

# RETINOPATHY OF PREMATURITY

## What is the retina?

The retina is the inner lining on the back of the eye. The retina receives the information about what we are looking at and sends it the brain. As the baby develops blood vessels grow from the centre of the retina to the edges. This process is not complete when babies are born prematurely. "Retinopathy" means "disease of the retina". Retinopathy of prematurity occurs when the blood vessels grow abnormally and cause ridging or even detachment of the retina.

## What causes retinopathy of prematurity (ROP)?

The exact cause of ROP is not clear, but is certainly related to high levels of oxygen in the blood. With our extremely premature infants we are very particular about ensuring that high levels of oxygen in the blood do not occur on a frequent basis. Unfortunately this does not always prevent ROP from occurring. Other factors that have been associated with ROP are being growth restricted or very ill.

## Who is at risk of ROP and how common is it?

Infants born at less than 30 weeks gestation or weighing less than 1150 grams at birth are most at risk. Up to 60% of these babies will have some degree of ROP. Of those with ROP 20-50% will have moderately severe disease, but only 15-20% will require laser surgery.

## What are the different severities of ROP?

Stage 1 – is very mild and there is a small line of change (scar) on the retina seen by the ophthalmologist (eye doctor)

Stage 2 – is still mild disease but the line of change on the retina has now become a ridged scar

Stage 3 – this is more extensive disease with the ridge becoming more extensive and scarring the retina further

Stage 4 – occurs when the retina begins to lift off the back of the eye because the scar is getting bigger. This disrupts the blood and nerve supply to the retina and may result in decreased or loss of vision.

Stage 5 – is when the retina completely detaches off the back of the eye. Despite reattachment there is usually no useful vision in that eye.

The ophthalmologist may classify any of these stages as having "plus" disease, which means that the disease is progressing rapidly.

## How do we treat ROP?

Infants less than 30 weeks gestation and birth weight < 1150 grams have their eyes checked by an ophthalmologist on a regular basis when they turn 32 weeks corrected gestational age. Most examinations are done every two weeks, however, if ROP is detected your baby's eyes may be checked on a weekly basis.

It is only when Stage 3 disease is detected that treatment may be warranted to try and prevent the disease progressing to Stage 4 and 5.

Most frequently laser therapy is used. This prevents further abnormal growth of the blood vessels and attempts to stop further damage to the retina.

Laser therapy to the eye is done in the Centre for Newborn Care by an ophthalmologist. Your baby will require a short anaesthetic for the procedure. Following laser therapy there may be some mild discomfort, paracetamol is usually adequate pain relief.

**Are there any long-term complications of ROP?**

Blindness in the eye with ROP is the most serious complication of ROP. Fortunately this is very rare, occurring in only 1-4% of extremely premature infants.

Other problems include short sightedness (myopia) which may require glasses for correction, crossed eyes (strabismus) again which may require glasses, and a lazy eye (amblyopia) which may require glasses and exercises.

If you have any further questions please ask the medical and nursing staff.

fact sheet