



Pulmonary Haemorrhage

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NETS WA

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

Aim

Summarize the transport considerations for the safe retrieval of neonates with pulmonary hemorrhage

Risk

Delays in recognition and/or management can place neonates at increased risk of deterioration and adverse events. A standardized approach to assessment and management aims to minimize these risks including, but not limited to, severe hemodynamic compromise, and increased morbidity and mortality.

Key points

- Neonates who present with pulmonary haemorrhage are critically ill and require appropriate and urgent resuscitation, refer to [Neonatal Resuscitation](#) and [Recognising and Responding to Clinical Deterioration](#).
- It is a form of fulminant lung oedema with leakage of red blood cells and capillary filtrate into lungs.
- Presents as frank oro-nasal or ETT bleeding or increasing requirement for respiratory support and oxygen with concomitant X-ray changes.
- Usually complicates other significant disease process e.g. HMD, Meconium aspiration, birth asphyxia, sepsis, coagulopathy, patent ductus arteriosus.
- Rarely as part of bleeding diathesis.

Risk Factors

- Prematurity / Lower birth weight
- Overwhelming sepsis
- Hypoxia
- Left-right shunts causing increased pulmonary flow
- Surfactant administration
- Severe RDS
- Coagulopathy

Investigations

- Check full blood picture, coagulation screen, Liver Function Tests
- Blood group and cross match (Mother and Baby's blood).
 - Newborn Screening Test if likely to require blood product administration
 - Obtain verbal/written consent for emergency blood transfusion
- Check Arterial Blood Gas, biochemistry
- Chest X-ray: often shows a white-out
- Assess for [Sepsis](#)


Management

- **Always consider taking nitric oxide on retrievals** (refer to [NETS Persistent Pulmonary Hypertension in the Newborn \(PPHN\)](#) for use of iNO during retrievals)
- Follow principles of Resuscitation – ‘ABC’
- May require ventilation. Use higher PEEP (6-7cmH₂O). Maintain normal SPO₂. Consider [surfactant administration](#) after **discussion with the on-call neonatologist**.
- If unresponsive to conventional ventilation, consider [High Frequency Oscillatory Ventilation](#) where available
- Consider sedatives / paralytics: discuss with the on-call neonatologist.
- Avoid unnecessary ETT suctioning. Do not attempt replacing ETT unless unavoidable.
- Obtain adequate peripheral/central access. Volume expansion may be indicated. **Avoid over-vigorous fluid administration, which can worsen the condition.** In cases where volume overload (e.g. large PDA in preterm infant) is thought to be contributing to pulmonary haemorrhage, consider dose of [Frusemide](#).
- Correct acidosis and restore hemodynamic stability by use of blood products and/or inotropes: **discuss with the on-call neonatologist**.

- May need to reconsider therapeutic hypothermia in severe uncontrolled coagulopathy.
- Ensure [Vitamin K](#) (consent required) and IV antibiotics have been given.

Related CAHS internal policies, procedures and guidelines
<p>Neonatal Guidelines</p> <ul style="list-style-type: none"> • High Frequency Oscillatory Ventilation • Neonatal Resuscitation • Pulmonary Haemorrhage • Recognising and Responding to Clinical Deterioration • Surfactant Therapy <p>NETS Guidelines</p> <ul style="list-style-type: none"> • Persistent Pulmonary Hypertension in the Newborn (PPHN) • Sepsis <p>NHMRC - Vitamin K information for parents</p>

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

Document Owner:	Neonatology		
Reviewer / Team:	NETS WA		
Date First Issued:	August 2009	Last Reviewed:	September 2021
Amendment Dates:		Next Review Date:	11 th October 2024
Approved by:	Neonatology Coordinating Group	Date:	11 th October 2021
Endorsed by:	Neonatology Coordinating Group		
Standards Applicable:	NSQHS Standards:  Child Safe Standards: 1,10		

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