



## Children's Health Ireland Nursing Practice Guideline on Eye Examination for Retinopathy of Prematurity in the OPD

<b>Area of use:</b>	All of organisation <input checked="" type="checkbox"/>	CHI at Connolly <input type="checkbox"/>		CHI at Crumlin <input type="checkbox"/>
		CHI at Tallaght <input type="checkbox"/>		CHI at Temple Street <input type="checkbox"/>
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## Contents

1.0	Introduction .....	<b>Error! Bookmark not defined.</b>
2.0	Applicable to.....	3
3.0	Definition of terms.....	3
4.0	Indications for eye examination .....	<b>Error! Bookmark not defined.</b>
5.0	Procedure.....	4
6.0	Stakeholder involvement .....	7
7.0	Implementation plan .....	7
8.0	Monitoring and evaluation .....	7
9.0	References .....	8

Appendices

## 1.0 Introduction

Infants at risk of ROP require an eye examination to screen for disease requiring treatment and thereby reduce the risk of vision loss. Timing of first and subsequent screening examinations are determined by the screening criteria of the Royal College of Paediatrics and Child Health, Royal College of Ophthalmologists and British Association of Perinatal Medicine (RCPCH) (2022). [https://www.rcpch.ac.uk/sites/default/files/2022-12/FC61116\\_Retinopathy\\_Guidelines\\_14.12.22.pdf](https://www.rcpch.ac.uk/sites/default/files/2022-12/FC61116_Retinopathy_Guidelines_14.12.22.pdf)

### Complication associated with eye examination for ROP

While the procedure is **low-risk**, eye examinations for ROP can have short term effects on cardiac and respiratory functions in infants. Therefore, the examination should be kept as short as possible and precautions taken to ensure that emergency situations can be dealt with promptly and effectively (RCPCH 2008, RCHM 2023).

[https://www.rch.org.au/rchcpg/hospital\\_clinical\\_guideline\\_index/Neonatal\\_eye\\_examination\\_on\\_the\\_Newborn\\_Intensive\\_Care\\_Unit\\_Butterfly\\_Ward/](https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Neonatal_eye_examination_on_the_Newborn_Intensive_Care_Unit_Butterfly_Ward/)

### Specific Considerations

The pupils need to be dilated prior to the examination to facilitate viewing of the retina (RCPCH 2008). Eye drops to dilate the pupils are instilled as prescribed (RCPCH 2008). To ensure minimal discomfort and distress to the infant, topical local anaesthetic eye drops are instilled immediately prior to the examination. Other comforting activities such as swaddling, use of a pacifier or administering sucrose solution immediately prior to and during the examination may also be used (RCPCH 2008). The infant needs to be held securely by the assisting nurse to minimise head movement during the examination which could result in a serious eye injury (RCHM 2013). Heart rate and oxygen saturations are monitored continuously throughout examination to observe for complications.

## 2.0 Applicable to

All Nursing staff in the Ophthalmology department.

## 3.0 Definitions and Terms

**ROP:** (Retinopathy of Prematurity) is defined as a retinal vascular disease of premature infancy and, continues to be a major cause of preventable childhood visual loss (Multa & Sarici 2013, Royal Children's Hospital Melbourne (RCHM) 2023).

**OPD:** Out patients department

**Eye examinations:** are carried out to screen for ROP using a lid speculum and scleral indenter.

## 4.0 Indications for eye examination for ROP- not an exhaustive list

Infants who are developing ROP do not have symptoms, and diagnosis is dependent on an eye examination by an ophthalmologist. Therefore, infants who meet the following criteria require eye examinations:-

- Prematurity (See Appendix 1) :- Screening Protocol for Premature Infants (RCPCH 2008)
- Infants who are not premature but have other risk factors for example:
  - High carbon dioxide levels
  - Multiple spells of apnoeas / bradycardia
  - Respiratory distress
  - Intraventricular haemorrhage

- Mechanical ventilation
- Seizures
- High oxygen levels
- Anaemia
- Blood Transfusion
- Chronic Hypoxia in Utero
- Other indications for eye examinations include:
  - Infants with severe congenital abnormalities or structural abnormalities of the eye
  - Severe eye infections

(RCHM 2023)

**Contraindications of an eye examination for ROP**

If the infant is clinically unstable the procedure will need to be re-scheduled for a more appropriate time (RCHM 2023).

**Requirements**

**Equipment:**

- Blanket (to wrap infant)
- Non Sterile Gloves
- Oxygen (O2) saturations machine
- Oxygen saturations probe (age and weight appropriate)
- 28/30 Dioptre lens
- Prescription Kardex
- Eye medication (drops) (topical local anaesthetic eye drops, proxymetacaine 0.5%)
- Sterile Eye Examination Pack (Sclera Indentor, Lid Speculum, Receiver)

**5.0 Procedure**

ACTION	RATIONALE
Check the emergency resuscitation equipment prior to commencing the ROP examination	To ensure the procedure is completed with all required resuscitation equipment to ensure patient safety (Lister 2021)
Explain to the parent / guardian what will occur and why the procedure needs to be performed gaining informed consent	To inform the parent / guardian, increasing co-operation and promote understanding and trust (GOSH 2023, Lister 2021)
Ensure privacy for the patient throughout the treatment	To maintain dignity in accordance with the Prevention of abuse to children while in the care of the hospital (CHI, 2022b)
Decontaminate hands prior to the procedure at Aseptic Non Touch Technique	To reduce transfer of micro-organisms (CHI, 2022a)
Monitor and document the vital signs as per PEWS as a baseline to monitor during and following the procedure.	(CHI, 2023)
Instill the dilating eye drops as prescribed.	

<p>Check that the infants pupils are adequately dilated (approximately 30 minutes after instilling pupil dilating eye medication)</p> <p>Open and inspect the eye examination pack and sterilisation date</p> <p>Apply the required traceability label to the patient Healthcare record as per protocol. Decontaminate hands prior to the procedure as above</p> <p>Prior to the procedure: Attach the infant to the O2 saturations monitor and record the infant’s baseline observations (heart rate and oxygen saturation level as per PEWS) prior to commencing the procedure</p> <p>Wrap the infant in a blanket, the nurse holds the infant securely, positioning a hand gently on the patients head in order to hold the head securely</p> <p>Use a soother if the infant is more settled with it</p> <p>This procedure can be upsetting for the parent so advise them to leave.</p> <p>Administer Sucrose 24%w/v as prescribed and as clinically indicated (Do not administer Sucrose 24%w/v during the procedure)</p> <p>The doctor carefully instils topical local anaesthetic eye medication and then inserts the lid speculum to separate the eye lids. The doctor proceeds with the examination using the indirect ophthalmoscope, 28/30 Dioptre lens and sclera indenter to examine the retina. One eye is examined at a time.</p> <p>Reassure the patient and parent/guardian if they are present throughout and after the procedure</p> <p>Once the doctor is finished examining the eye, they will gently remove the lid speculum</p>	<p>To ensure the eye medication is working effectively and as prescribed.</p> <p>To prepare the environment and ensure the pack all parts of the pack are in working order, packaging is intact and the sterilisation date is within date so that the procedure can continue</p> <p>To reduces transfer of micro-organisms (CHI, 2022a)</p> <p>To obtain the patients baseline vital signs for which will be used and to assist in the early detection and management of the complications (RCPCH, 2022) associated with the eye examination</p> <p>To maintain the infant in a safe and secure position in order to minimise head movement and prevent any eye injury during the procedure (RCHM 2023, RCPCH 2022). To allow adequate viewing of the retina for the examination (RCHM 2013). To facilitate the smooth running of the procedure, ensure the patient is safe.</p> <p>To ensure that the infant is settled throughout the procedure and minimise head movement and prevent any eye injury during the procedure (RCHM 2013).</p> <p>As the procedure can be very upsetting to watch for parents / guardians</p> <p>As per CHI Formulary Guidelines on Clinibee</p> <p>To minimise head movement during the procedure (RCHM 2023)</p> <p>To facilitate the examination of the eye and retina</p> <p>To help maintain a trusting relationship between the child and nurse (RCPCH, 2022)</p>
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<p>Parents / guardian are asked to return to the infant at this time and are reassured and the results of the eye examination are explained</p> <p>Post procedure heart rate and oxygen saturations are recorded as per PEWS, as clinically indicated and recorded on PEWs.</p> <p>Remove the O2 saturations monitor leads</p> <p>Once the procedure is completed, the equipment (contents of the sterile eye examination pack) is sent for sterilization.</p> <p>Dispose of all equipment appropriately</p> <p>Decontaminate hands as above</p> <p>Evaluate and document the procedure in the patient nursing notes. Place the traceability sticker from the eye examination pack in the patient nursing care plan in the chart, along with the time and date of the procedure</p>	<p>To monitor the patient condition post procedure</p> <p>In accordance with hospital protocols pertaining to equipment decontamination/sterilisation</p> <p>To promote safety and prevent cross infection (As per local guidelines) To prevent cross infection</p> <p>To maintain accountability through accurate recording of nursing care (NMBI 2015) and to prevent any duplication of treatment.</p>
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## 6.0 Stakeholder involvement

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Merrin Kuravilla	Clinical Nurse Specialist, Ophthalmology	CHI Crumlin
Sonja Fitzpatrick	Divisional Nurse Manager	CHI Temple Street
Reviewed and approved at the CHI Nurse Practice Committee October 2023		
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## 7.0 Implementation Plan

### Communication and Dissemination

- Guidelines will be posted on hospital Intranet/internet and on the Qpulse systems.

### Training

Education and training will be delivered in the clinical area for nursing staff who are involved in this process.

## 8.0 Monitoring and evaluation

Monitoring of compliance is an important aspect of procedural documents. However, it is not possible to monitor all procedures.

Therefore, this guideline will be reviewed on a three yearly basis or when indicated by a change in best practice using the following methods:

- Feedback from nursing staff who provide care for infants on this guideline will contribute to ongoing guideline development.
- Monitoring Near Misses/ Adverse Incidents

## 9.0 References

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	Timing of first ROP Eye Examination	
Gestation Age (Weeks)	Post natal Weeks	Post-menstrual Weeks (Gestational age plus chronological age)
22	8	30
23	7	30
24	6	30
25	5	30
26	4	30
27	4	31
28	4	32
29	4	33
39	4	34
31	4	35