



# Irish College of Ophthalmologists

**PATIENT INFORMATION LEAFLET**

## Treatment of Retinal Vein Occlusion with Intravitreal Injection of Anti-VEGF Drugs



Irish College of  
Ophthalmologists  
*Eye Doctors of Ireland*  
*Protecting your Vision*

**Irish College of Ophthalmologists**

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**Name of Consultant:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Emergency contact details:** \_\_\_\_\_

## Introduction

You have an eye condition called Retinal Vein Occlusion (RVO). Retinal Vein Occlusion can result in leakage of fluid into the area of central vision or Macular Oedema which can cause further impairment of vision. Macular Oedema can be treated by injection of medicine into the back of the eye (known as an intravitreal injection). In order to undergo this treatment, you have to give consent and to sign the hospital consent form where appropriate. Before you sign the consent form, it is important that you fully understand the treatment you are about to have, including alternative treatments and any risks or side-effects.

### What is Retinal Vein Occlusion?

Retinal Vein Occlusion occurs as a result of a blockage in the vein that drains blood from the retina due to a thrombus. It is the second commonest cause of loss of sight in older people. It can affect either the Central (CRVO) or Branch Retinal Vein (BRVO).

### How is Retinal Vein Occlusion treated?

Anti-VEGF drugs are medicines given by injection into the eye and act to slow or stop the leakage of fluid into central vision or macular oedema. Although some patients have regained vision, most patients' vision will stabilise after treatment. Treatment of Retinal Vein Occlusion cannot undo the changes already present in the eye, and the goal of treatment is therefore to prevent further loss of vision. Anti-VEGF injections may not restore vision that has already been lost, and does not always prevent further loss of vision caused by the disease.

### How is the treatment given?

Eye drops are administered to dilate the pupil and sterilise the eye. Once the pupil is dilated, the actual procedure takes around fifteen minutes. You will be brought to the procedure room, and asked to lie in a comfortable position on a trolley. The eye is numbed with anaesthetic drops and washed with iodine. The eyelids are held open with an instrument called a speculum. The medication is injected into the vitreous humour, which is the jelly-like substance inside the back of the eye. You may experience slight discomfort, a feeling of pressure, or a sharp feeling on the eye at the time of injection.

Anti-VEGF injections are repeated into your eye once a month for three to six months, and later as needed at regular intervals. Your ophthalmologist (eye doctor) will tell you how often you will receive the injections and over what length of time. It is often necessary to attend for eye examinations and/or injections on a regular basis over several years.

## **What other treatment options are available?**

Other forms of treatment are available for Retinal Vein Occlusion. Laser photocoagulation can be used as an alternative treatment for macular oedema to reduce the risk of severe further vision loss. Sometimes retinal laser is recommended where blinding complications such as bleeding inside the eye (vitreous haemorrhage) or high eye pressure (rubeotic glaucoma) occur or are considered at high risk. Sometimes other medications given by injection can be used. These options can be discussed with you by your eye doctor.

You do not have to receive treatment for your condition; however, without treatment your vision may continue to worsen to the point where treatment may no longer help. Severe central retinal vein can lead to a blind and painful eye due to complicating rubeotic glaucoma. Severe branch Retinal Vein Occlusion can lead to sudden loss of sight due to bleeding inside the eye or vitreous haemorrhage.

## **What are the risks of treatment?**

### **Risks of intravitreal eye injections**

All surgical procedures have an inherent risk, however, the vast majority of patients have no serious problem following the procedure. Serious complications of the intravitreal procedure include infection (endophthalmitis), retinal detachment, cataract formation and vitreous haemorrhage. Any of these serious complications may lead to decreased vision and/or have a possibility of causing blindness, or even loss of the eye. In the clinical trials, these complications occurred at a rate of less than 0.1% of injections (1 in every 1,000 cases). 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. Additional procedures may be needed to treat these complications.

### **What to expect after an injection**

- After the injection, you may have a gritty feeling and the eye may look bloodshot for a few days.
- 25% of patients will experience a blood spot on the surface of the eye at the site of the injection. This will not alter your vision.
- You may see floaters, which will become smaller and will disappear over one to two weeks.
- 10% of patients may experience eye pain relating to the pre-injection preparation procedure (eyelid speculum, eye drops, eye wash).
- 7% of patients will experience vitreous floaters or spots in the vision.
- Less than 10% will experience abrasion of the cornea, inflammation of the eye and visual disturbance.
- 8% of patients will experience a rise in intraocular pressure
- 7% of patients will develop a vitreous separation/vitreous detachment.

During follow up visits or telephone calls, you will be checked for possible side-effects, and the result will be discussed with you

### **Complications of Intravitreal anti-VEGF in other body parts**

There is a theoretical increased risk of experiencing blood clots (such as may cause heart attack or stroke) after intravitreal injection of medicines such as anti-VEGF, that effect the growth of blood vessels. However, a low incidence of these events were seen in the clinical trials. Patients with a history of stroke may be at greater risk for another stroke. If you have a history of stroke,

please discuss this with your eye doctor. Low levels of anti-VEGF can reach your blood stream after injection into the eye.

### **Coincidental risk**

Whenever a medication is used in a large cohort of patients, coincidental problems may occur that could have no relationship to the treatment. For example, patients with high blood pressure or smokers are already at increased risk for heart attacks and strokes. If a patient being treated with anti-VEGF drugs suffers a heart attack or stroke, it may be as a result of a patient's high blood pressure and/or smoking, and not necessarily due to the treatment.

Your condition may not get better, or may even become worse despite these injections. This treatment might not be effective for you.

### **Patient responsibilities**

**Contact the emergency number you have been given or attend the eye accident and emergency department if you experience any major problems after an injection.**

Problems suggestive of an infection can include:

- Eye pain (as against the normal discomfort after the procedure)
- Blurring or new decreased vision (as against after the procedure)
- Extreme light sensitivity
- Pus or other discharge coming from the eye

**YOU can help prevent or reduce these problems:**

1. Do not rub your eye.
2. Do not go swimming for five days after each injection.
3. Wash your hands carefully before you apply the eye drops.
4. Avoid strenuous activity and lifting heavy objects.
5. Avoid getting soap or shampoo into your eye.
6. Avoid wearing eye make-up for up to one week.
7. Call your eye doctor (ophthalmologist) right away if you notice any of the above listed symptoms.
8. Keep all follow up appointments.

**If there are any signs of eye/eyelid infection present on the day of your planned injection, your treatment may need to be re-booked for another time to allow control of such infection. Please inform your doctor if you have a sticky or discharging eye.**

## **Irish College of Ophthalmologists**

The Irish College of Ophthalmologists (ICO) is the training and professional body for eye doctors in Ireland.

The ICO is dedicated to promoting and setting the highest standards of excellence and patient care in the practice of ophthalmology in Ireland. We do this by educating eye doctors in training, providing on-going education for eye doctors in practice, giving accurate medical advice to the public and policy guidance to the government.

**For further information, visit [www.eyedoctors.ie](http://www.eyedoctors.ie)**