Retinopathy of Prematurity (ROP)

What is retinopathy of prematurity?

Retinopathy of prematurity (ROP) is an eye disease in some premature babies born before 31 weeks. (A full-term pregnancy is about 38–42 weeks.) It is a problem that affects the tissue at the back of the eye called the retina. The retina senses light and sends signals to the brain so you can see. With ROP, unwanted blood vessels grow on the baby's retina. These blood vessels can cause serious eye and vision problems later.

ROP can go away on its own as an infant grows. If it does not go away, however, it needs to be treated. Otherwise, the child can have severe vision loss, or even go blind.

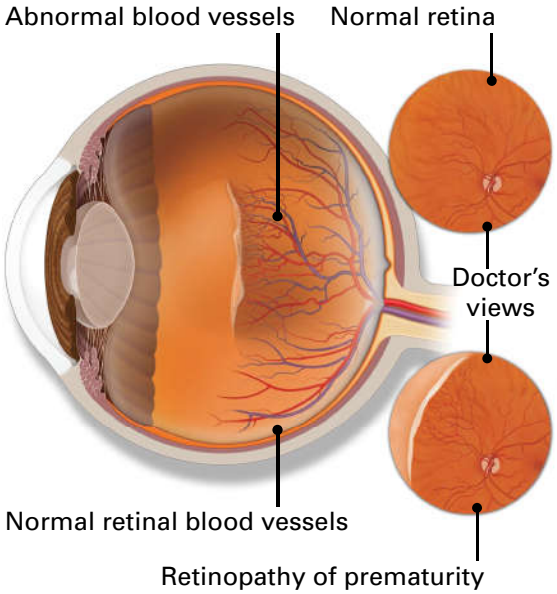
What causes ROP?

Doctors do not know for sure what causes ROP. Blood vessels in the eyes normally finish developing a few weeks before birth. An infant who is born early is exposed to many different things. Medicine, oxygen, bright lights, or temperature changes might affect how an eye's blood vessels develop.

Here are some of the things doctors think might contribute to ROP:

- Low birth weight (just under 3 pounds or less).
- How early a baby is born. A premature baby born at 28 weeks has a greater risk of having ROP than a premature baby born at 32 weeks.
- Giving the infant extra oxygen after birth.

Caucasian (white) babies are more likely to get ROP than babies who are African-American.



Premature infants are also more likely to get ROP if they have other health problems. These problems include anemia (low levels of iron in the blood), not enough vitamin E, or breathing problems.

How is ROP diagnosed?

Shortly after birth, all premature babies should be checked for ROP. An ophthalmologist can examine the infant's eyes while they are in the hospital. However, ROP might not be visible until several weeks after birth. So, premature babies at risk for ROP should be checked by an ophthalmologist at 4 to 6 weeks after birth.

How is ROP treated?

At first, an ophthalmologist may monitor ROP to see if it goes away on its own. If abnormal blood vessels continue to grow, the infant's eyes must be treated.

The ophthalmologist may treat ROP in one or more of the following ways:

- Laser treatment
- Freezing treatment (cryotherapy)
- Medication eye injections

With laser treatment, the ophthalmologist uses a laser to burn away the edge of the retina. With freezing treatment (cryotherapy), the surgeon uses a freezing cold instrument to destroy part of the retina. Both of these treatments target very specific parts of the retina to try to stop abnormal blood vessel growth.

Research is also underway on medications for ROP. These drugs are injected (given as shots) into the eye to stop unwanted blood vessel growth.

As babies with ROP grow, they need to be checked regularly by an ophthalmologist for vision problems. Having ROP can lead to being nearsighted, or having a detached retina, lazy eye or misaligned eyes. It also increases the risk of having glaucoma. These problems may be treated by:

- Wearing eyeglasses
- Taking eye drops
- Putting a patch on one eye
- Having eye surgery

Summary

Retinopathy of prematurity (ROP) is an eye disease in some premature babies. It causes unwanted blood vessels to grow on the baby's retina. These blood vessels can cause serious eye and vision problems later. An ophthalmologist can look for ROP in premature infants, though it may not be found until 4–6 weeks after birth.

ROP can go away on its own as an infant grows. If it does not, the baby needs to be treated. It is treated by stopping abnormal blood vessel growth on the retina. A laser or a freezing instrument can be used to do this. Also, injections of medicine into the eye may help stop the blood vessel growth.

Babies with ROP should be checked regularly by an ophthalmologist to prevent or treat any vision problems.

If you have any questions about your infant's eyes or vision, speak with your ophthalmologist. He or she is committed to protecting your child's sight.

Get more information about retinopathy of prematurity from EyeSmart—provided by the American Academy of Ophthalmology—at **aao.org/rop-link**.

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