



SECTION: 19 TRANSFER AND DISCHARGE

RETINOPATHY OF PREMATURITY SCREENING (ROP)

[Retinopathy of Prematurity \(ROP\)](#) (Parent Information Leaflet)

Retinopathy of prematurity (ROP) is a disorder of the eye, which results in the abnormal development of retinal blood vessels in the preterm neonate. The most significant risk factor is extreme prematurity. Those born <31 weeks or <1250g are thought to be the most at risk.

RISK FACTORS FOR DEVELOPING ROP

- Prematurity <31weeks
- Low birth weight <1250 grams
- Anaemia
- Blood transfusions
- Multiple infections
- RDS and prolonged ventilation
- High levels of oxygen given to preterm neonates used to be an important risk factor but with newer technologies and monitoring of oxygen levels, this risk factor has diminished.

SCREENING CRITERIA:

- **All neonates born <31 weeks, regardless of weight.**
- **All neonates born <1250 grams, regardless of gestation.**
- Neonates will be screened at 4 weeks of age but **no earlier** than 31 weeks corrected.
- Neonates greater than 31 weeks, born >1250g, with additional problems, will be screened at the discretion of the consultant and require a special consultation request.

Gestational age at birth	Age at First examination	
	Corrected gestation (in weeks)	Age (in weeks)
22 weeks	31	9
23 weeks	31	8
24 weeks	31	7
25 weeks	31	6
26 weeks	31	5
27 weeks	31	4
28 weeks	32	4
29 weeks	33	4
30 weeks	34	4
31 weeks	35	4
Older gestation <1250g	GA + 4 weeks	4

Adapted from American Academy of Paediatrics.

Discharge or Transfer of babies to Peripheral Hospital

1. All high risk neonates, and those born <30 weeks require a first review as an inpatient prior to transfer or discharge.
2. If ROP is seen in the first review (or any subsequent reviews), this must be discussed and cleared with the treating consultant/team and ophthalmologist prior to transfer or discharge. A priority outpatient appointment (OPA) will be made at PMH as per the ophthalmologist request.



3. If no ROP seen and the neonate is suitable for transfer to a peripheral hospital, an OPA at PMH will be arranged for 38 weeks CGA.
4. For low risk neonates (>30weeks) transferred or discharged before their first review, an OPA will be arranged for 37 weeks CGA.
5. All neonates discharged that fit the screening criteria will have at least one follow up OPA at PMH.
6. Neonates considered 'safe' by the screening ophthalmologist after the 38 week CGA review, will be given an appointment no later than 4 months from discharge.

DILACAINE

Dilacaine is used prior to examination to allow for clear examination of the fundus of the eye. Instil one drop of dilacaine to each eye 40 minutes prior to examination and then again, 35 minutes prior to examination.

[NCCU Medication Protocol - Dilacaine.](#)

The screening ophthalmologist will confirm the time on the day of examination.

RETCAM

RetCam imaging is undertaken by trained RetCam nurses. Images are taken of the retina and sent directly to an ophthalmologist for review.

- Any neonate who fits the ROP screening criteria will be screened by RetCam.
- Neonates who are clinically unstable are not imaged until deemed stable by the neonatologists – the ophthalmology team is to be informed and the neonate is to be screened at the earliest opportunity.
- The procedure itself is short and with minimal discomfort to the neonate.

PROCEDURE

- Dilacaine is instilled as per medication protocol 1hr prior to imaging.
- The neonates statistics are entered onto the system and identification checked. If previously imaged, file is retrieved and ID checked.
- Sucrose is administered and neonate securely swaddled.
- Tetracaine ([NCCU Medication protocols - Tetracaine](#)) is distilled in each eye immediately prior to the procedure to minimise discomfort.
- A speculum is used to allow a clear view of the retina with the camera lens.
- Right eye is imaged first, commencing with an iris view; then
- Polygel is administered for lubrication and to act as a bridging medium.
- Views imaged – central, nasal, temporal, inferior and superior.
- Speculum is removed, poly tears wiped away and the lense is cleaned with 2% chlorhexidine / 70% alcohol swab.
- The procedure is then repeated for the left eye.
- Once the procedure is complete, the neonate is returned to their cot/incubator and documentation completed.
- Images are generated onto an electronic form and sent for review by an ophthalmologist. The report is returned within 24hrs with follow-up instructions.
- The form is printed and filed in the patient's notes.

NOTE:

- Any neonate not screened by RetCam for any reason is to have paperwork completed with documentation stating reason why not screened.
- Ophthalmology team is to be informed for any neonate not imaged when due and reasons why.



- If an infection is present, a different speculum is used for each eye.
- Should the neonate's clinical status deteriorate at any time, the procedure is immediately stopped. Continuing or rescheduling will depend on the neonate's condition.
- Small red marks may be present on the neonate's eye lids from the speculum, this usually resolves within 5-10 minutes.

LASER TREATMENT

The most effective treatment for ROP is laser therapy; this burns away the periphery of the retina which has no normal blood vessels. This slows or reverses the abnormal growth of blood vessels. Laser is only performed with advanced ROP particularly stage III with Plus disease, significant pre-Plus or Aggressive Posterior ROP (AP-ROP).

Post laser treatment has immediate follow up with the ophthalmologist the following Monday at KEMH or Thursday at PMH.

RetCam imaging can recommence one week post laser.

All babies requiring laser treatment will require ongoing follow up OPA.

[See Pre and Post-Operative Care of Laser Treatment](#)

REFERENCES

1. AL Jefferies; Canadian Paediatric Society. Retinopathy of prematurity: Recommendations for screening. Paediatr Child Health 2010;15(10):667-0. Accessed from <http://www.cps.ca/documents/position/retinopathy-of-prematurity-screening> on 16th February, 2015
2. American Academy of Pediatrics, Section on Ophthalmology; American Academy of Ophthalmology; American Association for Pediatric Ophthalmology and Strabismus. Screening examination of premature infants for retinopathy of prematurity. Pediatrics 2006;117:572-6.
3. Brian W. Fleck and Neil McIntosh. **Retinopathy of Prematurity: Recent Developments**
4. Neoreviews January 2009; 10:e20-e30; doi:10.1542/neo.10-1-e20
5. Dr Geoff Lam: Clinical Associate Professor UWA School of Ophthalmology & Visual Science/UWA School of Paediatrics and Child Health. Consultant Ophthalmologist: Head of Ophthalmology Princess Margaret Hospital for Children. National Eye Institute & National Institute of Health.
6. Retinopathy of Prematurity (ROP) Resource Guide. NEI Health Information. www.nei.nih.gov/health/rop
7. Royal College of Paediatrics and Child Health. Guideline for the Screening and Treatment of Retinopathy of Prematurity. <http://www.rcpch.ac.uk>
8. <http://retinopathyprematurity.com/rop/retcam-screening/>
9. http://www.claritymsi.com/international/downloads/ShuttleBrochure_2013.pdf

National Standards – 1- Care provided by the clinical workforce is guided by current best practice Legislation -

Related Policies - NCCU Guidelines Section 13 Surgical Conditions, Pre and Post-Operative Care of Laser Treatment
Other related documents – Retinopathy of Prematurity (ROP) (Parent Information Leaflet), NCCU Medication Protocol – Dilacaine, NCCU Medication protocols – Tetracaine

RESPONSIBILITY

Policy Sponsor	Neonatology Clinical Care Unit
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