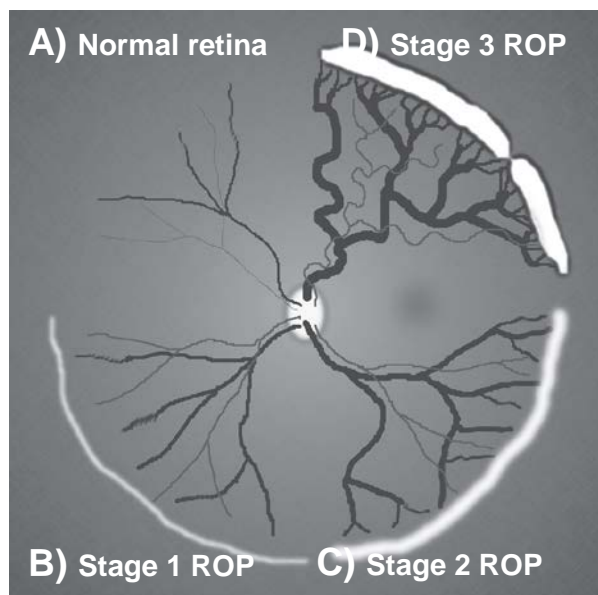


## Screening for retinopathy of prematurity (ROP)

This leaflet is for parents and carers of all babies less than 32 weeks gestational age or birth weight under 1501 grams (3lb). It explains what ROP is and how and why we screen for it. There is a separate leaflet on treatment for retinopathy of prematurity. If you have any questions or concerns, please speak to your doctor or nurse specialist.

### What is retinopathy of prematurity?

The retina is the delicate tissue lining the back of the inside of the eye which detects light and allows us to see. Retinopathy of Prematurity (ROP) is an eye condition which affects the blood vessels of the retina.



*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 through 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. At D 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 are shown in small sections as though they are in one eye, which they are not.

### What is screening for ROP?

ROP screening is the eye examination by an ophthalmologist (or eye specialist) to look for any signs of ROP. All babies weighing less than 1501 gm at birth or born more than 8 weeks early will need at least one eye screening examination.

### How common is ROP?

ROP is common in premature babies affecting about 65% babies less than 1251g birth weight. The condition is usually very mild and settles on its own without any treatment. In a very few babies (usually the smallest and most premature) the ROP does not get better and treatment is needed. If not treated, very severe ROP can seriously affect a baby's sight and even cause blindness.

### Why does ROP occur?

No one knows exactly why. When a baby is born early, the blood vessels of the retina are not fully developed. After birth something triggers the blood vessels to start to grow abnormally and this forms scar tissue which, if severe, can damage the retina. The main cause of ROP is prematurity itself, so the more prematurely the birth occurs the greater the risk of ROP occurring. The amount of oxygen treatment required and the baby's general condition may also influence whether ROP develops or becomes severe. However, some premature babies who have no serious illnesses still develop ROP, while others who have been very ill do not. Therefore it is necessary to screen all babies under 32 weeks gestation or under 1501 grams birth weight.

### When will the screening be done?

The first screening examination will be done when your baby is between 4 and 6 weeks old ('corrected age' or real age of baby). Some babies will need only one examination although most babies need at least two.

### What happens during screening?

About an hour before the examination, eye drops are put in the eye to make the pupil open widely so the retina can be seen. The ophthalmologist examines the retina using an ophthalmoscope (or sometimes a camera) placed gently on the surface of your baby's eye. They may also use a speculum (to hold the eyelid open) and an indenter (to rotate the eye) to enable a better view of the retina.

### Is the examination painful?

Eye examinations can be uncomfortable even for adults and babies sometimes cry or show signs of distress when their eyes are examined. The ophthalmologist will make the examination as quick as possible although they do need enough time to see the retina properly. If a speculum, indenter or a camera is used then anaesthetic eye drops should be used to minimise the discomfort to your baby.

Research has also suggested that wrapping your baby firmly or giving sucrose drops can help to keep babies calm during the eye examination. The nurses on the unit will have a lot of experience in preparing babies for the eye examination and will be able to explain what their practice is and involve you as much as possible.

### What happens if my baby is ill when the eye examination is due?

There is no evidence that ROP screening is harmful for babies but the doctors may decide to postpone the examination for a short while until your baby is stronger. However, screening must not be postponed so long that the opportunity for treatment is missed.

### What happens if ROP is found?

This depends on how serious it is.

- If ROP is mild, there will need to be a follow-up examination 1 to 2 weeks later. If the follow-up examination shows it has not become worse, the ROP will settle on its own.
- More severe ROP will require an earlier re-examination, usually in a week.
- In a very few cases the ROP may be severe enough to require treatment. If your baby requires treatment at any stage the ophthalmologist will talk to you to explain exactly what will happen.
- We have produced a separate leaflet with more information called 'Treatment for ROP'. This is available from the unit or can be downloaded from the Trust website.

### Will screening finish before my baby goes home?

Your baby will be discharged as soon as they are well enough to go home. This might be before the last eye screening. If this is the case, staff should arrange an outpatient appointment before you take your baby home.

It is very important that you bring your baby back for his/her eyes to be checked if you are asked to. When you are ready to take your baby home ask the staff if you need to bring him/her back and when. They will also write to remind you about the appointment.

### Where can I get more information?

Please contact:

Name: .....

Tel: .....

For further information and support, you can contact BLISS - the premature baby charity. BLISS is dedicated to working for premature and sick babies and their families and can put you in touch with other parents who have been through similar experiences.

Family Support Helpline: FREEPHONE 0500 618 140 [enquiries@bliss.org.uk](mailto:enquiries@bliss.org.uk)  
[www.bliss.org.uk](http://www.bliss.org.uk)

BIBS (Babies in Buscot Support)  
[www.bibs.org.uk/](http://www.bibs.org.uk/)

This information is based upon a leaflet produced by the Royal College of Paediatrics and Child Health, the British Association of Perinatal Medicine and the Royal College of Ophthalmologists. Parents and professionals have helped to write the information.

### Further information

Royal College of Paediatrics and Child Health [www.rcpch.ac.uk/ROP](http://www.rcpch.ac.uk/ROP)  
[www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

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