# Procedure for Eye Examination for Retinopathy of Prematurity (ROP) in the Out Patients Department (OPD)

## STANDARD OPERATING PROCEDURE

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<th>03</th>
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### Location of Copies

On Hospital Intranet and locally in the OPD

## Document Review History

<table>
<thead>
<tr>
<th>Review Date</th>
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<tbody>
<tr>
<td>August 2013</td>
<td>Nurse Practice Committee</td>
<td></td>
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<tr>
<td>January 2015</td>
<td>Nurse Practice Committee</td>
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## Document Change History

<table>
<thead>
<tr>
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<td>See parent leaflet</td>
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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) (2008).

2.0 Definition of Standard Operating Procedure

The term ‘Standard Operating Procedure’ is a way of carrying out a particular course of action and includes operations, investigations, pharmaceutical treatment, examinations and any other treatment carried out

3.0 Applicable to

All Staff in the Ophthalmology Clinic in OPD to safely prepare and care for the infant during and after their eye examination for ROP

4.0 Objectives of Standard Operating Procedure

That all staff adhere to this SOP to ensure that the eye examinations for ROP are performed safety.

5.0 Responsibilities

It is the responsibility of all Staff in the Ophthalmology Clinic in OPD to safely prepare and care for the infant during and after their eye examination for ROP

The Consultant Ophthalmologist, Ophthalmology Registrar and the Nurse OPD have a responsibility in following the process.

6.0 Definitions

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 2013, Royal Children’s Hospital Melbourne (RCHM) 2013).

OPD: Out patients department

Eye examinations: are carried out to screen for ROP using a lid speculum and scleral indenter.
7.0 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 2013).

8.0 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 approximately 30 mins prior to the examination (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 throughout examination to observe for complications.

9.0 Indications for eye examination for ROP: (This is 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, infant 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 2013)
10.0 **Contraindications of an eye examination for ROP**

If the infant is clinically unstable the procedure will need to be re-schedule for a more appropriate time (RCHM 2013).

11.0 **Procedure:**

**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)

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
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<tbody>
<tr>
<td>Check the emergency resuscitation equipment prior to commencing the ROP examination</td>
<td>To ensure the procedure is completed with all required resuscitation equipment to ensure patient safety (Dougherty &amp; Lister 2011)</td>
</tr>
<tr>
<td>Explain to the parent / guardian what will occur and why the procedure needs to be performed</td>
<td>To inform the parent / guardian, increasing co-operation and promote understanding and trust (Hockenberry and Wilson 2014, Dougherty &amp; Lister 2011, Trigg &amp; Mohammed 2010)</td>
</tr>
<tr>
<td>Ensure privacy for the patient throughout the treatment</td>
<td>To maintain dignity in accordance with the Prevention of abuse to children while in the care of the hospital (OLCHC 2014a, Office of the Minister for Children and Youth Affairs 2011)</td>
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<tr>
<td>Decontaminate hands prior to the procedure at Aseptic Non Touch Technique (ANTT) Level 2</td>
<td>To reduce transfer of micro-organisms (HSE 2009, Infection Control Department 2013, Nurse Practice Committee 2013, OLCHC 2014b)</td>
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<tr>
<td>Check that the infants pupils are adequately dilated (approximately 30 minutes after instilling pupil</td>
<td>To ensure the eye medication is working effectively and as prescribed (As per Guidelines on performing eye care (Nurse Practice Committee 2012)</td>
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<td></td>
<td>To prepare the environment and ensure the pack all parts of the pack are in working order, packaging is intact</td>
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<tr>
<td>Procedure for Eye Examination for Retinopathy of Prematurity (ROP) in the Out Patients Department (OPD)</td>
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<tr>
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- **dilating eye medication**

  Open and inspect the eye examination pack and sterilisation date
  Apply the required traceability label to the patient Healthcare record as per protocol.

- **Decontaminate hands prior to the procedure as above**

  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) prior to commencing the procedure
  - wrap the infant in a blanket, the nurse holds the infant securely, positioning a hand gently on the patient’s head in order to hold the head securely
  - use a soother if the infant is more settled with it

  Ask the parent / guardian to leave the immediately vicinity of the infants bedside as the procedure can be very upsetting to watch

  Administer Sucrose 24%w/v as prescribed and as clinically indicated (Do not administer Sucrose 24%w/v during the procedure)

  and the sterilisation date is within date so that the procedure can continue

  To reduces transfer of micro-organisms (HSE 2009, Infection Control Department 2013, Nurse Practice Committee 2013, OLCHC 2014b)

  To obtain the patients baseline vital signs for which will be used and to assist in the early detection and management of the complications (Trigg & Mohammed 2010) associated with the eye examination

  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 2013, Weate et al 2007). 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 (Trigg & Mohammed 2010)

  To ensure that the infant is settled throughout the procedure and minimise head movement and prevent any eye injury during the procedure (RCHM 2013, Weate et al 2007).

  As the procedure can be very upsetting to watch for parents / guardians

  As per Hospital Formulary (OLCHC 2012a)

  To minimise head movement during the procedure (RCHM 2013, Weate et al 2007).

  To facilitate the examination of the eye and retina

  To help maintain a trusting relationship between the child and nurse (Hockenberry and Wilson 2014)
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 Dioptrre lens and sclera indentor to examine the retina. One eye is examined at a time.

Reassure the patient and parent/guardian throughout and after the procedure

Once the doctor is finished examining the eye, s/he will gently remove the lid speculum

Parents / guardian are allowed to return to the infant at this time and are reassured and the results of the eye examination are explained

Post procedure heart rate and oxygen saturations are recorded, as clinically indicated

Remove the O2 saturations monitor leads

Once the procedure is completed, the equipment (contents of the sterile eye examination pack) is placed in the receiver. They are washed in the Sluice Room in OPD by either the Healthcare Assistance or nurse with soap and water and then sent to CSSD for cleaning and sterilisation

Dispose of all equipment appropriately

Decontaminate hands as above

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

To monitor the patient condition post procedure

In accordance with hospital protocols pertaining to equipment decontamination/sterilisation (OLCHC 2012b)

To promote safety and prevent cross infection (Department of Health & Children 2010, OLCHC 2014c)

To prevent cross infection (HSE 2009, Infection Control Department 2013, Nurse Practice Committee 2013, OLCHC 2014b)

To maintain accountability through accurate recording of nursing care (An Bord Altranais 2002, National Hospitals Office 2010) and to prevent any duplication of treatment (Dougherty & Lister 2011)
12.0 References


Health Service Executive (HSE) (2009) Health Protection Surveillance Centre (HPSC) Strategy for the Control of Antimicrobial Resistance in Ireland; Guidelines for the antimicrobial stewardship in hospitals in Ireland, HSE Dublin Ireland


Our Lady’s Children’s Hospital Crumlin (OLCHC) (2012a) Hospital Formulary, OLCHC, Dublin.

Our Lady’s Children’s Hospital Crumlin (OLCHC) (2012b) Guidelines on Cleansing and Disinfection. OLCHC, Dublin.


Our Lady’s Children’s Hospital Crumlin (OLCHC) (2014b) OLCHC Safety Statement. OLCHC: Dublin.


Royal College of Paediatrics and Child Health, Royal College of Ophthalmologists and British Association of Perinatal Medicine (RCPCH) (2008) UK Retinopathy of Prematurity Guidelines, RCPCH.


13.0 Appendix 1: Screening Protocol for Premature Infants (RCPCH 2008)

Screening Protocol for Premature Infants (RCPCH 2008)

<table>
<thead>
<tr>
<th>Gestation Age (Weeks)</th>
<th>Post natal Weeks</th>
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