

Patient information

Anti-VEGF intravitreal injection treatment

This information sheet is written for patients who might undergo treatment with anti-angiogenic (anti-VEGF) drugs. This treatment involves having an injection into your eye to treat certain retinal conditions, such as wet macular degeneration, that cause abnormal blood vessels to grow and leak under the retina.

Patients with these conditions can lose central vision when abnormal blood vessels bleed under the retina at the back of the eye. A series of injections of anti-VEGF medicines are given into the back of your eye to stop these blood vessels growing and help control the leaking blood. This treatment is highly effective in preserving central vision in many people.

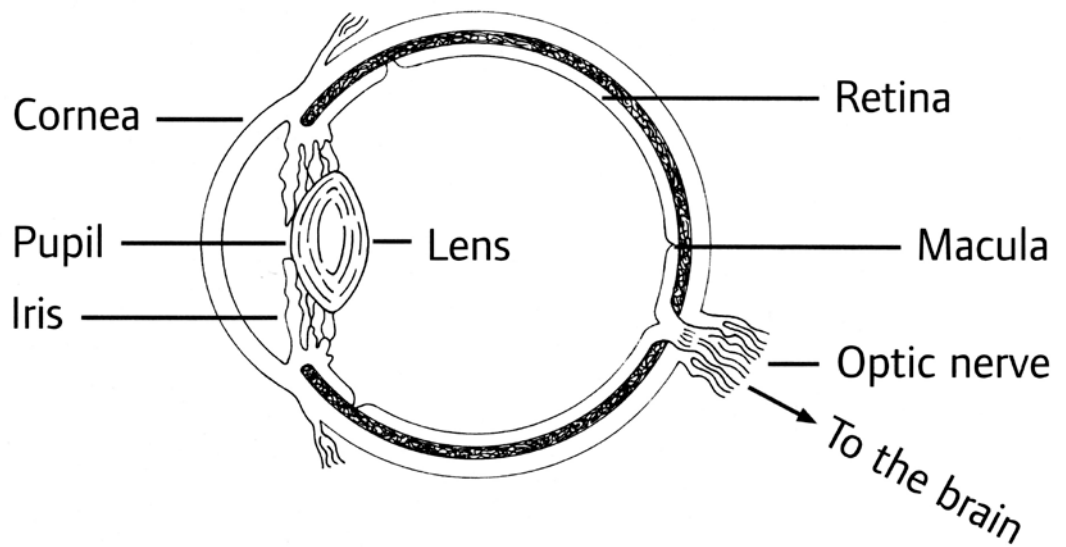
In which common conditions might this occur?

- Wet age-related macular degeneration
- Myopic choroidal neovascularization
- Any other retinal conditions that causes fluid to leak under the retina

What is age-related macular degeneration (AMD)?

Age-related macular degeneration (AMD) is the leading cause of vision loss in people aged 50 years or older. It involves damage to the part of the eye called the macula. The macula is a small, but extremely important area located at the centre of the retina, the light-sensing tissue that lines the back of the eye.

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Sub-retinal bleeding at the macula in wet macular degeneration

The macula is responsible for seeing fine details clearly. A person with AMD loses the ability to see fine details, both close-up and at a distance. This affects only the central vision. The side, or peripheral, vision usually remains normal. For example, when people with AMD look at a clock, they can see the clock's outline but cannot tell what time it is, or they will lose the ability to recognise people as shown below.



What is different about “wet” AMD?

There are two types of AMD. Most people (about 75%) have a form called “early” or “dry” AMD, which develops when there is a waste build-up under the macula. This state is compatible with normal or near normal vision. A minority of patients with early (dry) AMD can progress to the vision-threatening forms of AMD called late AMD. The commonest form of late AMD is “exudative” or “wet” AMD. Wet AMD occurs when abnormal blood vessels grow underneath the retina. These unhealthy vessels leak blood and fluid, which can prevent the retina from working properly. Severe damage leads to severe permanent loss of central vision, but the eye is not usually at risk of losing all vision (going 'blind') as the ability to see in the periphery remains. There is a rarer form of late AMD called geographic atrophy, where vision is lost through the macula tissue becoming completely worn out and there are no

leaking blood vessels. Unfortunately, anti-angiogenic medicines cannot help this form of late AMD.

What is myopic choroidal neovascularization?

This condition occurs in people who are highly myopic (short-sighted). When someone is highly short-sighted, the retina at the back of the eye is stretched due to the increased size of the eye associated with short-sightedness. This stretching can make the retina thinner and prone to splitting. When this occurs, blood vessels from the choroid (the layer of the eye behind the retina) can grow into the retinal space. These new vessels (neovascularisation) leak blood and fluid, which can prevent the retina from working properly. Severe damage leads to severe permanent loss of central vision.

How does an injection of these anti-VEGF medicines prevent visual loss?

Anti-VEGF medicines stop the abnormal blood vessels leaking, growing and then bleeding under the retina. Vascular endothelial growth factor (VEGF) is a protein that promotes the growth of new blood vessels. It also makes the blood vessels more leaky. Anti-VEGF medicines stop the growth of these new blood vessels. This prevents damage to the retinal light receptors and loss of central vision. These medicines are effective in preventing further central vision loss in up to 90% of treated eyes. Your ophthalmologist will decide the most appropriate treatment for you.

Is anti-VEGF treatment right for you?

Your ophthalmologist will determine if the treatment is appropriate for you. Only patients with active leaking of blood and fluid can benefit from it. The treatment that's right for you will depend on the specific condition of your central retina (macula), your vision at presentation and whether there is scarring at the centre. We perform scans and photographs of the eye which show us the different layers of the retina. These scans can show us if there is blood or fluid present within the retinal layers and help us decide on treatment.

How is the treatment given?

The drug is injected into your eye with a fine needle. Minimal discomfort is to be expected (equivalent to having blood taken from your arm). The procedure takes five to seven minutes, but the injection itself is over in less than 20 seconds. The injection is

given with you lying down comfortably on the couch. Local anaesthetic drops are applied to numb your eye and minimise discomfort. Your eyelids and surface of the eye are cleaned to prevent infection. Your face and the area around your eye will be covered by a drape to keep the area sterile. A small clip (speculum) will be used to keep the eye open (picture below). Further anaesthetic and antibiotic drops are put into the eye. The injection site is marked with callipers and your eye is stabilised with forceps or a cotton bud. A few seconds later, the injection is given. Your vision is assessed post injection by checking hand movements or counting fingers and a final lot of antibiotic drops are instilled before the drapes are taken off.



Picture showing eye draped with a speculum in place. The cotton bud is stabilising the eye while the injection is being given.

Who will give the injection?

These injections will be given either by an ophthalmologist or a registered nurse practitioner or an optometrist, who have undergone the appropriate training.

What happens after the treatment?

You will be given antibiotic drops to take home with the instruction to put them in four times a day for five days. You might have to wait to have your pressure checked. Your next appointment is scheduled the same day or sent to you by post. Also, your GP is sent a letter after every visit. Most patients require a loading course of three injections at regular intervals of four weeks. After the first three courses of injections, the majority of patients will require further injections depending on the leakiness of the blood vessels. Patients will need to be reviewed at regular intervals (usually four to six weeks) when further treatment might be given to maintain the benefits of therapy.

Who should not be treated with anti-VEGF?

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

- Allergy to anti-VEGF or any of its ingredients.
- If you have an infection in or around either eye or severe infection anywhere in your body
- If you are trying to become pregnant, are already pregnant, or are breast-feeding

Anti-VEGF should be used with caution in patients with the following conditions:

- If you have had a heart attack or stroke in the last six months
- If you have uncontrolled angina or uncontrolled high blood pressure

What are the risks with these injections?

As with any medical procedure, there is a small risk of complications following anti-VEGF treatment. 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. For a list of rare and common side effects of the drugs, please see the individual drug patient information leaflets.

The following are the major potential risks and side effects of anti-VEGF injections, but this is not a complete list of all risks. These risks are all rare. Significant loss of vision due to this treatment is very uncommon.

- Serious eye infection (one in 1,000 cases)
- Detached retina
- Increase in eye pressure
- Blood clots and bleeding in the eye
- Inflammation inside the eye
- Cataract

Some common side effects that could occur include:

- Red eye (there is usually a bleed on the white part/sub-conjunctival space at the point of injection, which clears in a week or two)
- Sore and gritty eye (slight ache and discomfort lasting a day or two)

- ‘Blobs’ or ‘small specks’ in your vision (‘floaters’) might be seen for a few days after the injection. Also, there could be transient flashing lights or swirls of light immediately after the injection

Can other medicines or food affect anti-VEGF treatments?

Anti-VEGF and certain other medicines can interact with each other. Some patients have developed a serious eye inflammation when receiving treatment with both anti-VEGF and verteporfin (Visudyne) photodynamic therapy (PDT).

Tell your eye surgeon about all the medicines you take, whether prescription or non-prescription medicines, including blood pressure medication, warfarin, aspirin, and vitamins. Also, inform the doctor if any medication has changed since your last visit.

Other information

You might notice some discomfort and redness for the first few days after your treatment. This is often due to the nature of the antiseptic used. If your eye becomes progressively red, sensitive to light, swollen and painful, or your vision gets worse after the anti-VEGF treatment, you must seek medical help. This might indicate infection and normally occurs within the first week after the injection, but the risk is minimal.

There are no special precautions following intravitreal injections. You can travel, and if you have any of the above problems, please see an ophthalmologist. Avoid getting water into your eye or swimming for the first few days.

What should I do if I am worried after receiving my treatment?

Contact the following numbers:

- Moorfields AMD help line on 07872 419 211, Monday to Friday 08.00 – 16.30
- AMD appointments on 020 7566 2311 or the AMD clinic on 020 7566 2001
- Out of hours: 020 7253 3411 or go to the accident and emergency department at Moorfields Eye Hospital, City Road, London EC1V 2PD.
- Moorfields Eye Hospital pharmacy department on 020 7566 2369, Monday to Friday 9.00am to 5.30pm

For further information about the medicine used in your treatment please see the comprehensive Patient Information Leaflet (PIL) given to you with this leaflet.

Moorfields Eye Hospital NHS Foundation Trust
City Road, London EC1V 2PD
Phone: 020 7253 3411
www.moorfields.nhs.uk

Moorfields Direct telephone helpline

Phone: 020 7566 2345

Monday to Friday, 9am to 4.30pm, for information and advice on eye conditions and treatments from experienced ophthalmic-trained nurses.

Under the NHS constitution, all patients have the right to start their consultant-led treatment within 18 weeks of being referred by their GP. Moorfields is committed to fulfilling this right, but if you feel that we have failed to do so, please contact our patient advice and liaison service (PALS) who will be able to advise you further. The PALS team can be contacted on 020 7566 2324/2325 or by email to pals@moorfields.nhs.uk. For more information about your rights under the NHS constitution, please visit www.nhs.uk/choiceinthenhs.

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