Trust Guideline for the Screening and Management of Retinopathy of Prematurity

Document Control:

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V1.0	30/8/18	David Booth Narman Puvanachandra	Change in national guidelines
V4.0	July 2023	Nimesha Alex Narman Puvanachandra	Document transferred to new Joint Procedural Document Template
V5.0			

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

The following were consulted during the development of this document:

- Mr Milind Kulkarni, Clinical Director
- Neonatal Unit Guideline Development Meeting

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to Norfolk and Norwich University Hospitals (NNUH); please refer to local Trust's procedural documents for further guidance.

Guidance Note

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document**.**

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Contents Page

Quick reference guideline

Who should be screened?

All babies less than 31 weeks gestational age (up to 30 weeks and 6 days) **or** less than 1501g birth weight should be screened for retinopathy of prematurity (ROP).

Screening protocol

Consider in 3 groups based on gestational age:

	< 31 weeks	**≥31 weeks, with low birth weight (<1501g)**
Timing of 1st ROP screening examination	Between 31 & 31+6-weeks postmenstrual age OR At 4 completed weeks (28-34 days) Whichever is later	36 weeks postmenstrual age OR at 4 completed weeks (28-34 days) Whichever is earlier
Subsequent screening (minimum frequency)	Every 2 weeks until the criteria for termination of screening have been reached or criteria for weekly screening have been reached.	
Criteria for weekly screening	• the vessels end in zone I or posterior zone II with or without any stage ROP; or • there is any plus or pre-plus disease or • there is stage 3 disease in zone II or III	

1. Introduction

1.1. Rationale

Retinopathy of prematurity (ROP) is one of the few causes of childhood visual disability which is largely preventable. Many extremely preterm babies will develop some degree of ROP, although in the majority this never progresses beyond mild disease which resolves spontaneously without treatment. A small proportion will develop potentially severe ROP which can be detected through retinal screening. If untreated, severe disease can result in serious vision impairment and consequently all babies at risk of sight-threatening ROP should be screened.

Recommendations within this guideline are evidence-based where evidence exists. Some of the recommendations are based on 'good practice points' that have been recommended by the Guideline Development Group responsible for the UK National Guideline for the Screening and Treatment of ROP (1).

1.2. Objectives

The aim of this guideline is to consolidate existing arrangements and establish a local intranet accessible policy for the screening and management of retinopathy of prematurity in the babies cared for on the neonatal intensive care unit (NICU), in agreement with new national guidance on this subject (1).

1.3. Scope

1.3.1. Who should be screened?

All babies less than 31 weeks gestational age (up to 30 weeks and 6 days) **or** less than 1501g birth weight should be screened for retinopathy of prematurity (ROP).

1.3.2. Screening protocol

Consider in 3 groups based on gestational age:

	< 31 weeks	**≥31 weeks, with low birth weight (<1501g)**
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1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
NNUH	Norfolk and Norwich University Hospitals
ROP	Retinopathy of prematurity
NICU	Neonatal Intensive Care Unit
EIA	Equality Impact Assessment

1. Responsibilities

David Booth, Consultant Neonatologist
Narman Puvanachandra, Consultant Ophthalmic Surgeon
Nimesha Elizabeth Alex, Ophthalmology Specialist Trainee

2. Processes to be followed.

2.1. Preparation for Screening

Babies should have 1 drop of cyclopentolate 0.5% and 1 drop of phenylephrine 2.5% in each eye 30 minutes prior to the planned examination. As a speculum/indentation is often necessary to visualize the periphery of the retina, it is good practice to give analgesia in the form of sucrose to the baby immediately before the speculum/indentation (see Guideline number Trust Doc ID: 1511 – Procedural pain in neonates).

2.2. Termination of Screening

When can screening be stopped?

	Babies without ROP	Babies with ROP (Which does not meet criteria for treatment)
When can screening be stopped?	When retinal vascularization has extended into Zone 3, which is usually after 36 completed weeks postmenstrual age	When any of the following characteristics of regression are seen on at least 2 successive examinations: • Lack of increase in severity. • Partial resolution progressing towards complete resolution. • Change in color in the ridge from salmon pink to white. • Transgression of vessels through the demarcation line. • Commencement of the process of replacement of active • ROP lesions by scar tissue.

2.3. ROP Treatment

2.3.1. Criteria for treatment:

Treatment for ROP should be undertaken if any of the following indications are reached:

- Zone I, any ROP with plus disease.
- Zone I, stage 3 without plus disease.
- Zone II, stage 2/ 3 with plus disease.
- A-ROP (Aggressive ROP).

Treatment for ROP should be seriously considered if the following indication is reached:

- Zone II, stage 2 with plus disease.

2.3.2. When should treatment be initiated?

APROP **-**ASAP, within 48hrs
Zone1 Stage 3 plus

All other within 48-72 hours.

2.3.3. Where should treatment be carried out?

Severe ROP requiring treatment is relatively infrequent. It is recommended that each Neonatal Network has individuals identified who performs ROP treatment (1).

Babies from the Norfolk and Norwich University Hospital (NNUH) with ROP requiring treatment can be undertaken at the Norfolk & Norwich, including laser and intravitreal anti-VEGF injection either on SCBU or in theatre depending on treatment and age of child.

2.3.4. Review of babies after ROP treatment

Post operative review will continue to take place at NNUH. The 1st examination post treatment should take place within 1 week of treatment and should be continued at least weekly for signs of decreasing activity and regression.

Post intravitreal injection, review is done day one post op and then one week checking for decrease in activity and regression.

Re-treatment is indicated if there is demonstrable failure of the ROP to regress after initial treatment. It is recommended that re-treatment should be performed within 14 days after initial treatment for laser and 5 days after for intravitreal injection.

2.4. Recording the Results of a Screening Examination

Appendix 1 is a standardized examination record sheet that should be used for each baby. This sheet should be printed off and placed in the ROP folder. In addition, this is recorded on BadgerNet.

2.5. Parental Communication

In addition to verbal communication, parents of babies undergoing ROP screening should be given a copy of the information leaflet contained in Appendix 2. Parents of babies undergoing treatment should be given a copy of the information leaflet contained in Appendix 3.

2.6. Transfer or Discharge

If babies are transferred to another neonatal unit, either before ROP screening is initiated or when it has been started but not completed, it is the responsibility of the neonatal team at NNUH to ensure the neonatal team in the receiving unit is aware of the need to start or continue ROP screening. This should usually be achieved via clear documentation in the transfer letter and recording on Badger Net.

For babies discharged home, it is the responsibility of the neonatal team to inform the parents of the importance of continuing ophthalmic follow up and to arrange for ongoing ROP screening. Follow up appointments must be made prior to discharge home.

2.7. Record of ROP Screening

A stand-alone written record of all babies who require review is kept on the neonatal unit and should also contain a summary of arrangements for their follow up. In addition, this is also recorded on Badger Net (national database)

3. Related Documents

Retinopathy of Prematurity Examination Recording Form – Trust Doc ID: 22974

Parent Information Leaflet – Screening for ROP - paper copies are available on NICU – Trust Doc ID : 22972

Parent Information Leaflet: Treatment of ROP –Trust Doc ID: 22973

4. References

1)Guideline for the Screening and Treatment of Retinopathy of Prematurity March 2022, Royal College of Pediatrics and Child Health and Royal College of Ophthalmologists
https://www.rcpch.ac.uk/sites/default/files/2022-12/FC61116_Retinopathy_Guidelines_14.12.22.pdf

2)Retinopathy of Prematurity | National Eye Institute (nih.gov)

5. Audit of service to be delivered.

5.1. Audit standard

- Completeness of screening: All babies less than 31 weeks gestational age or less than 1501g birth weight should have at least one screening examination for ROP.
- Timing of screening: All babies who need ROP screening should have it at the appropriate time.
- Parent information: All parents should be offered verbal and written information about screening.
- Transfer or discharge: All babies transferred or discharged should have adequate arrangements for follow up arranged prior to discharge.
- ROP Treatment: All babies who require treatment should be treated within 48-72 hours of the decision to treat.

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
All Babies screened & on time	National Audit	Paeds	Paeds SCBU	Yearly
ROP treatment within 48-72 hours	Local Audit	Paeds Ophth	Paeds Ophth	Yearly

The audit results are to be discussed at relevant governance meetings at NNUH and to review the results and recommendations for further action. Then sent to NNUH clinical governance committee who will ensure that the actions and recommendations are suitable and sufficient.

1. Appendices

5.2. Appendix 1: Retinopathy of Prematurity Examination Recording Form – Trust Doc ID: 22974

5.3. Appendix 2: Parent Information Leaflet – Screening for ROP - paper copies are available on NICU – Trust Doc ID : 22972

5.4. Appendix 3: Parent Information Leaflet: Treatment of ROP –Trust Doc ID: 22973

6. Equality Impact Assessment (EIA)

Type of function or policy	Not applicable

Division		**Department**	Ophthalmologist
Name of person completing form	Narman Puvanachandra	**Date**	October 2023

Equality Area	**Potential** **Negative Impact**	**Impact** **Positive Impact**	**Which groups are affected**	**Full Impact Assessment Required** **YES/NO**
Race	Not Applicable			
Pregnancy & Maternity	Not Applicable			
Disability	Not Applicable			
Religion and beliefs	Not Applicable			
Sex	Not Applicable			
Gender reassignment	Not Applicable			
Sexual Orientation	Not Applicable			
Age	Not Applicable			
Marriage & Civil Partnership	Not Applicable			
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?				

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**

• **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service** • **The policy or function/service is assessed to be of high significance**
IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED
The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.