

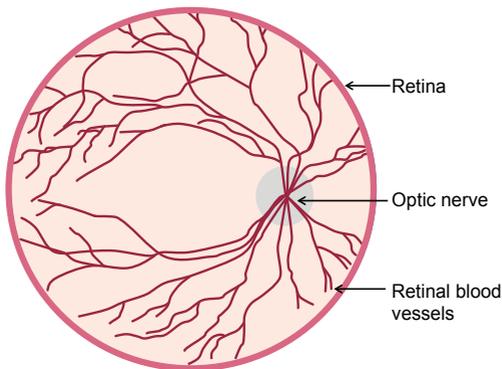
Information for parents about eye examinations for premature babies



All babies born very prematurely are examined regularly by an eye specialist in order to detect those who need treatment for a disease called ROP (retinopathy of prematurity), which can affect the eye following premature birth.

Normal development

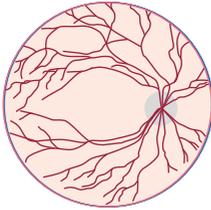
The retina is a layer of tissue that lines the inside of the eye. It contains light-sensitive cells that convert incoming light into electrical signals, which are transmitted via the optic nerve to the brain. There, the signals are processed and interpreted as visual images. The blood vessels in the retina begin to grow from the optic nerve in the 14th or 15th week of pregnancy and normally cover the entire retina at full term.



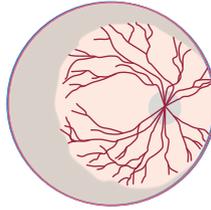
Normal vessel growth. Eye with fully developed blood vessels.

ROP

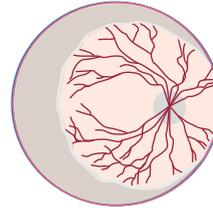
In premature babies, the growth of retinal blood vessels can be disrupted and the earlier the baby is born, the greater the risk of abnormal vessel growth. Fewer than 5% of all babies examined can develop serious changes that require laser treatment to prevent detachment of the retina and vision loss. In most cases, the treatment is successful and in Sweden today it is very rare for a child to go blind because of ROP. ROP is divided into different stages as shown in the figure.



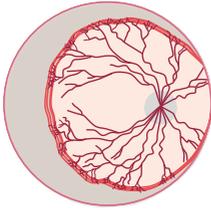
Normal
vessel growth



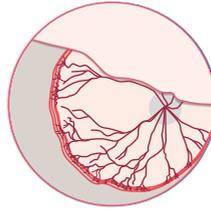
Stage 1



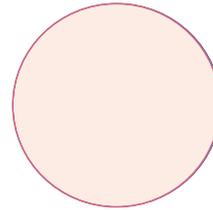
Stage 2



Stage 3



Stage 4



Stage 5

In stage 1, vessel growth has stopped briefly and in stage 2 vessel growth has stopped for a longer period. Stages 1 and 2 often improve without any treatment. In stage 3, the blood vessels grow abnormally and uncontrollably and may require laser treatment to prevent retinal detachment. In stage 4, a portion of the retina has detached from its base, and in stage 5 the entire retina is detached.

Eye examinations

The first examination is performed at one or two months of age. Before the examination, the baby receives eye drops which enlarge the pupils. The eye specialist then looks into the eyes with a lamp and a magnifying lens held in front of the eye. For the examination, the eyelids have to be kept apart, and this is usually made easier if the baby relaxes by sucking on a pacifier with breast milk or sugar solution. To monitor how the blood vessels are growing, we carry out repeated examinations, at first twice weekly, then once every other week. Sometimes, we photograph

the retina to objectively study the retinal vessel growth. In most cases, we do not need to perform examinations beyond the week in which the child would have been born.

The main risk factors for ROP are low gestational age, excessive oxygen therapy, and poor growth in the first weeks of life.

Treatment

For severe forms of ROP, treatment is required to prevent the disease from progressing and leading to retinal detachment. The treatment usually involves laser treatment of the still-developing part of the retina. The procedure is carried out under anesthesia. In some cases, the treatment may have to be repeated. If the disease, despite laser treatment, progresses to stage 4 or beyond, vitreous body and retinal surgery may be necessary. However, at the most serious stages of ROP, the chance of preserving completely normal vision is limited.

Transmission

Before your child may go home or move to another ward or hospital, it is important that the responsible staff arrange a check-up appointment, either at the new ward or at the eye clinic where your child is registered. Premature babies are at increased risk of a squint and refractive errors that need to be corrected with glasses, and if you suspect there is something wrong with your child's vision, or if you have other questions, you are welcome to contact us at the Eye Clinic.

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2017-11-22