OBSTETRICS AND GYNAECOLOGY
CLINICAL PRACTICE GUIDELINE

Neonatal screening for haemoglobin disorders

Scope (Staff):	WNHS Obstetrics and Gynaecology Directorate staff
Scope (Area):	Obstetrics and Gynaecology Directorate clinical areas at KEMH

This document should be read in conjunction with this Disclaimer

Aim

Appropriate collection of cord blood samples for neonates identified as “at risk” of a clinically significant haemoglobin disorder.

- To identify the risk of a couple having an affected child, and
- To enable informed choice surrounding decision making

Background information

WNHS aims to identify all women with a haemoglobin disorder (such as thalassemia and/or sickle cell disease) and screen all neonates at risk of a clinically significant haemoglobin disorder during the antenatal period.

For further information refer to WNHS Clinical Practice Guideline: Obstetrics and Gynaecology: Haemoglobinopathy Screening in Pregnancy.

A patient information sheet on Sickle Cell Disease is available at Patient.Info (external website)

Neonatal screening for haemoglobin disorders

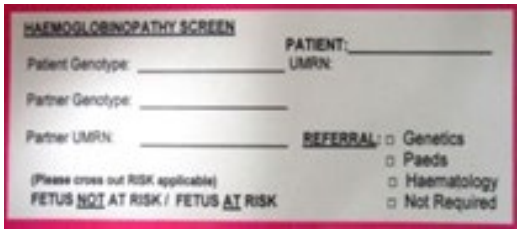
If the fetus is determined to be at risk of the following haemoglobin disorders:

- Beta thalassaemia major
- Alpha thalassaemia eg Haemoglobin H disease
- Haemoglobin E/Beta thalassaemia
- Sickle Cell disease

	Sickle Cell Disease	Haemoglobinopathy screening	Neonatal significant haemoglobin disorders
Which neonates to screen:	Neonates born at WNHS to women of African origin with: • Unknown sickle cell status or • Sickle cell trait / sickle cell disease	Neonates where: • both parents are of African origin, or • one parent is known to have sickle cell trait and the other has not been screened (regardless of ethnicity)	Neonates determined to be at risk of: • Beta thalassaemia major • Haemoglobin H disease • Haemoglobin E/Beta thalassaemia • Some Alpha thalassaemias
On the request form, tick the:	Exclude sickle cell disease box	Exclude sickle cell disease box	Exclude other significant haemoglobinopathy box
Special requirements		NB: Routine screening is directed ONLY at sickle cell disease. Cord blood for haemoglobinopathy screening is only collected from babies born at KEMH.	The form must be completed by a member of the Paediatric, Haematology or Genetic Department. Specify the maternal and paternal globin gene abnormalities (genotype) if this information is available. This is to assist in directing appropriate laboratory testing

Procedure

A completed Haemoglobinopathy Screen sticker on the Obstetric Special Instruction sheet (MR 004) will show maternal and paternal genotypes if testing is completed.

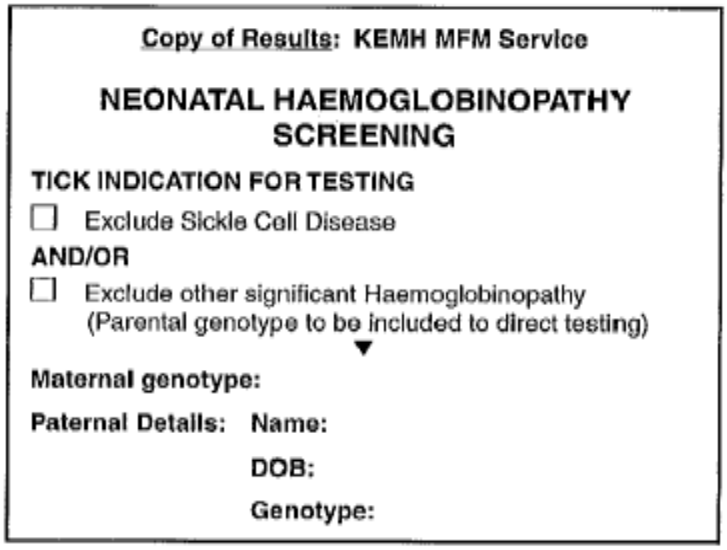


- The MR036 Haemoglobinopathy Management Plan will be completed and uploaded into the Digital Medical Record (DMR) by the Clinical Nurse Consultant, Patient Blood Management (CNC PBM)

- If a Neonatal Management Plan (NMP) is required a blue sticker will be on the MR 004
- The NMP will be sent to neonates and MFM and uploaded to DMR
- If no plan in DMR, contact CNC PBM
- A copy with the blood request form will be in the labour and birth suite reception office

Sampling:

- If a sample is required for haemoglobinopathy studies, collect an extra cord EDTA sample (minimum sample required is 0.5mL). NB: the cord EDTA sample sent to Blood Bank cannot be used for haemoglobinopathy testing.
- If no cord sample is available collect a peripheral blood sample (heel stab). See WNHS Clinical Guideline: Neonatal Care: Capillary Blood Collection.
- Label the sample with the neonate's details.
- Use the CPOE 'down-time' Pathology request form (yellow) with the "Neonatal Haemoglobinopathy Screening" sticker supplied with the neonatal management plan. Send the specimen to KEMH pathology.
- Document in the maternal record and neonatal history chart (MR 410) that a sample has been collected (for either Sickle Cell Disease, haemoglobinopathy screening or neonatal significant haemoglobin disorders testing)



Copy of Results: KEMH MFM Service

NEONATAL HAEMOGLOBINOPATHY SCREENING

TICK INDICATION FOR TESTING

☐ Exclude Sickle Cell Disease

AND/OR

☐ Exclude other significant Haemoglobinopathy
(Parental genotype to be included to direct testing)

Maternal genotype:

Paternal Details: **Name:**

DOB:

Genotype:

Results

If the haemoglobin studies results indicate a Sickle Cell Disease or significant haemoglobinopathy, PathWest will notify the Perth Children's Hospital Haematology Department and they will make the necessary arrangements to review the neonate.

Recommend for GP to follow up results with PathWest QE2 laboratory in 1-2 weeks.

References and resources

Bibliography

Bain B. Haemoglobinopathy Diagnosis 2nd ed.. Blackwell Publishing, Oxford, UK 2006.

Tan YL and Kidson Gerber G. Antenatal haemoglobinopathy screening in Australia. MJA 2016; 204; 6: 226 – 231

Ryan K. et al. and On behalf of the British Committee for Standards in Haematology (2010), Significant haemoglobinopathies: guidelines for screening and diagnosis. British Journal of Haematology, 149: 35–49. doi:10.1111/j.1365-2141.2009.08054.x

Related WNHS policies, procedures and guidelines

WNHS Clinical Guidelines, Obstetrics and Gynaecology:

- Antenatal Care: Haemoglobinopathy Screening in Pregnancy
- Labour and Birth guidelines- Cord blood collection
- Neonatal Care: Capillary Blood Collection
- Perioperative- Autologous Cord Blood Cell (Cellcare)

CAHS Neonatal guidelines for blood collection

Keywords:	haemoglobinopathy, neonatal blood screening, haemoglobin studies, thalassaemia trait, sickle cell trait, HbH disease, indigenous African		
Document owner:	Obstetrics and Gynaecology Directorate		
Author / Reviewer:	O&G Evidence Based Clinical Guidelines		
Date first issued:	July 2017 (see version history below for superseded guidelines)		
Reviewed dates: (since Jul 2017)	04 06 2024	Next review date:	11 06 2027
Endorsed by:	WNHS Blood Management Committee	Date:	11 06 2024
NSQHS Standards (v2) applicable:	☒ 1: Clinical Governance ☐ 2: Partnering with Consumers ☐ 3: Preventing and Controlling Healthcare Associated Infection ☐ 4: Medication Safety	☐ 5: Comprehensive Care ☐ 6: Communicating for Safety ☒ 7: Blood Management ☐ 8: Recognising and Responding to Acute Deterioration	

Printed or personally saved electronic copies of this document are considered uncontrolled. Access the current version from WNHS HealthPoint.

Version history

Version number	Date	Summary
1	July 2017	**History**: In Jul 2017 amalgamated three individual guidelines on cord blood screening. **Supersedes**: 1. Cord Blood for Neonatal Haemoglobinopathy Screening: Collection of (B5.14.5) 2. Cord Blood Screening Program for Sickle Cell Disease (B5.14.5.1) 3. Cord Blood for Neonatal Haemoglobinopathies (Other Significant) (B5.14.5.2) **Changes**: Due to changes in migration patterns, sickle cell disease also occurs in women of Afro-American, Afro-Caribbean and Central/South American origin
2	June 2024	• Content condensed into summative table • Testing- added some alpha thalassaemias • DMR changes added. The MR036 Haemoglobinopathy Management Plan will be completed and uploaded by the CNC PBM and available in the DMR and will state if a neonatal management plan has been completed or not. • If a Neonatal Management Plan has been created to test cord bloods for haemoglobinopathies then this plan will be in the DMR, available through Neonatology and MFM, and a Blue sticker will also be on the MR004 “Neonatal Management Plan.

This document can be made available in alternative formats on request for a person with a disability.

www.nmhs.health.wa.gov.au