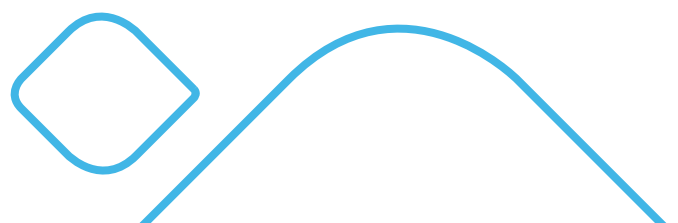


Eye injection treatment for RVO

This leaflet is written for patients who require treatment with injections into the eye for **macular oedema secondary to retinal vein occlusion (RVO)**. The retina is the light sensitive tissue that lines the back of the eye. Blood reaches the retina through a single artery and leaves the retina through a single vein, but this has many smaller branches that help to supply the whole surface of the retina with oxygen. When one of the retinal veins gets blocked, blood and fluid leaks out – causing swelling of the retina. This usually causing blurring of vision and is referred to as **macular oedema**.

Eye injection treatment is available for macular oedema secondary to RVO. These injections are highly effective in preserving central vision in many people.

There are many causes of a blocked retinal vein. This includes high blood pressure, raised cholesterol levels in the blood, smoking, diabetes, glaucoma, certain rare blood disorders, or a combination of these risk factors. Sometimes the underlying cause is not found. Your clinician may request blood tests to determine the cause of the RVO and may check your blood pressure. **It is essential to identify and treat any risk factors to reduce the risk to the other eye and to prevent further vein occlusion in the affected eye. Maintaining a healthy diet, not smoking, and taking regular exercise are helpful in preventing further blockages.**



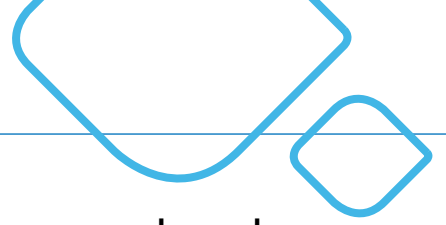
How do I prepare for my injection?

- You must not drive on the day of your injection.
- If you wear glasses for distance vision, please bring them with you.
- Do not wear makeup around or near the eyes or use false eyelashes.
- Continue to take medications and eye drops as normal.
- Please inform the team if there have been changes in your general health or medications since the previous visit.
- Call us if you are prescribed antibiotics for any infection during your course of eye injections.

How is the treatment given?

The injections are given by trained health professionals (doctors, nurses, orthoptists, and optometrists), with a member of nursing staff assisting. The drug is injected into your eye with a fine needle. Minimal discomfort is to be expected (usually less than having blood taken from your arm). The procedure takes five to ten minutes, but the injection itself is over in less than 20 seconds.

The injection is given with you lying down comfortably, or in a wheelchair if appropriate. Firstly, local anaesthetic drops are applied to numb your eye and minimise discomfort. Then, your eye and eyelids are cleaned to prevent infection. Your face and the area around your eye will be covered by a small surgical sheet (a drape) to keep the area sterile. A small clip (speculum) will be used to keep the eye open. We mark the site of injection and then deliver the treatment with a fine needle. Your vision is



assessed afterwards by checking that you can see hand movements or can count fingers. The injecting clinician will then clean around the eye and apply lubricant drops after the injection.

You will experience some visual disturbance as the medication moves around the eye, this varies a lot from large floaters to shapes in the vision but will clear over the next 3 days.

You will be given ocular lubricants to take home. These will provide some comfort after the injection, and it is highly recommended that you use these at least three times a day for up to 5 days.

What is the treatment pathway?

After an RVO, too much VEGF (vascular endothelial growth factor) is produced in the eye and this causes leakage of fluid from blood vessels, and swelling of the macula. Anti-VEGF drugs block the production of VEGF and reduce the swelling. With treatment, we aim for a “dry” macula with no fluid. **Most patients with this condition receive a standard ‘loading dose’ of four injections, approximately a month apart. After this phase, most patients will continue with injections. We will extend the time between injections if your eye responds well to treatment – this is the TREAT AND EXTEND protocol.**

At the next visit, an optometry technician will measure your vision and take Optical Coherence Tomography (OCT) scans of both eyes. These scans show the different layers of the retina at the back of the eye and allow us to detect subtle changes in the level of swelling in the retina. A clinician will review your scans

soon afterwards and decide the treatment interval for the next injection.

You will receive a letter (or in a few cases a phone call) to explain the outcome and the plan for your next injection.

Your treatment plan follows the TREAT AND EXTEND protocol for RVO. Depending on the level of disease activity, your clinician can determine the most appropriate treatment interval for your eye.

Increase in/change in activity

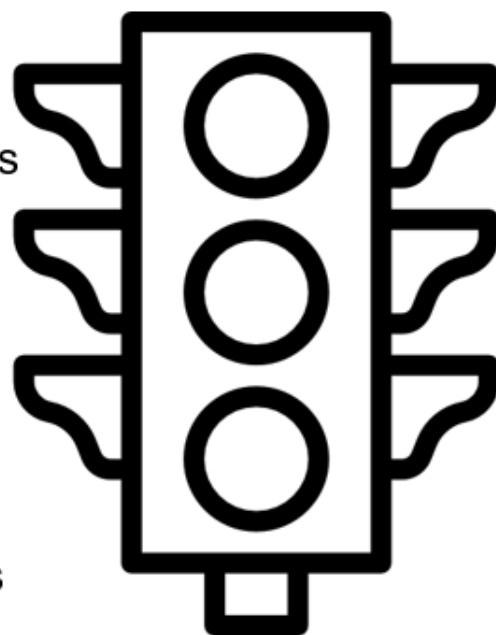
- Reduce injection interval by 2 weeks

Unclear activity change

- Maintain the same interval

Dry scan / no swelling

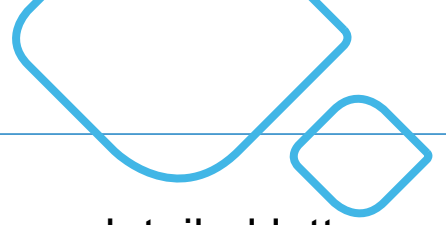
- Extend injection interval by 2 weeks



If your injection treatment isn't fully effective, your clinician may recommend a change in anti-VEGF drug, or an intraocular steroid injection if you are suitable – they will write to you, or contact you by telephone, to explain this.

We pause your injection treatment once you have reached the 20-week interval without signs of increased swelling in the retina – but we then monitor you for a year to ensure your condition remains stable before considering discharge from the service. You may require top-up injections if the swelling recurs.

If you have questions about your treatment, speak to the optometry technician on the day, and they can speak to the



reviewing clinician – who can then send a more detailed letter, or speak to you or a relative on the phone if appropriate.

Although we will measure the vision in both eyes and scan both eyes at each visit after the loading dose, it is important for you to let us know urgently if you notice a sudden change in vision in either eye between your visits here.

Is there any reason not to have anti-VEGF injections?

As with any medical procedure, there is a small risk of complications with anti-VEGF injections. Your clinician will discuss the risks and benefits with you before starting treatment.

You should not be given anti-VEGF injections if you have any of the following:

- Allergy to anti-VEGF or any of its ingredients.
- A significant infection anywhere in the body (not just in/around the eye).
- Have had a heart attack or stroke in the last three months.
- Have uncontrolled angina or uncontrolled high blood pressure.
- Are pregnant, planning to become pregnant, or are breast feeding (in this scenario the risks can be discussed with our consultants).

What do I need to be aware of after my injection?

You can carry out your normal day to day activities and read/watch TV as you normally would do.

You may drive a car the following day if your eye is comfortable and your vision feels clear enough to be safe by DVLA standards.

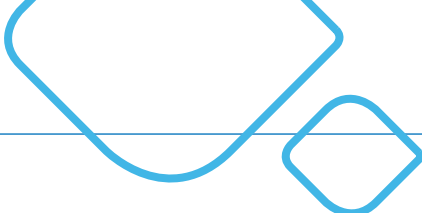
To help to reduce the risk of complications, please:

- Use the lubricating drops provided after your injection to keep the eye well moisturised and comfortable.
- Do not rub your eye after the injection – especially for the first hour as you will not have full sensation due to the anaesthetic drops and may cause harm.
- Do not use eye make-up for at least a day following the injection or use false eyelashes for 3 days after the injection.
- Take care when showering not to get water or shampoo in the eye.
- Do not use contact lenses for 3 days after the injection.
- Do not go swimming until 1 week after the injection.
- Allow at least 1 week before going out of the country on holiday after the injection.
- If you do experience any prolonged discomfort post injection, then please do use over the counter pain relief medication such as paracetamol. If the pain persists then please contact us.

What should I do if I am worried after my injection?

If you experience any of the following symptoms:

- Severe eye pain not aided by over-the-counter pain relief.
- Signs of infection (eye redness, discharge, light sensitivity).
- Worsening vision.

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- Flashing lights, a shower of floaters, or a curtain effect in your vision.

Please call the eye department immediately on **01225 826 989 (Option 3)** between the hours of 09:00 to 17:00 Monday to Friday.

If you have an emergency on evenings, bank holidays and weekends, please call the RUH switchboard on **01225 428 331** and ask for the on-call eye doctor.

Useful contact numbers

- Michelle (Anti-VEGF Administrator): 01225 826 456
- RUH Eye Care Liaison Officer: 07519 995 882 (pastoral support and signposting)
- RNIB Helpline (support and advice): 0303 123 9999 (Monday to Friday 08:00 – 20:00; Saturdays 09:00 to 13:00)

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