

Screening Examination of Premature Infants for Retinopathy of Prematurity

A Joint Statement of the
American Academy of Pediatrics,
the American Association for Pediatric Ophthalmology and Strabismus,
and
the American Academy of Ophthalmology

ABBREVIATION. ROP, retinopathy of prematurity.

Progressive retinopathy of prematurity (ROP) was once considered an untreatable condition leading to blindness. The results of the Cryotherapy for Retinopathy of Prematurity Trial indicated that treatment was associated with an approximately 50% reduction in the occurrence of posterior retinal traction folds and/or detachments.¹ An accompanying editorial stated that "a new standard of care is evolving [requiring] careful retinal examination beginning 4 to 6 weeks after birth by an ophthalmologist experienced in looking at retinas in premature infants."²

This statement outlines the principles upon which a screening program to detect ROP in infants at risk might be based. It is to be emphasized at the outset that any screening program set up to implement an evolving standard of care suffers from inherent defects such as overreferral or underreferral and cannot, by its very nature, duplicate the precision and rigor of a scientifically based, randomized, prospective clinical trial. With that in mind, and based on the information published thus far,³⁻⁵ the sponsoring organizations involved in the trial study suggest the following guidelines:

1. Infants with a birth weight of less than or equal to 1500 g or with a gestational age of 28 weeks or less as well as those infants more than 1500 g with an unstable clinical course felt to be at high risk by their attending pediatrician or neonatologist should have a dilated indirect ophthalmoscopic examination to detect ROP.
2. This examination should be carried out by an ophthalmologist with experience in the examination of preterm infants.
3. Examination should be performed between 4 and 6 weeks' chronological age or between 31 and 33 weeks' postconceptional age as determined by the infant's attending pediatrician or neonatologist. (Postconceptional age is defined as gestational age at birth plus chronological age.)
4. Scheduling of follow-up examinations are best determined by the findings at the first examination using the International Classification of Retinopathy of Prematurity, (eg, if the retinal vasculature

is immature and in Zone II but no disease is present, follow-up examination should be planned at approximately 2- to 4-week intervals until vascularization proceeds to Zone III).

5. Infants with ROP or immature vessels detected in Zone I should be seen at least every 1 to 2 weeks until normal vascularization proceeds to Zone III or the risk of attaining threshold conditions is passed.
6. Infants with threshold disease (stage 3 ROP, Zone I, or II in 5 or more continuous clock hours or 8 cumulative clock hours with the presence of "plus disease") should be considered candidates for ablative therapy of at least one eye within 72 hours of diagnosis.
7. The attending pediatrician or neonatologist should refer the infants who fit the examination criteria for initial examination to the ophthalmologist and indicate which infants are medically able to be examined. If a transfer to another neonatal unit or hospital occurs, the infant's new primary care physician should ascertain the current ocular examination status of the infant from the record or through communication with the transferring physician, so that any necessary ophthalmologic examinations can be arranged.

These recommendations are evolving and, as more long-term ROP outcomes are known, may have to be modified.

AMERICAN ACADEMY OF PEDIATRICS SECTION ON
OPHTHALMOLOGY, RETINOPATHY OF PREMATUREITY
SUBCOMMITTEE, 1990 TO 1996

Walter M. Fierson, MD, Chair

Earl A. Palmer, MD

Albert W. Biglan, MD

John T. Flynn, MD

Robert A. Petersen, MD

Dale L. Phelps, MD

AMERICAN ASSOCIATION FOR PEDIATRIC

OPHTHALMOLOGY AND STRABISMUS

AMERICAN ACADEMY OF OPTHALMOLOGY

REFERENCES

1. Cryotherapy for Retinopathy of Prematurity Cooperative Group. Multicenter trial of cryotherapy for retinopathy of prematurity: preliminary results. *Arch Ophthalmol.* 1988;106:471-479
2. Tasman W. Multicenter trial of cryotherapy for retinopathy of prematurity. *Arch Ophthalmol.* 1988;106:463. Editorial
3. Cryotherapy for Retinopathy of Prematurity Cooperative Group. Multicenter trial of cryotherapy for retinopathy of prematurity: three-month outcome. *Arch Ophthalmol.* 1990;108:195-204
4. Cryotherapy for Retinopathy of Prematurity Cooperative Group. Multicenter trial of cryotherapy for retinopathy of prematurity: one-year outcome—structure and function. *Arch Ophthalmol.* 1990;108:1408-1416
5. Palmer EA, Flynn JT, Hardy RJ, et al. Incidence and early course of retinopathy of prematurity. *Ophthalmology.* 1991;98:1628-1640

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

PEDIATRICS (ISSN 0031 4005). Copyright © 1997 by the American Academy of Pediatrics.

Screening Examination of Premature Infants for Retinopathy of Prematurity
A Joint Statement of the American Academy of Pediatrics the American Association
for Pediatric Ophthalmology and Strabismus the American Academy of
Ophthalmology, American Academy of Pediatrics Section on Ophthalmology,
Retinopathy of Prematurity Subcommittee, 1990 to 1996, Walter M. Fierson, Earl A.
Palmer, Albert W. Biglan, John T. Flynn, Robert A. Petersen and Dale L. Phelps
Pediatrics 1997;100;273
DOI: 10.1542/peds.100.2.273

Updated Information & Services

including high resolution figures, can be found at:
<http://pediatrics.aappublications.org/content/100/2/273>

References

This article cites 4 articles, 0 of which you can access for free at:
<http://pediatrics.aappublications.org/content/100/2/273#BIBL>

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):
Fetus/Newborn Infant
http://www.aappublications.org/cgi/collection/fetus:newborn_infant_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.aappublications.org/site/misc/Permissions.xhtml>

Reprints

Information about ordering reprints can be found online:
<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Screening Examination of Premature Infants for Retinopathy of Prematurity
A Joint Statement of the American Academy of Pediatrics the American Association
for Pediatric Ophthalmology and Strabismus the American Academy of
Ophthalmology, American Academy of Pediatrics Section on Ophthalmology,
Retinopathy of Prematurity Subcommittee, 1990 to 1996, Walter M. Fierson, Earl A.
Palmer, Albert W. Biglan, John T. Flynn, Robert A. Petersen and Dale L. Phelps
Pediatrics 1997;100:273
DOI: 10.1542/peds.100.2.273

The online version of this article, along with updated information and services, is
located on the World Wide Web at:
<http://pediatrics.aappublications.org/content/100/2/273>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 1997 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

