

A Parents' Guide to Understanding:

Treatment for Retinopathy of Prematurity

Why do my baby's eyes need treatment?

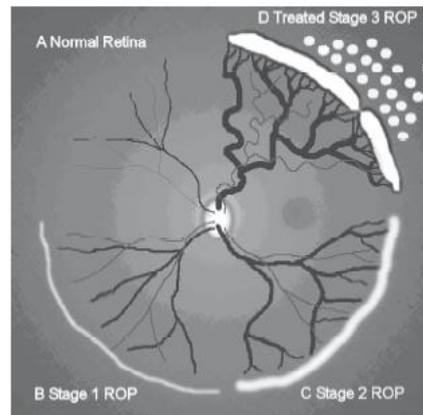
Your baby has Retinopathy of Prematurity (ROP) which has become severe. At this stage of ROP the blood vessels at the back of the eye (retina) have grown abnormally and this process can cause permanent damage to the retina. Without treatment severe ROP can seriously affect your baby's vision, and even cause blindness.

What does the treatment involve?

The most effective way to stop the progress of the abnormal blood vessels in the retina is by laser treatment. In some situations the ophthalmologist (eye doctor) may choose to freeze the retina using cryotherapy instead of laser. Your baby will be sedated or given a general anaesthetic for the operation. ROP treatment requires specialist expertise. This may not be available in the unit where your baby is being cared for. Because of this your baby may need to be transferred to another unit for the treatment.

Diagrammatic view of the retina as though seen through the pupil

The white oval in the centre is the optic nerve and the dark area towards the right of it is known as the macula. The macula is the part of the eye that allows us to see fine detail. The grey lines are the arteries and the black lines are the veins. This diagram illustrates how ROP develops, usually progressing over time from Normal to Stage 1 though Stage 2 to Stage 3. Mild ROP of Stages 1 and 2 are very common and settle on their own. Only a small proportion of babies develop plus disease and Stage 3 which is more serious. View the diagram starting at letter A. The blood vessels pointing towards A are normal. At B there is a white line at the growing tips of the blood vessels – Stage 1 ROP. The white line is the ROP. At C the line has become thicker – Stage 2 ROP. At D, the line is very much thicker because of the formation of very fine and abnormal new blood vessels. You can also see that the arteries have become very tortuous (wiggly) and the veins much fatter – both of these are known as plus disease and are signs that the eye needs treatment. To avoid too many diagrams, all ROP stages and treatment are shown in small sections as though they are in one eye, which they are not. Laser treatment is applied when ROP is severe and is shown here as the white spots in the upper right corner of the figure. Usually, many hundreds of laser burns are given (the white spots), and as the picture shows, they are placed just beyond the edge of the ROP and not on the ROP itself. Laser is usually given all around the retina and not just in one part as is shown here. The laser burns appear first as white but over a few days they become darker and pigmented. The method of treatment can vary from one baby to another depending on the condition of the eye. The ophthalmologist will discuss this with you.



When will treatment be given?

Severe ROP needs to be treated quickly to prevent further damage. This will usually be within 48 hours of the severe ROP being diagnosed although it may be a little longer depending on how severe the ROP is.

Who will carry out the treatment?

The treatment will be carried out by an experienced ophthalmologist. This may not be the same person who has been screening your baby because ROP treatment is a specialist procedure. You should be given a chance to talk to the ophthalmologist before treatment to ask any questions.

What will happen after the treatment?

After treatment your baby may need to be given some antibiotic and steroid eye drops to prevent infection and reduce swelling. An appointment will be made for an eye examination about a week later when the ophthalmologist will check if the treatment has stopped the abnormal blood vessels developing. In most babies one treatment is effective but sometimes a second treatment will be needed around 2 to 3 weeks later.

Are there any side-effects from the treatment?

ROP treatment is a surgical procedure, so your baby will be carefully monitored during and after the procedure. Depending on your baby's condition sometimes it may be necessary to go back on ventilation for a short time. Afterwards your baby's eye may look red and swollen.

Will my baby's vision be affected?

Unfortunately, sometimes the treatment is not fully successful in preserving vision; the ophthalmologist will discuss this with you. Studies have shown that early treatment gives good results and 50-80% of treated babies have good or very good eyesight. Your baby's ophthalmologist will be able to tell you whether it is expected that your baby's vision will be affected, but it may take many months to know this accurately. Research has shown that babies with severe ROP, even if treatment is not required, are more likely to become short-sighted or develop a squint than those without. In babies with severe ROP needing treatment these problems can be more serious. It is possible your baby will need glasses later on. Your baby will be given regular eye checks for a few years so that any vision problems can be picked up.

Who to contact if you have any more questions

Please feel free to discuss this with the nurse caring for your baby or the consultant on duty, who will answer any queries you might have.

Adopted from leaflet by: **Royal College of Paediatrics and Child Health, Royal College of Ophthalmologists British Association of Perinatal Medicine & BLISS (2008)**

UK Retinopathy of Prematurity Guideline. Available online: <https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf>



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