



Eye Clinic
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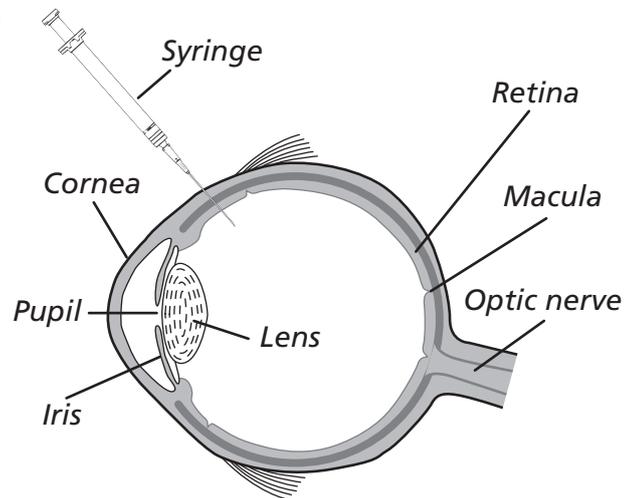
NHS

**East Suffolk and
North Essex**
NHS Foundation Trust

Intravitreal Injection

What is an intravitreal injection?

An intravitreal injection is the injection of a drug into the vitreous body (the jelly at the back of the eye). It is given through the sclera (the white of the eye). It may be given as a single injection or as a course of treatment where further injections will be required.



Why do I need an intravitreal injection?

There are many different conditions that may benefit from intravitreal injections and several different drugs that are used for the treatment of eye diseases. Your ophthalmologist will have explained to you why you need to have an intravitreal injection.

What drugs are injected?

1 The drugs most commonly used are anti-VEGF agents: ranibizumab (Lucentis), aflibercept (Eylea) and bevacizumab (Avastin). These are a relatively new class of drugs used in wet macular degeneration to slow or stop the growth of the abnormal blood vessels and leakage in the back of the eye (macula area of the retina). These drugs are also used to treat leakage at the back of the eye which can happen sometimes when diabetes affects the eye (diabetic macular edema) or following a blocked blood vessel (retinal vein occlusion) in the eye.

2 Anti-inflammatory drugs (steroids) are sometimes used to reduce swelling of the retina, and they are used in different conditions such as diabetic macular edema, retinal vein occlusion, macular degeneration, ocular inflammation (uveitis) and macular edema following intraocular surgery. The drugs used are dexamethasone implant (Ozurdex), triamcinolone, and fluocinolone acetonide implant (Iluvien).

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3 Intra-vitreous antibiotics are used in severe eye infections, and tend to be used in emergency situations.

4 Other drugs: ocriplasmin (Jetrea) etc.

Where does the procedure take place?

Injections are performed as an outpatient procedure either in the Garrett Anderson Eye Suite (Macular Unit) or in an operating theatre. You will be given the date, time and exact location by letter or telephone call before your admission for treatment.

How long will I be in the hospital for the treatment?

The preparation and the procedure take about one and a half hours during the 'treatment only' visit. They are performed as an outpatient procedure; that means you go home after the injection and return to normal activities.

The length of your stay depends on the need for additional examinations such as: the measurement of your vision, OCT scan, photography, or other tests which may take place on the same day. This can take a morning or afternoon, or sometimes even longer.

How do I prepare for the procedure?

- Make sure you understand the indication along with the potential risks of the procedure.
- Do not wear eye makeup on the day of the procedure.
- Inform your doctor if you regularly use eye drops such as glaucoma drops or artificial tears.
- Notify your doctor of any infection or inflammation in or around your eyes, or if you have a cold or flu.
- Notify your doctor if you have allergies to iodine, shellfish, or lignocaine.
- Notify your doctor if you have had a recent stroke or heart attack.
- Arrange for someone to drive you to and from your appointment.



What does the procedure involve?

You will have some local anaesthetic drops put in to numb the front surface of your eye. The skin around your eye will be cleaned with an iodine-based antiseptic solution and we will also instil antiseptic eye drops (Povidone-iodine) before the injection of the drug to reduce the risk of infection. Then you may have either a cotton bud soaked with local anaesthetic inserted at the site of injection (on the white part of the eye beneath the lid) or a local anaesthetic injection.

A small clip (speculum) will be used to keep the eye open. The drug is injected through the white of the eye (sclera) into the vitreous body and the entire procedure may take a few minutes. It is important that you keep still and lie as flat as possible.

During the injection your vision may suddenly go dark for a second or two. You will then see some black swirls in your vision which gradually disperse after a few days.

Will the injection be painful?

Although the surface of your eye is numb from the anaesthetic drops, you will probably notice a slight pain when the needle is entering the eye, similar to the needle scratch you feel when blood is drawn from your vein. The pain depends on various factors and some individuals may be more sensitive than others. The speculum (small clip used to keep the eye open) may cause 'pressure' sensation and discomfort in some patients. You may have a sensation of grit in your eye when the anaesthetic drops wear off. This usually settles in a few hours.

The benefits of treatment

- The aim of intra-vitreous therapy is to improve or stabilise your vision.
- **Anti-VEGF therapy (Lucentis, Eylea, Avastin):** These injections may not restore vision that has already been lost, and do not always prevent further loss of vision caused by the disease. Every patient is different and one may need ongoing treatment. Unfortunately, the effect of injections can wear off after a few weeks or months. These injections often need to be repeated every 4–6 weeks, sometimes indefinitely.
- In wet AMD (age-related macular degeneration), the treatment (Lucentis or Eylea injections) is successful in stabilising the vision in about 90% of individuals.



Risks of treatment

As with any medical or surgical procedure, there is a small risk of complications following intravitreal injections. Most complications that might occur are from the injection itself, rather than the drug. For most patients, the benefit of the treatment outweighs the small risk of injection injury.

Common side effects

- Pain during the procedure; red eye (due to bleeding at the point of injection, which clears in a week or two); sore and gritty eye; black 'blobs' or floaters in vision (may last for few days); and increased eye pressure.
- Some may experience severe pain or gritty sensation after few hours of the procedure which is usually due to a scratch on the cornea (clear window in the front of the eye). This may be due to drying of the surface and irritation from the iodine antiseptic drops and anaesthetic eye drops given at the time of the injection.
- Intravitreal **steroid** injections can increase the chances of cataract (the lens of the eye becoming cloudy) and glaucoma (raised pressure and optic nerve damage).

Serious side effects

Serious complications of the intravitreal injection procedure include retinal detachment, a macular hole, cataract formation and infection (endophthalmitis) within the eye. **Any of these serious complications may lead to severe, permanent loss of vision. In the clinical trials of anti-VEGF agents (Lucentis, Eylea), these complications occurred at a rate of less than 0.1% of injections (1 in every 1,000 cases). In the case of multiple injections for one patient the collective risk is about 1% (1 in 100).** Other serious events such as inflammation within the eye and increased pressure in the eye occurred at a rate of less than 2% (less than 2 out of every 100) in the clinical trials.

Systemic side effects

There is a theoretical **increased risk of experiencing blood clots (such as may cause heart attack or stroke)** after intravitreal administration of anti-VEGF agents (Lucentis, Eylea, Avastin). However, a low incidence of these events was seen in the clinical trials. Patients with a history of stroke may be at greater risk of having another stroke. If you have had a stroke or heart attack, please discuss this with your eye doctor or nurse.



Instructions following an intravitreal injection

- There are no special precautions except to avoid rubbing the eye.
- Instil the antibiotic eye drops or ointment as prescribed.
- You can instil the antibiotic eye drops more frequently to lubricate your eyes and to alleviate any discomfort during the first few days, if helpful.
- You can also take your normal pain relief medication to alleviate any discomfort during the first few days.
- Your vision may be misty for a few days. The floaters or 'black swirls' will gradually disperse but this can take a few days and sometimes weeks (for example with steroid injection).

Warning symptoms

If the eye becomes very painful, increasingly red or your vision suddenly deteriorates, please telephone the hospital switchboard on **01473 712233** and **ask for the Eye Clinic Coordinator** (Monday – Friday, 8.30 am to 4.30 pm) or call the **Garrett Anderson Eye Suite** on **01473 702806** or **01473 702807** (Monday – Friday, 8.30 am to 5 pm).

Outside these hours please telephone the hospital switchboard on **01473 712233** and **ask for the eye doctor on-call**.

Your eye drops / ointment is / are called _____

Please put into the right / left / both eyes _____ times a day for _____ days.

**Please wash your hands before and after
putting in your eye drops / ointment.**



Summary

- The aim of intravitreal therapy is to stabilise or improve your vision.
- The outcome depends largely upon your individual eye condition. Your condition may not get better or may become worse despite these injections.
- Injections into the eye are generally very safe procedures.
- Rarely side effects may happen and some may be serious. Additional procedures may be needed to treat these complications.
- 'Each' injection procedure/visit carries similar risk of developing any of the side-effects or complications described above.
- You must keep the scheduled treatment and monitoring (clinic) appointments so that staff can check the response to treatment and complications.
- It is not guaranteed that a particular individual will perform the procedure. The doctor/healthcare professional will, however, have the appropriate experience.