PCMCH ROP Screening Guidelines

An expert panel convened by PCMCH (the ROP Work Group) recommends the Canadian Paediatric Society's 2010 guidelines be adopted as Ontario's screening guidelines for ROP.

Indicators	PCMCH ROP Guideline Criteria
Gestational Age	**30 wks and 6 days or less** regardless of birth weight **AND** birth weight below, as per the statement
Birth Weight	**1250 g or less** Individual centres may choose to extend weight criteria to 1500 g
Infants with a severe and complex clinical course, including severe and unstable respiratory disease, hypotension requiring inotropes and prolonged ventilatory or oxygen therapy.	Weight: **1251 to 2000 g**
When to Screen	Timing of examination is based on postmenstrual age (PMA) and chronological age (CA) 1st screening should be conducted between four and nine weeks CA, depending on the PMA at birth i.e. • **Infants with GA of 26 weeks and 6 days or less at birth should initially be screened at 31 weeks' PMA;** • **Infants with GA of 27 weeks or more at birth should be screened at 4 weeks' CA**

Reference: Canadian Paediatric Society, Fetus and Newborn Committee [Principal author: A.L. Jefferies]. Retinopathy of prematurity: Recommendations for screening. *Paediatrics & Child Health* 2010; 15(10): 667-670.

When to Screen continued

Timing of First Eye Examination Based on Gestational Age at Birth[1]

	Age at initial examination, wk	
Gestational age at birth, wk	**Postmenstrual**	**Chronologic**
22 [a]	31	9
23 [a]	31	8
24	31	7
25	31	6
26	31	5
27	31	4
28	32	4
29	33	4
30	34	4
31[b]	35	4
32[b]	36	4

Shown is a schedule for detecting prethreshold ROP with 99% confidence, usually well before any required treatment.

[a] This guideline should be considered tentative rather than evidence-based for infants with a gestational age of 22 to 23 weeks because of the small numbers of survivors in these gestational age categories.

[b] If necessary.

Screening Personnel

Ophthalmologist with skill in the identification of ROP

*For programs utilizing remote ROP screening: personnel may include:

- Physicians and Registered Nurses working in a NICU/special care nursery (sending site) who have received training in capturing images using the RetCam Digital Imaging System which are then read by an

[1,2,3] Reproduced with permission from American Academy of Pediatrics (AAP), Section on Ophthalmology; American Academy of Ophthalmology (AAO); American Association for Pediatric Ophthalmology and Strabismus (AAPOS). Screening examination of premature infants for ROP. *Pediatrics* 2006;117: 572-76.

***PCMCH Addendum -for the purposes of remote screening**

	ophthalmologist at the reading site with skill in the identification of ROP • An in-person final exam, by the reading site ophthalmologist, must occur prior to the child's discharge from remote ROP screening
Pain Relief	The discomfort and systematic effects of the eye examination should be minimized by the use of topical anesthetics and of pacifiers, swaddling or sucrose.
Treatment	Retinal ablative therapy should be considered for high-risk prethreshold ROP o Zone I – any stage ROP with plus disease o Zone I – stage 3 ROP with or without plus disease o Zone II – stage 2 or 3 ROP with plus disease Retinal ablative therapy should be performed for threshold ROP (at least 5 contiguous or eight cumulative clock hours of stage 3 ROP in zone 1 or 2 in the presence of plus disease). Treatment should be performed within 72 hours of examination
Duration of Acute ROP Screening	The following are AAP indications for ceasing screening examinations:[2] The conclusion of acute retinal screening examinations should be based on age and retinal ophthalmoscopic findings. Findings that suggest that examinations can be curtailed include the following: • zone III retinal vascularization attained without previous zone I or II ROP (if there is examiner doubt about the zone or if the postmenstrual age is less than 35 weeks, confirmatory examinations may be warranted); • full retinal vascularisation; • postmentrual age of 45 weeks and no prethreshold disease (defined as stage 3 ROP in zone II, any ROP in zone I) or worse ROP is present • regression of ROP (care must be taken to be sure that there is no abnormal vascular tissue present that is capable of reactivation and progression).

Reference: Canadian Paediatric Society, Fetus and Newborn Committee [Principal author: A.L. Jefferies]. Retinopathy of prematurity: Recommendations for screening. *Paediatrics & Child Health* 2010; 15(10): 667-670.

Follow-up Examinations	Follow-up examinations should be recommended by the examining ophthalmologist on the basis of retinal findings classified according to the international classification. The following schedule is suggested: [3] 1 - week or less follow-up o stage 1 or 2 ROP : zone I o stage 3 ROP : zone II 1- to 2 -week follow-up o immature vascularization: zone I – no ROP o stage 2 ROP : zone II o regressing ROP: zone I 2- week follow-up: o stage 1 ROP : zone II o regressing ROP : zone II 2- to 3- week follow-up: o immature vascularisation: zone II – no ROP o stage 1 or 2 ROP : zone III o regressing ROP : zone III The presence of plus disease (defined as dilation and tortuosity of the posterior retinal blood vessels) in zones I or II suggests that peripheral ablation, rather than observation, is appropriate.
Long-term Follow-up	Long-term ophthalmological follow-up is required for infants who have had ROP, regardless of whether treatment was required, because of the risk of poor visual acuity and other visual disturbances.
Responsibilities in ROP Screening	• All nurseries that provide care for infants at risk of ROP must have criteria and procedures in place to ensure appropriate ROP screening • Results of ROP screening must be documented and communicated to parents. Parents of infants with severe ROP should be aware that there is a risk of poor visual outcome even with therapy. • If infants are transferred from one unit to another, arrangements must be made for appropriate ophthalmological follow-up. Results of ROP screening must be accurately communicated to the receiving unit.

Reference: Canadian Paediatric Society, Fetus and Newborn Committee [Principal author: A.L. Jefferies]. Retinopathy of prematurity: Recommendations for screening. *Paediatrics & Child Health* 2010; 15(10): 667-670.

	• Discharge planning must include arrangements for any indicated ophthalmological examinations and follow-up. Parents should understand the importance of these examinations.

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