

ROP EYE EXAMINATIONS

Who Qualifies?

Babies born less than 31 weeks gestation or weighing less than or equal to 1250 grams at birth.

When are Eyes Checked?

Examinations start at about 31 weeks gestation and are completed by an Ophthalmologist.

How are Eyes Checked?

The examination is completed at your baby's bedside. Your baby's pupils are dilated with medicated eye drops and anaesthetic eye drops are given for comfort before the speculum device is placed in the eye. Oral sucrose and/or breast milk and swaddling are provided for comfort during this examination. Parents are welcome to be present during this examination. After the examination is complete, your baby's eyes are protected from bright light until the dilating drops wear off. You can hold and feed your baby right after the procedure to provide comfort.

WHAT TREATMENTS ARE AVAILABLE AND HOW DO THEY WORK?

Laser Therapy

For many years, laser treatment was the only way to treat ROP. This treatment uses small laser beams directed at the retina which decreases oxygen demands of the eye, therefore stopping the growth of abnormal blood vessels. Laser treatment has become less common since the introduction of eye injection therapy; however, it may still be used in some cases.

Eye Injection Therapy

The medication is injected into the eye with a very small needle. This medication works by blocking the abnormal growth of retinal blood vessels within the eye, preventing the progression of ROP. The procedure is completed at your baby's bedside with anaesthetic eye drops given before the injections. If possible, parents/ legal guardians are asked to be present at the time of the procedure so they can ask the Ophthalmologist questions and sign the procedure consent form.

WHAT IS THE LONG-TERM VISUAL OUTCOME?

With injection or laser therapy, central vision is generally not affected. Side vision may be affected by laser therapy. If your child receives eye injections, they will be followed by an Ophthalmologist at least until their condition has stabilized and they have normal blood vessels developed in their eyes.

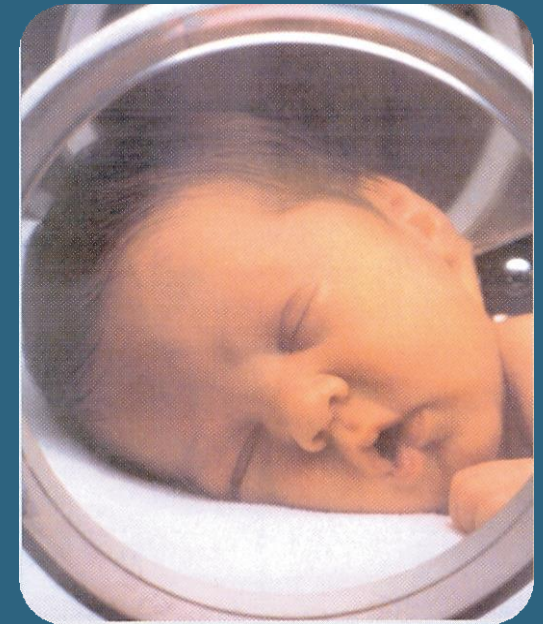
The need for retinal surgery is rare, and is usually associated with severe vision loss.

Every baby with ROP (even those not requiring treatment) should see an Ophthalmologist yearly to screen for near-sightedness, strabismus (lazy eye), and other eye conditions. Children who do not require treatment for ROP can have routine exams with their local Optometrist.

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Family Education

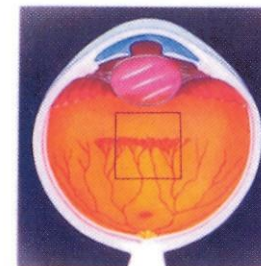
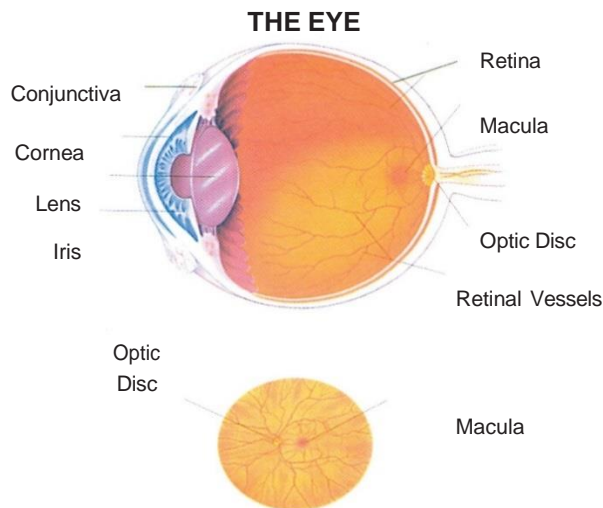
Retinopathy of Prematurity



Children's Hospital
London Health Sciences Centre

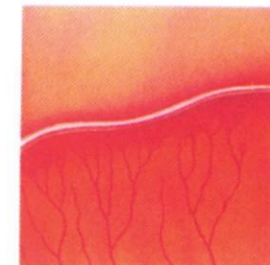
WHAT IS THE RETINA AND HOW DOES IT WORK?

The retina is a sensory membrane that lines the eye. The sensory receptors (rods and cones) receive the images formed by the lens, and converts them into signals which are sent to the brain by the optic nerve. The retina acts much like the film in a camera.



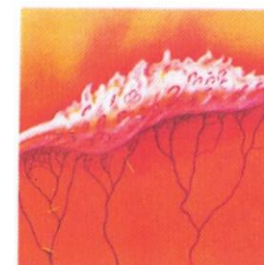
STAGE 1

Abnormal blood vessel growth in the retina with areas completely absent of vessel development.



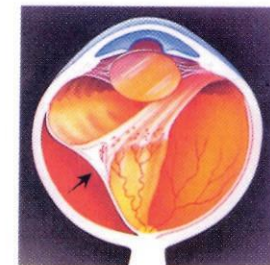
STAGE 2

Abnormal vessel growth has developed a thickness "ridge".



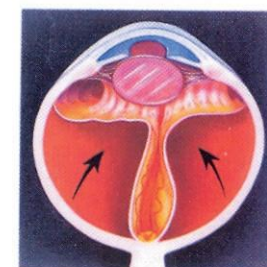
STAGE 3

Fiber-like structures have grown into the vitreous space.



STAGE 4

Fiber-like structures begin to pull parts of the retina off the inner surface of the eye.



STAGE 5

The entire retina has become detached.

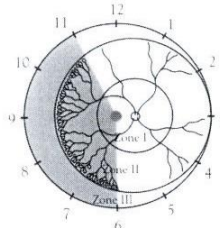
WHAT IS RETINOPATHY OF PREMATURITY (ROP)?

ROP is a condition of the eye that frequently affects very low birth weight/premature newborns. The blood vessels in the retina are the last part of the eye to develop in a full term baby, but with many infants born preterm, growth of these vessels is incomplete. Abnormal development may occur that can progress to retinal detachment which damages the retina and will affect your baby's vision.

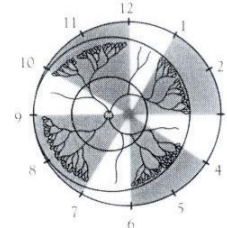
WHEN SHOULD TREATMENT TAKE PLACE?

In most cases, ROP goes away untreated. But, if this condition reaches a critical level designated as "threshold", intervention is recommended. "Threshold" is defined as Stage 2-3 'plus disease' with abnormally dilated retinal blood vessels involving 8 cumulative or 5 contiguous "clock hours" of area. The term "plus disease" refers to the fast progression of abnormal blood vessel growth in the eye. "Zones" refer to the locations of the disease in the eye.

Threshold Level



Five contiguous clock hours



Eight cumulative clock hours

WHAT CAUSES RETINOPATHY OF PREMATURITY (ROP)?

Low birth weight is a good indicator that ROP is likely to occur. However, it is still not well understood why these blood vessels develop abnormally.