

# Eye tests for premature babies

## Retinopathy of prematurity (ROP)

Neonatal unit

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Information for Patients

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### Why are eye tests carried out for premature babies?

Premature babies or babies with very low birth weight (VLBW), may develop a serious eye problem called Retinopathy of Prematurity (ROP). This can sometimes cause sight problems.

Sometimes this may cause serious eye disease affecting sight. The risk of sight problems (visual impairment) depends on

- how small the baby is at birth,
- how ill the baby is
- how much oxygen the baby needed when very small

Most premature babies will have some mild ROP that gets better on its own. But, in a few babies, changes in the eyes can lead to long-term sight problems.

To prevent this all at-risk babies are regularly checked. If we find serious ROP, we can treat it with

- laser surgery to the eyes
- injections to the eyes. Injections may be needed before, after or instead of laser. Laser is not always needed.

After the eye tests, we will talk to the parents or legal guardians about our findings. We need your consent for treatment.

At Leicester's Hospitals Neonatal Units (Leicester Royal Infirmary and Leicester General Hospital), the eye children's eye doctors specialists visit weekly to do the neonatal eye checks for babies at risk of serious ROP. Most babies need to have their eyes checked every 2 weeks. If a baby has ROP we may need to do the checks more often, such as weekly for some time. This follows national guidelines.

**Health information and support is available at [www.nhs.uk](http://www.nhs.uk)  
or call 111 for non-emergency medical advice**

Visit [www.leicestershospitals.nhs.uk](http://www.leicestershospitals.nhs.uk) for maps and information about visiting Leicester's Hospitals  
To give feedback about this information sheet, contact [InformationForPatients@uhl-tr.nhs.uk](mailto:InformationForPatients@uhl-tr.nhs.uk)

## What is retinopathy of prematurity?

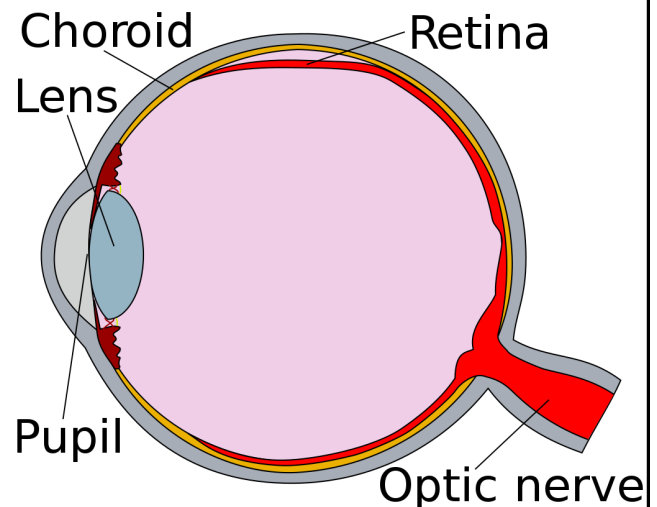
The retina is the layer inside the back of the eyes. It helps form pictures. These are sent to the brain so we can see.

The retina needs a healthy blood supply. The blood supply to the retina develops fully in the last few months of pregnancy (36 to 42 weeks).

Premature or very small babies may have problems with this process. It is more likely if your baby is very early, very unwell, or needed a lot of oxygen.

The abnormal blood vessels are fragile. They can leak. This causes bleeding in the retina. It may lead to the retina peeling away from its' normal place (retinal detachment) and potential blindness.

For more information please see <https://www.rnib.org.uk/eye-health/eye-conditions/retinopathy-of-prematurity> and <https://www.rnib.org.uk/information-parents>



By Erin Silversmith from an original by en:User:Delta G

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<https://commons.wikimedia.org/w/index.php?curid=7114575>

## Which babies are at risk of ROP?

- Babies born earlier than **30weeks** + 6 days (almost 7 and a half months)
- babies born weighing less than 3.3 lbs (1500 grams)

An eye specialist (ophthalmologist) examines them on the Neonatal Unit every 1 to 2 weeks. They start 1 to 9 weeks after birth. Eye checks usually carry on until about 3 weeks before the baby's original due date or longer.

If your baby goes home before all of the ROP checks are completed they will have follow-up checks as an out patient. This will be at Leicester Royal Infirmary .

## What happens during the eye test?

### Before the eye test

- We give your baby eye drops before the eye test begins. These make the black part of the eye (pupil) bigger. They also numb the surface of the eye. We then get a good view of the back of the eye. They will also help to make your baby comfortable.

### During the eye test

- A nurse helps to hold your baby. They make sure their heart rate, breathing and overall well-being remain stable.
- We also give a small amount of glucose if needed as a comfort measure.

- The eye test is not uncomfortable. Babies do sometimes cry due to being swaddled.
- The eye specialist inserts a small clip to keep the eyelids open.
- They will use either a camera to take pictures of the retina or an ophthalmoscope. This is a tool that uses a light to look inside the eye.
- The test takes about 10 minutes.
- The test is not painful for the baby.
- Some people do not like to watch eyes being examined in this way. Parents or guardians do not have to watch the baby have the test; watching is optional. It's fine to wait outside the room if you prefer.
- Very small babies (birth weight is less than 801 grams) may also be offered a test called an angiogram (FFA). A dye is injected into a big vein which travels to the small blood vessels (such as veins) inside the eye. It is a common test. We do it for children and adults when looking for retinal diseases.
- We do the FFA test because we cannot always see all the blood vessels in small preterm or VLBW babies. We need to see if the small blood vessels in the retina are growing normally. We need to see if the baby's retina is at risk. The FFA may need to be repeated every 1 to 2 weeks until the baby's risk for serious ROP has reduced or until it is decided to treat the baby.
- Some babies may need to be seen again later in the children's eye clinic in the months after their final ROP test on NNU.
- The Neonatal Eye Team have been researching the development of the retina and vision of premature infants since 2012. They may ask for your permission to photograph your baby's retina during the eye screening ward round. They use a device called a hand held OCT.

## What does it mean if my baby has ROP?

There are 5 stages of ROP:

- Stage 1 and 2 ROP often gets better on its own
- Stage 3 to 5 is more serious and needs treatment

ROP is also grouped into

- Type 1 disease needs treatment
- Type 2 disease does not usually need treatment

If ROP is serious the abnormal blood vessels in the eye can bleed and cause damage. This could lead to blindness.

The Ophthalmologist will talk to you about the treatment your baby needs.

Treatment options are:

- laser surgery
- eye injections either before or after laser treatment. The eye injections are like the ones used in adult patients for retinal disease. It is a lower dose.

The treatment is done on the Neonatal Unit at the Leicester Royal Infirmary. It takes about 1.5 hours (1 hour 30 minutes) to do. Your baby may need a general anaesthetic so that they are comfortable during treatment.

Babies do not feel any pain after treatment. The eye can sometimes look a bit puffy.

We may need to repeat the treatment after a few weeks in some babies. We will check the baby's eyes to make sure that the ROP is getting better after any treatment, or if further treatment is needed.

## Who will look after my baby during eye checks and treatment?

The Neonatal Eye Screening Team is made up of

- Consultant ophthalmologists,
- Specialist ROP Neonatal Nurses,
- Ophthalmic Associates
- Ophthalmology Doctors in training (Registrars, Fellows)

They attend and support the weekly ROP eye screening ward round.

## Contact Numbers

The ROP Nurses can be contacted on:

Leicester Royal Infirmary (0116) 258 6462

Leicester General Hospital (0116) 258 4800

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔  
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Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

Previous reference: none

If you would like this information in another language or format such as EasyRead or Braille, please telephone 0116 250 2959 or email [equality@uhl-tr.nhs.uk](mailto:equality@uhl-tr.nhs.uk)