

Anti-VEGF injections for babies with retinopathy of prematurity (ROP)

This information leaflet for parents and carers explains about anti-VEGF injections. They are a treatment for an eye condition called retinopathy of prematurity (ROP). If you have any more questions or concerns, please speak to a doctor or nurse caring for your baby.

What is retinopathy of prematurity (ROP)?

ROP is an eye condition that can affect premature babies. It causes abnormal blood vessels to grow in the eyes and can lead to blindness.

The blood vessels in the eyes grow during pregnancy and are fully developed by 40 weeks. Babies who are born prematurely do not have fully grown blood vessels. This means that abnormal vessels can form.

There is a national screening programme for babies who are born before 32 weeks of pregnancy or weigh less than 1,500g at birth. The aim is to monitor the growth of the blood vessels in the eyes. As a result, an eye specialist (ophthalmologist) has examined your baby's eyes regularly.

Most babies with ROP do not need treatment because the condition corrects itself. However, a small proportion of babies (about 1 in 25 or 4%) need treatment to avoid future complications that could affect their sight.

What is anti-VEGF medicine?

VEGF stands for vascular endothelial growth factor. This is a protein that the body makes to help blood vessels grow and develop.

If a baby has ROP, VEGF can make their body build fragile new blood vessels. They may cause bleeding, scarring and retinal detachment. A retinal detachment is when the thin, light-sensitive layer (retina) at the back of the eye becomes loose. It can lead to blindness and we may need to do urgent surgery.

Anti-VEGF medicine is a treatment that reduces the growth of abnormal blood vessels.

What happens during the treatment?

We give your baby anti-VEGF medicine as an injection into the eye. This can be an upsetting thought for a parent or carer. However, we would like to reassure you that the procedure is quick and straightforward, and your baby stays comfortable.

Before the procedure, you talk to the children's eye (paediatric ophthalmology) team. They explain all the information that you need to know. If you are worried, the team can answer any more questions that you might have.

We ask you to sign a consent form to confirm that you are happy with the treatment plan. Usually, we do the injection on the ward at the bedside. During the procedure, you need to leave the bedside and stay in the waiting area or get yourself some refreshments. You may be away from your baby for about 30 minutes altogether, but we spend most of this time getting the equipment ready.

We give your baby eye drops in both eyes to widen (dilate) the central opening (pupil) and to make their eyes numb (a local anaesthetic medicine). After this, we usually take a series of photos to record the stage of ROP that your baby has.

When we have set up the equipment, we give your baby the anti-VEGF injection. This injection is quick and painless. The team then immediately invites you to return to your baby.

Why is this treatment suitable for my baby?

The treatment that the eye specialist recommends for your baby depends on their specific type of ROP. Evidence shows that anti-VEGF medicine is an effective treatment for ROP affecting the back of the eye.

What are the benefits?

The aim of the treatment is to stop ROP progressing and reduce the risk of sight loss.

What are the risks?

As with any medical treatment, there are some risks involved. These are summarised here, but the children's eye team helps you to understand the risks before the procedure. You can talk to us about any concerns before giving your permission (consent) for the treatment.

In rare cases, your baby may have bleeding inside the eye, infection, retinal detachment, a cataract (cloudy lens) or glaucoma (raised eye pressure). There is a chance that the ROP may continue to progress and your baby may need more treatment.

Anti-VEGF treatment for ROP is relatively new. This means that there is not much evidence about if there are any long-term side effects of treatment.

When does my baby have the treatment?

We do the injection within 48 hours of finding that your baby needs treatment.

Who does the treatment?

An eye specialist (ophthalmologist) who is suitably trained in this procedure gives your baby the injection. There is usually a small team of eye specialists to help the doctor with the procedure.

What happens after the treatment?

Your baby may cry after the injection. This is a common reaction and to be expected. It does not mean that your baby is in any pain. There may be a small amount of redness on the white of their eye where we did the injection. The redness can take about 1 to 2 weeks to resolve.

We may prescribe your baby antibiotic eye drops for a couple of days after the injection. Your baby usually has widened (dilated) pupils for the rest of the day. This gradually disappears.

Your baby is likely to stay on the same ward after the injection, unless you plan to return to another hospital.

Does my baby have a follow-up appointment?

The eye specialist returns to review your baby on the ward within 1 week. After this review, your baby remains under the care of the children's eye team for several months. Your baby stays in our care until they are at least 54 weeks post-menstrual age (their age in weeks from the time of their mother's last menstrual cycle). Most babies do not need any more treatment.

Babies who get ROP are more likely to need glasses in future or have a squint (when their eyes point in different directions). This applies even if they have treatment for ROP. For this reason, your child may continue to see the eye specialist throughout their childhood for other conditions.

Are there any other treatment options?

We believe that an anti-VEGF injection is the most suitable treatment option for your baby and in their best interests. The other option would be for your baby not to have the injection.

You can decide if you give permission (consent) for your baby to have the treatment. To help you make an informed decision, you can speak with the eye specialist in detail before the treatment. If needed, you can also talk to the neonatal team and anaesthetic specialist.

Based on early studies, there is a risk of about 6 or 7 in 10 (60 to 70%) of having significant sight loss (visual impairment) without treatment.

Contact us

If you have any questions or concerns, the children's eye (paediatric ophthalmology) team at St Thomas' Hospital is available every day within working hours. If you need to contact us, please tell your neonatal team.

Evelina London Medicines Helpline

If you have any questions or concerns about your child's medicines, please speak to the staff caring for them or contact our helpline, **phone** 020 7188 3003, Monday to Friday, 10am to 5pm **email** letstalkmedicines@gstt.nhs.uk

Leaflet number: 4974/VER2

Date published: September 2023

Review date: September 2026

© 2023 Guy's and St Thomas' NHS Foundation Trust
A list of sources is available on request