

Screening for Retinopathy of Prematurity

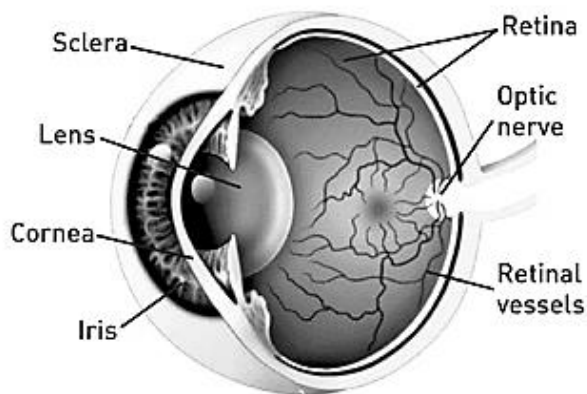
The following information answers some of the questions you may have about the effects of premature birth on your child's eyes.

What is retinopathy of prematurity?

Retinopathy of prematurity, or "ROP" for short, is a potentially blinding condition that affects babies born very early. *Retinopathy* means "disease of the retina". The retina is a special tissue at the back of each eye. It works like the film or sensor in a camera to turn light into signals that the brain can "see". In premature babies, the blood vessels in the retina are immature, and ROP happens when these blood vessels start to grow abnormally.

Eye growth and development

The eyes start to develop very early in pregnancy. Once the eyeball is formed, the blood supply to the retina starts growing from the optic nerve at the very back of the eye. The blood vessels then grow outwards along the surface of the entire retina.



Imagine taking a ball and cutting it in half so that it looks like a cup. If the cut ball represents the back half of the eye, the retina would be a thin and fragile lining covering the inside of the cup. The blood vessels enter at the bottom of the cup and gradually creep up the sides of the cup as the eye develops.

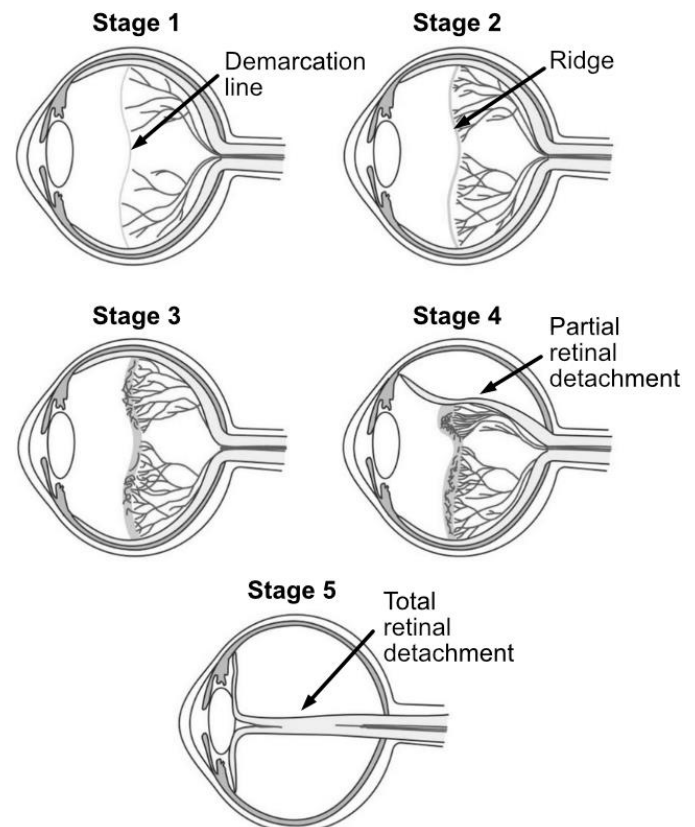
When babies are born near their due date, the blood vessels will have reached the edge of the retina (or the edges of the cup in our example). If a baby is born early, the vessels will still have some way to go to fully cover the retina. As the baby is no longer in the womb, the vessels may not grow in a normal way, and this is what is known as ROP.

Which babies get ROP?

If a baby is born at less than 31 weeks gestation, or weighing 1250g (2.8 lbs) or less, there is a risk that they may develop ROP.

The stages of ROP

The changes seen in ROP are graded from stage 0 (no ROP), to stage 1 (very mild changes) right through to stage 5 (a total retinal detachment).



Most premature babies will develop mild ROP that has little if any effect on vision. Mild ROP will usually get better on its own with time. When ROP gets very bad it causes scarring that can pull the retina out of shape, and even cause it to detach and crumple up. Retinal detachment damages the eyesight, and it is very difficult or impossible to fix.

The role of the ophthalmologist

An *ophthalmologist* is a medical doctor who specializes in eye disease. He or she will look at your baby's eyes to monitor the blood vessels as they develop and watch for ROP. These eye examinations start about 1 month after being born and continue every 2 weeks or more often if needed.

How are the eye examinations done?

Dilating eye drops are given before the eye exam to make the pupils enlarge. This allows for a clearer view of the retina.

An anesthetic eye drop is then given to numb the eye and to make the examination as comfortable as possible. A small speculum is used to gently hold the eyelids open during the examination. The speculum does not hurt, but it can look strange to see a baby with one eye held wide open.

A special light and lens are used by the doctor to look through the pupil to see the retina. Only the eye doctor can actually see the retina during the examination. The doctor must turn baby's eye left and right to examine the retina fully. This is done with an instrument to gently rotate the eye.

Babies will often cry during the examination. This is partly because they don't like being disturbed, partly because they aren't used to bright lights and partly because they will feel a pressure sensation on the eye. You can feel what this is like by gently pressing on your own eye through your eyelid.

The examination usually takes 3 or 4 minutes. Parents may choose to stay in the room or wait outside during the examination.

How many eye examinations are needed?

The eye doctor will keep checking the retina until the risk of developing ROP has passed and the eyes are safe. This usually means regular eye examinations until a month or so after baby's due date. If your baby goes home before the ROP examinations are finished, then you will need to bring your baby back to the Children's Eye Clinic when asked to do so. It is extremely important to bring your baby to every eye clinic appointment.

Treatment for severe ROP

Some babies need to have treatment to try to prevent severe vision loss from ROP. The eye doctor will discuss treatment options with you if the need arises.

If you have any questions or concerns:

Please ask your nurse or the eye doctor when you see them.

Next Review: May, 2025