

<p>Policy Compliance Procedure</p>
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Administration of Blood Products for Neonatal and Paediatric Patients

This PCP relates to NSW Health PD	NSW Health PD2005_406 Consent to Medical Treatment – Patient Information NSW PD2005_261 Blood – Fresh Blood Components - Management
PCP number	PD2005_261 and PD2005_406: PCP 2
Sites where PCP applies	All HNE Health Sites notably John Hunter Children’s Hospital, Armidale, Maitland, Manning and Tamworth Rural Referral Hospitals
Target audience	All HNE Health Staff notably All Clinicians in HNE Rural Referral Emergency Department (ED), Operating Theatre, Intensive Care, Paediatrics
Applicability	Neonate – less than 29 days ✓ Children up to 16 years ✓
Description	Best clinical practice in the administration of blood products to infants, children and adolescents
Subject	The administration, management and monitoring of blood products to infants, children and adolescents
Keywords	Blood, blood products, transfusion, paediatrics, administration
<p>Related Legislation (including OHS legislation), Australian Standards, NSW Health Policy or Circular, other HNEH Documents, Professional Guidelines, Codes of Practice or Ethics:</p> <ul style="list-style-type: none"> • HNE Blood and Blood Product Transfusion PCP, 2009 • Kaleidoscope Procedure 13.28 Administration of Blood Products. April 2007 • NSW Health. PD 2005_261 Blood – Fresh Components - Management • NSW Health. PD2005_406. Consent to Medical Treatment. • NSW Health. GL2007_001. Neonatal Exchange Transfusions in NSW. 	
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<p>Summary This PCP provides guidelines on compliance with NHMRC/national clinical practice guidelines and standards for the safe and appropriate use of all blood products in paediatric patients.</p>	
Distribution:	All Clinical Areas Kaleidoscope; JHH Emergency, Intensive Care, Operating Theatres/Recovery; Children Young People & Families Clinical Network (CYP&FCN) Stream Leaders; Paediatric Clinical Practice Manuals and NUMs Maitland, Manning, Armidale and Tamworth Paediatric Units, Emergency, High Dependency Units, Operating Theatres/Recovery
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Contents	Page
INTRODUCTION and PURPOSE	3
Part 1 General Considerations	3
1) The Neonate	4
2) Obligations for Credentialing, Education, Training and Audit	4
3) Credentialing of Staff	4
3.1 Credentialing of Nursing Staff.	4
3.2 Credentialing of Medical Staff	5
4) Availability of Resources, Policy Compliance Procedure and Administration Guidelines	5
Part 2 Transfusion Procedures	5
1) Pre-Transfusion Testing	5
2) Consent	6
3) Administration	6
4) Neonatal and Paediatric Infusion rates	7
5) Observations	7
6) Adverse Events	8
7) Implementation and Communication Plan	8
8) Monitoring of compliance	8
9) References	8

INTRODUCTION

This policy compliance procedure provides guidance in areas central to the provision of transfusion therapy to neonatal and paediatric patients and covers the commonly used fresh blood components including red blood cells, platelets, fresh frozen plasma and cryoprecipitate.

PURPOSE

Transfusion therapy is an integral part of health care throughout NSW. Transfusion is a vital function of the health system and adherence to certain procedures is required to ensure the safety of blood recipients.

In addition, as blood is a precious resource it should be used appropriately according to established clinical guidelines.

Fatal and severe transfusion reactions can occur if the correct procedures are not followed. The following Policy Compliance Procedure incorporates PD 2005_261 Blood - Fresh Components - Management and consent provisions of PD 2005_406 Consent to Medical Treatment - Patient Information, relating to Transfusion. It includes the procedures to be followed in order to comply with both Policy Directives.

This policy compliance procedure (PCP) has been developed for use by all clinicians, hospital transfusion service staff and health service managers in Hunter New England Health Area Service (HNE Health) involved in the collection, storage and transfusion of fresh blood and blood components **specifically involving paediatric and neonatal patients.**

It sets out the mandatory requirements for those health care facilities providing transfusion therapy and includes mandatory requirements and additional information on better practice for the management of fresh blood components.

The policy compliance procedure supports the use of a clinical tool (Paediatric / Neonatal Blood Product Administration Form – number yet assigned), which assists HNE Health clinicians in decisions about transfusion practices, and complies with National Health and Medical Research Council (NHMRC) and Australian and New Zealand Society of Blood Transfusion (ANZSBT) Guidelines, National Pathology Accreditation Advisory Council (NPAAC) Standards and NSW Health PD 2005_261/261 Blood - Fresh Components - Management and consent provisions of PD 2005_406 relating to Transfusion Management.

Compliance with this procedure is mandatory

For specific information on safe blood use of blood products refer to:

Flippin' blood – South Australian Department of Health and Australian Red Cross
<http://www.health.sa.gov.au/bloodsafe/Portals/0/flippn'bloodchartSept06.pdf>

Kaleidoscope / John Hunter Hospital guideline is available on
http://www.kaleidoscope.org.au/docs/P_AdministrationBloodProducts.pdf

Kaleidoscope John Hunter Hospital Neonate guideline
http://www.kaleidoscope.org.au/docs/GL_BloodProducts_NICU.pdf

PART 1: GENERAL CONSIDERATIONS

1. The Neonate (up to 4 months post birth.)

- 1.1. Rarely a neonate will require an exchange transfusion.
- 1.2. The on-call neonatologist at a tertiary centre (John Hunter Children's Hospital) **MUST** be contacted if considering an exchange transfusion (NSW Health GL2007_001).
- 1.3. If transfer of the baby is contemplated, that discussion should occur via the NSW newborn and paediatric Emergency Transport Service (NETS) Clinical Coordination Centre: 1300 362500.
- 1.4. All blood transfusion to neonates should be with blood that is <5 days old, CMV Negative and irradiated. If there are any concerns please contact the on-call neonatologist at a tertiary centre (John Hunter Children's Hospital).

2. Obligations for Credentialing, Education, Training, and Audit

Each health care facility that has transfusion therapy must establish a process for the review of transfusion issues. This is coordinated through the HNE Health Area Transfusion Committee. A specific committee such as a hospital transfusion committee may be formed but is required to report to the Area Transfusion Committee in relation to audit activities. Local processes that are responsible for education (including training for the transfusion verification procedure), monitoring and quality improvement in the care of blood and transfusion practices must be in place.

There is a HNE Health Transfusion Website linked to the HNE Health Clinical Governance website which contains extensive reference material and is regularly maintained and updated.

3. Credentialing of Staff

3.1) Credentialing of Nursing Staff

There are two levels of credentialing for nursing staff.

Level 1 credentialing is for all staff who participate in the blood transfusion process. Level 1 Credentialing is defined as satisfactory completion of the online BloodSafe® course. All new staff should complete this training within one calendar month of starting work and/or furnish evidence of previous completion. The BloodSafe® e-learning package is found on the HNE Health Blood Transfusion web pages.

Level 2 credentialing is for staff who participate in obtaining consent at sites and at times when no medical officer is available. It is also for staff who participate in the verification and administration of blood components to patients. It is achieved on completion of the online education package found on the HNE Health Blood Transfusion website called BloodSafe Nursing Clinical Applications. It is planned to be available by December, 2010

Nurse unit managers/nurse educators are required to keep a record of credentialed nursing staff, and this should be available at all times for viewing. The record should be in the MyLink™ Learning portal of the Intranet, or include a photocopy of the completion certificate for each of the education packages. It is to be renewed every two years.

3.2) Credentialing of Medical Staff

There are two levels of credentialing for medical staff.

All medical staff who prescribe blood products are required to satisfactorily complete both **Level 1** BloodSafe course and **Level 2** BloodSafe Medical Clinical Applications within one month of starting employment in HNE Health. The record of credentialing is to be available and maintained by Medical Workforce. The level 2 BloodSafe Medical Clinical Applications is planned to be available by December, 2010.

4) Availability of Resources, Policy Compliance Procedure and Administration Guidelines

Clinical unit managers are responsible for ensuring the most current copies of the following documents are readily available to staff in hard copy or electronically:

- HNE Health Policy Compliance Procedures on Blood and Blood Products
- Department of Health South Australia / Australian Red Cross Blood Service 'flippin blood'
- The BloodSafe e-Learning Tool.
- Australian and New Zealand Society of Blood Transfusion (ANZSBT)/ Royal College of Nursing 'Guidelines for the Administration of Blood Components'.
- The NHMRC/ANZSBT Guidelines For Pre Transfusion Testing
- The NHMRC [Clinical Practice Guidelines on the Use of Blood Components](#). The NPAAC Standards "Requirements for Transfusion Laboratory Practice"
- HNE Health Guidelines for Paediatric Transfusion (under development)

These documents can be accessed on the HNE Health Blood Transfusion web pages:
http://intranet.hne.health.nsw.gov.au/cg/clinical_practice/blood_transfusion

PART 2: TRANSFUSION PROCEDURES

1 Pre-Transfusion Testing

1.1 Handwritten onto all blood tubes for pre-transfusion testing must be:

- patient's full surname,
- first name,
- medical record number,
- date of birth,
- ward,
- time / date of collection
- initials of collector.

1.2 Neonates

- If a neonate, "Baby of" can be written as B/O and the mother's full name
- If a twin please write "TWIN 1" or "Twin 2" (NOT i or ii).

1.3 The time on the tube must match the time on the pre-transfusion form signed by the collector and the witness who must be present throughout the procedure.

2 Consent

In circumstances where transfusion is required immediately for the purpose of preventing imminent death or serious harm and the patient and carers or family are not in a position to consent, then this is deemed an Emergency Transfusion. The most senior clinician is authorised to approve transfusion under emergency provisions. Situations of Emergency Transfusion would include but not be limited to intra-operative bleeding, acute severe haemorrhage and shock following trauma and other causes of bleeding. Once a patient or their appropriate next of kin are in a position to consent or refuse consent then informed consent is required. Situations requiring consent include awake post-operative patients and haemodynamically stable intensive care patients.

Parents and Guardians of minors do not have the right to refuse Emergency Transfusion. This is covered under 'special medical treatment' provisions section 28. PD2005_406. They do however have the right to refuse consent for transfusion if death or serious harm is not likely to occur as a result of the refusal.

- 2.1 Written Consent for the use of blood products must be obtained by the medical officer from the legal guardian or parent, and documented in the file. There must be an explanation of the potential risks and benefits of blood product therapy to the patient/family. Consent for patients who have ongoing requirements for blood product transfusion needs to be obtained for the initial transfusion and is current for a period of twelve months.
- 2.2 Paediatric / Neonatal Blood & Blood Products Transfusion Form (number not yet assigned) should be used for neonatal and paediatric patients. (Form currently under review).

3 Administration

In the presence of the patient, two staff members, a registered nurse plus another member of the clinical care team (for example, an enrolled nurse or medical officer) must independently confirm the details of the patient's identity, the blood pack and the accompanying documentation when the transfusion is being setup. The two staff members must have knowledge of the transfusion verification procedure and the patient, parent or guardian must be involved, as appropriate.

- 3.1 Check the following patient and blood pack details against the transfusion request form and the medical order.
 - Patient's name and medical record number agree on wristband, blood pack and forms
 - Patients blood group, (including ABO/Rh) CMV/ Irradiation status
 - Pack details, including pack number, blood group (including ABO/Rh) CMV/Irradiation status, and expiry date.
 - In the event of any discrepancies do not use the blood product. Notify the transfusion laboratory and if unresolved arrange for the blood to be returned immediately to the laboratory..
- 3.2 **Commence transfusion according to the medical order**
 - **Confirm there is a valid order, consent and indication for transfusion that meets the NHMRC/ANZSBT guideline. If not then the transfusion should not proceed**
 - Paediatric / Neonatal Blood & Blood Products Transfusion Form (number not yet assigned)
 - **Laboratory Blood Release form (provided with the blood product).**
- 3.3 If the patient has a temperature $>38^{\circ}\text{C}$, check with the MO as to whether the transfusion should be delayed.

- 3.4 All blood products for neonatal and paediatric patients must be transfused via a giving set containing a 170-200 micron filter and infusion pump with the exception of Stem Cells used for Autologous Transplantation which is unfiltered. Most standard giving sets contain appropriate filters. The FNC1119 Baxter® Continuous – Flo Blood/Solution set currently in use has a 200 micron filter. The ME-B8050 REM® Neonatal Blood Set contains a 180 micron filter. Note neonates are given all blood products via a syringe driver
- 3.5 Blood products **must** be transfused via a new infusion set primed with 0.9% normal saline, **NOT** an infusion set that has had drugs or other solutions infused through it.
- 3.6 Infusion sets suitable for the administration of blood or blood products should be changed after every 2nd unit of blood, or if more than 4 hours elapses between units, and on the completion of the therapy.
- 3.7 The use of interlink connectors are suitable for blood product infusions.
- 3.8 Prime the giving set with 0.9% Normal Saline.
- 3.9 Commence the transfusion within 30 minutes of the blood product arriving to the ward.
- 3.10 The rate of infusion may vary according to the patient's medical condition and the medical orders, but must not be longer than four (4) hours per unit of packed cells. This time commences when the blood left the laboratory or blood fridge.
- 3.11 Any part of a unit of packed cells that has not been transfused within four (4) hours must be discarded because of the high risk of bacterial contamination in blood that has been un-refrigerated for longer than 4 hours.
- 3.12 If both packed cells and platelets are required, where possible give the platelets first.
- 3.13 The volume of a unit of packed red cells is written on the bag label – record this on patient fluid balance.

4 Neonatal and Paediatric Infusion rates

- 4.1 Will be calculated and ordered by the medical officer.
- 4.2 Volumes and rates are weight based for neonatal and paediatric patients.
- 4.3 For overweight paediatric patients, consider using ideal body weight.

5 Observations

- 5.1 Record baseline temperature (T), pulse (P), respirations (R) and blood pressure (BP).
- 5.2 Continuous oxygen saturation monitoring may be required.
- 5.3 Observe over fifteen (15) minutes; repeat TPR and BP, then hourly for each unit and an hour post transfusion.
- 5.4 Monitor the patient visually and frequently. Record TPR and BP if any concerns / change in condition. Request medical review if indicated.
- 5.5 Document all observations on Form Paediatric / Neonatal Blood & Blood Products Transfusion Form (number not yet assigned)

6 Adverse events

- 6.1 The staff member responsible for completing the transfusion will report any adverse events. This will include IIMS and the completion of the declaration on page 3 of Paediatric / Neonatal Blood & Blood Products Transfusion Form (number not yet assigned)
- 6.2 The staff member administering the transfusion is responsible for notifying the medical officer of an adverse event and stopping the transfusion.
- 6.3 Adverse events will be managed according to section H of the ANZSBT/College of Nursing Guidelines for the Administration of Blood Components, October 2004.
- 6.4 The Medical Emergency response team is to be called if the patient is shocked or hypoxic.

7 Implementation and Communication Plan

In addition to inclusion on the Intranet, to achieve maximum awareness of this new Policy, it is intended that relevant senior managers will be advised of its existence via direct email. Targeted distribution to identified stakeholders will also occur. Information about the new policy will also be promoted through The Latest, articles in HNE Health Matters as well as Kaleidoscoop (Child Health newsletter), and staff forums and education days.

8 Monitoring of compliance

- 8.1 Compliance will be monitored by the Clinical Nurse Consultant / Educator Oncology and the Northern and Southern Clinical Nurse Consultant Transfusion Practice, in conjunction with the Paediatric Haematologist and reported to Area Transfusion Committee and the Children Young People & Families Clinical Network who will report to Area Executive Team.
- 8.2 IIMS reports for paediatric inpatients will be monitored for any increase or decrease in incident activity at facilities.
- 8.3 Complaint Performance Indicators.

9 References

- Administration of Blood and Blood Products in the Neonate. Kaleidoscope. February 2008
- Administration of Blood and Blood Products in the Paediatric Patient. Kaleidoscope. April 2007. Procedure 13.28
http://www.kaleidoscope.org.au/docs/P_AdministrationBloodProducts.pdf
- ANZSBT/College of Nursing Guidelines for the administration of blood components' October 2004.
- Flippin' blood – South Australian Department of Health and Australian Red Cross. August 2006. <http://www.health.sa.gov.au/bloodsafe/Portals/0/flippn'bloodchartSept06.pdf>
- NSW Health GL2007_001 Neonatal Exchange Transfusion in NSW
http://www.health.nsw.gov.au/policies/gl/2007/GL2007_001.html
- PCP 5-5.6.4 http://www.kaleidoscope.org.au/docs/GL_BloodProducts_NICU.pdf