL HISTORY
August 2018 'Transfusion – Red Cells' (version 3, January 2010) and 'Platelet Transfusion' (version 2, October 2014) merged to form current LOP August 2018 Approved NCC LOPs Committee

FOR REVIEW: 2023

Appendix 1. Blood Products

Product	**Indication**	**Volume and rate**	**Observations**	**Observation Frequency**
Red Cells	Symptomatic anaemia	20mL/kg infuse at 6mL/kg/hr 15mL/kg infuse at 5mL/kg/hr **Maximum infusion time 4 hours**	Temperature Respirations Heart rate Blood pressure IV site	Baseline pre commencement 15 min after commencement Hourly until completed At completion of transfusion
Platelets	Thrombocytopenia or abnormal platelet function with bleeding or at risk of bleeding	5-10ml/kg over 30-60 min	Temperature Respirations Heart rate Blood pressure IV site	Baseline pre commencement 15 min after commencement Hourly until completed At completion of transfusion
Fresh Frozen Plasma	Deficiency of clotting factors with bleeding or risk of bleeding	10-15mL/kg infuse over 30-120 min	Temperature Respirations Heart rate Blood pressure IV site	Baseline pre commencement 15 min after commencement Hourly until completed At completion of transfusion
Cryoprecipitate	Fibrinogen deficiency or dysfunction with bleeding or risk of bleeding	5-10mL/kg over 30-60 min	Temperature Respirations Heart rate Blood pressure IV site	Baseline pre commencement 15 min after commencement Hourly until completed At completion of transfusion
Albumin 4%	Hypotension or hypovolemia	10mL/kg/dose over 30 min	Temperature Respirations Heart rate Blood pressure IV site	Baseline pre commencement 15 min after commencement Hourly until completed At completion of transfusion
Albumin 20%	Hypoalbuminemia	2-5mL/kg over 120-240 min	Temperature Respirations Heart rate Blood pressure IV site	Baseline pre commencement 15 min after commencement Hourly until completed At completion of transfusion

Appendix 2. Transfusion Reactions

Signs and symptoms

Head	• Restless • Crying • Increasing anxiety • Hypoxia/cyanosis • Angio-oedema • Periorbital oedema • Unexpected lethargy
Chest	• Respiratory distress • Severe 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 > 1 °C • (if baseline > 37 °C), rigors • Urticaria • Pruritis • Flushing