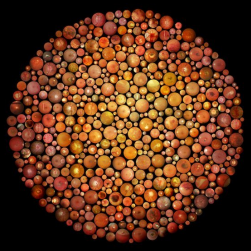
Anti-VEGF Injections

Patient Information Leaflet

MEDICAL RETINA



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KEY POINTS

- Anti-VEGF injections are the first-line treatment for several conditions that cause leakage or abnormal blood vessel growth at the back of the eye.
- The injection is given in the clinic under local anaesthetic and takes only a few minutes.
- Several different anti-VEGF medications are available; I will advise which is most suitable for you and will adjust the choice if your response to treatment suggests another would be better.
- Treatment is usually given as a course of monthly injections at the start, with intervals extended as your condition responds.
- Most private insurers authorise only an initial course (often three injections) and will require re-authorisation thereafter - I will discuss this with you before treatment begins.
- Serious side effects are rare. The most important is infection inside the eye, which occurs in approximately 1 in 2,000 to 1 in 3,000 injections.

What Are Anti-VEGF Injections?

Vascular endothelial growth factor (VEGF) is a naturally occurring protein that stimulates the growth of new blood vessels and increases the leakiness of existing ones. In a healthy eye, VEGF is tightly regulated. In certain retinal diseases, it is produced in excess - driving the growth of abnormal new vessels, fluid leakage into the retina, and bleeding.

Anti-VEGF medications are antibodies or antibody fragments that bind to and neutralise VEGF inside the eye. By blocking VEGF, they reduce leakage, stabilise the retina, and allow the eye to recover as much function as possible. Anti-VEGF injections do not cure the underlying disease, but in most patients they halt progression and often improve vision.

Response to treatment is assessed by comparing OCT scans over time. Effectiveness is usually indicated by a reduction in fluid at the macula and other anatomical improvements on the scan, which typically correspond to stabilisation or improvement in vision. Functional improvement often lags behind structural improvement, so there may be a delay before you notice the benefit of treatment.

Conditions Treated With Anti-VEGF Injections

Wet Age-Related Macular Degeneration (AMD)

Abnormal blood vessels grow beneath the macula, leaking fluid and blood. Anti-VEGF is the standard first-line treatment and is most effective when started early.

Diabetic Macular Oedema (DMO)

Fluid accumulates at the centre of the retina due to leakage from damaged diabetic blood vessels. Anti-VEGF reduces the swelling and improves vision in around half of patients.

Retinal Vein Occlusion (RVO)

A blocked retinal vein causes fluid to accumulate at the macula. Anti-VEGF is highly effective at clearing this fluid and is the mainstay of treatment in both branch (BRVO) and central (CRVO) occlusions.

Myopic Choroidal Neovascularisation

In short-sighted eyes, abnormal blood vessels can develop beneath the macula. These respond very well to anti-VEGF, often with only a small number of injections needed.

Proliferative Diabetic Retinopathy (PDR)

In advanced diabetic eye disease, fragile new blood vessels grow on the surface of the retina and can bleed. The CLARITY trial established anti-VEGF injections as an effective alternative to laser treatment (PRP) for PDR, particularly useful when diabetic macular oedema is also present.

Secondary Choroidal Neovascularisation

Abnormal new vessels can also develop beneath the macula as a complication of other conditions - including chronic central serous chorioretinopathy and inflammatory eye disease. Anti-VEGF is effective in these settings too.

The Medications Available

Five anti-VEGF medications are in regular use. All are given as a small injection into the eye, and all work through the same general mechanism, but they differ in their potency, their duration of action, and their cost.

Medication	Notes
Avastin (bevacizumab)	An effective and well-studied option, used off-label for retinal disease. Large randomised trials (CATT, IVAN, and Protocol AC) found it broadly comparable to the licensed alternatives. Substantially less expensive than the others, which can be a significant consideration for self-funding patients.
Lucentis (ranibizumab)	The first licensed anti-VEGF for eye disease and still widely used. A well-established treatment with a long safety record.
Eylea 2mg (aflibercept 2mg)	A high-affinity molecule that often allows injection intervals to be extended to every two months or longer once the condition is stable. Biosimilar versions (for example Afqlir) are now available for the 2mg formulation and offer the same efficacy at lower cost.
Eylea 8mg (aflibercept 8mg)	A higher-dose formulation licensed more recently, designed to further extend intervals between injections - up to every three or four months in suitable patients. Not available as a biosimilar.
Vabysmo (faricimab)	A newer medication that blocks two leakage-promoting proteins (VEGF and angiopoietin-2). Also designed to allow longer treatment intervals in responders.

Choosing Between Anti-VEGF Agents

The right medication depends on your specific condition, previous treatment response, lifestyle, and - in self-funded care - cost. Avastin remains a very reasonable first choice for many patients, supported by good trial evidence and significantly lower cost. Eylea and Vabysmo are often chosen when longer treatment intervals are a priority, or when a patient has not responded sufficiently to another agent. In practice, I frequently review the response over the first few injections and adjust the choice accordingly. If one medication is not working as well as hoped, switching to another is straightforward.

Funding Your Treatment

Private Medical Insurance

Most insurers will authorise an initial course of treatment - often three injections - before requiring re-authorisation based on your response. Some insurers restrict which medications they will fund, and a minority limit the total number of injections per policy year. I would encourage you to confirm the details with your insurer before starting treatment so that we can plan around any restrictions.

Self-Funding

If you are paying for your own treatment, cost is a legitimate factor in choosing a medication. Avastin is considerably less expensive than the licensed alternatives and is clinically effective for most of the conditions I treat. Aflibercept biosimilars (such as Afqlir) have also reduced the cost of Eylea 2mg. I will always discuss cost openly with you and help you balance it against the clinical considerations for your particular eye.

The Procedure

Injections are given in a clean clinic room. You will lie back comfortably, and your face around the eye will be cleaned with antiseptic. Anaesthetic drops are placed on the eye, and an eyelid holder is used to keep the eye open. The injection itself takes only a few seconds, given through the white of the eye. Most patients feel a brief pressure sensation rather than a sharp pain.

Afterwards, your eye may feel gritty for the rest of the day and the white of the eye may look bloodshot at the injection site. Over-the-counter artificial tears can help with the gritty sensation. You can usually return to normal activities the following day, although I would advise against swimming or very dusty environments for 48 hours.

Side Effects

Common and usually mild

- Red patch on the white of the eye at the injection site, clearing over 1 to 2 weeks
- A gritty or watery feeling lasting a day or two
- Floaters or small specks in your vision for a few days
- Brief flashes of light immediately after the injection

Rare but serious

- **Infection inside the eye (endophthalmitis)** - occurs in approximately 1 in 2,000 to 1 in 3,000 injections. Symptoms are worsening pain, increasing redness, and deteriorating vision, usually within a few days of the injection. Urgent treatment is essential.
- **Retinal tear or detachment** - very rare.
- **Raised eye pressure** - usually transient.
- **Cataract** - a very small risk from the needle passing through the eye.

Anti-VEGF injections also carry a small theoretical risk of cardiovascular events (stroke or heart attack), as tiny amounts of medication pass from the eye into the general circulation. The risk has been extensively studied and appears to be very low, but I will ask about your cardiovascular history before recommending treatment.

> **PLEASE CONTACT ME URGENTLY IF**
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> In the days after an injection you develop **worsening pain**, **increasing redness**, **sensitivity to light**, or **deteriorating vision**. These can be signs of infection and require immediate assessment. During working hours please contact my secretary; out of hours attend the emergency eye service at Sussex Eye Hospital.

Follow-Up and Treatment Schedule

Most conditions are treated with an initial course of monthly injections - typically three, depending on the indication - followed by an OCT scan to assess the response. From that point I will usually move to a “treat-and-extend” regimen: injections are continued, but the interval between them is gradually lengthened as long as the retina remains dry. If activity returns, the interval is shortened again. This approach aims to give each patient the minimum number of injections needed to keep the disease controlled.

Treatment duration varies. Some conditions, such as myopic CNV, may need only a short course of injections. Others, including wet AMD, typically require longer-term treatment - sometimes over several years - to maintain the gains achieved.

This leaflet provides general information about anti-VEGF injection treatment. It does not replace advice specific to your individual circumstances. Always discuss your symptoms and treatment options with me at your appointment.