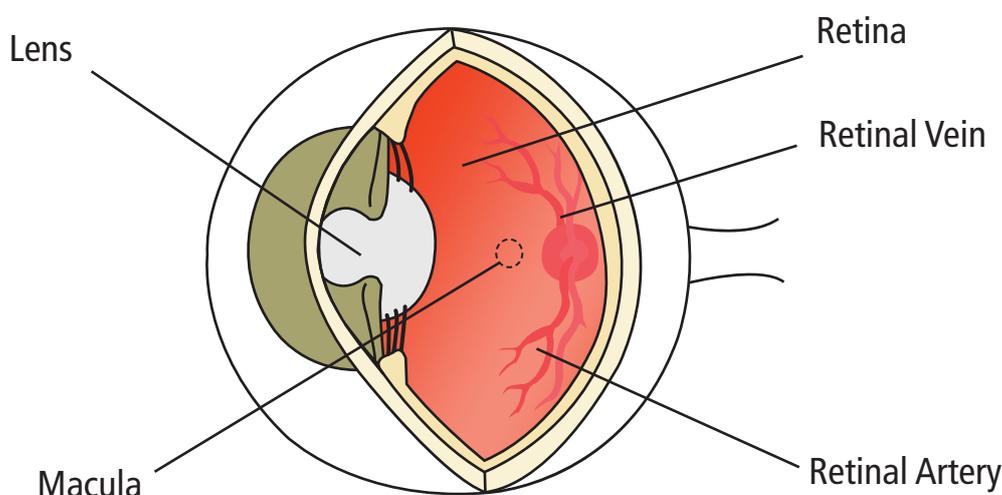


# Retinal vein occlusion

affix patient label

## What is retinal vein occlusion?

The tissue at the back of the eye is the retina, it can be thought of as being like the film in a camera. The central part of the retina, which provides the detailed sharp central vision, is called the macula. The blood flow to the retina involves 'arteries' which bring blood from the heart and 'veins' which drain blood away to the heart.



Retinal vein occlusion occurs when one of these veins is blocked by a blood clot that prevents the blood draining from the retina. This causes blood and fluid to leak into the retinal tissue. Depending upon where the blockage is, retinal vein occlusion is divided into two types:

- **Central retinal vein occlusion (CRVO)** – the blockage occurs in the main retinal vein causing damage to the entire retina.
- **Branch retinal vein occlusion (BRVO)** – the blockage occurs in one of the branches of the main vein causing damage to the part of the retina in the area drained by that vein.

## What causes retinal vein occlusion?

The exact cause for this is not known. It is thought that the pressure from the retinal artery crossing over the vein may cause the clot to form. The common risk factors for developing retinal vein occlusion are high blood pressure, diabetes, high cholesterol, smoking and glaucoma. Less commonly, patients may be suffering from rare conditions affecting the blood or inflammation of the blood vessels at the back of the eye.

## Why is sight affected?

There are two reasons for this:

- **Swelling of the macula (macular oedema)** – this means waterlogging of the macula caused by leaking fluid. As the macula is responsible for detailed sharp vision, macular oedema causes blurred vision.
- **New blood vessels growth (neovascularisation)** – occasionally fragile and leaky blood vessels can grow as a consequence of the vein occlusion. These abnormal blood vessels may bleed inside the eye, causing what is called a vitreous haemorrhage, or put the pressure up in the eye, causing a condition called glaucoma.

## What tests are required?

Some blood tests and a blood pressure measurement will be carried out to check that you do not have any risk factor contributing to your condition. Specialized photographs of the retina will be arranged to help decide what treatment, if any, you need:

- **Fundus fluorescein angiography** – in this test a dye is injected in the arm and photographs are taken of the dye as it passes through the blood vessels at the back of your eye.
- **OCT retinal scan** – this is a simple test which uses a light beam to build up a detailed picture of the retina.

## What is the purpose of these tests?

They will help decide whether treatment is necessary and how effective the treatment is likely to be in improving your vision.

## What are the treatment options?

The available treatment can be divided broadly into two categories. Please remember there is no treatment to unblock the vein.

- **Treatment for macular oedema** – this is aimed at resolving macular oedema and improving vision. Treatment options are described below.
- **Treatment for neovascularisation** – this is a damage limitation measure. The aim here is not to improve vision but to prevent haemorrhage in the eye or prevent painful glaucoma. An extensive laser treatment is given to the peripheral retina.

## What are the treatment options for macular oedema?

1. **Observation** – in a small proportion of patients, macular oedema can resolve spontaneously. However it is not easy to predict who will benefit from just observation.
2. **Laser treatment to macula** – this involves applying laser burns in the macular region. Several applications are given in a session and more than one session may be needed. Laser treatment is not beneficial in all cases and never beneficial in certain types of vein occlusion (CRVO).

3. **Injection of anti-vascular endothelial growth factor (anti-VEGF) drugs in the eye** – Lucentis and Eylea are the anti-VEGF drugs that work on leaky blood vessels to help reduce the fluid in the macula. Injections are given in an outpatient setting under local anaesthesia. One injection is given every month for the first three months. After this time, regular assessment will continue, during which further injections may be needed.
4. **Injection of Ozurdex in the eye** – Ozurdex is a very small dissolvable steroid implant which is injected in the eye under local anaesthesia. The effect of treatment lasts 3-4 months and it can be repeated thereafter.

### **Which treatment is most effective?**

A combination of treatments may be more effective and your doctor will discuss this with you if appropriate. In research trials anti-VEGF injections have shown to be most effective in improving sight, followed by Ozurdex implant and then laser. In BRVO the success rate of improving sight is approximately 60% while in CRVO the success rate is approximately 45%.

### **How is the injection given?**

It is an outpatient procedure and takes only a few minutes:

1. The nurse will instill antiseptic and local anaesthetic drops into your eye and then the eye will be cleaned with an antiseptic solution.
2. The injection is given into the eye. It is not a painful procedure but most people describe it as a brief 'sharp scratch'.
3. You will be asked to wait for a short time before going home to ensure there are no problems.

### **What are the side effects?**

You may experience temporary blurring of vision and minor discomfort for a day. Some patients experience severe pain for a day or two. We advise you to use plenty of lubricating eye drops during this time. You may see a few 'floaters' or 'bubbles' for a few days.

### **Are there any risks or complications?**

As with all procedures, there are some possible risks, but the benefits usually outweigh the risks. An Anti-VEGF injection carries a small risk (0.3%) of sight-threatening infection in the eye (endophthalmitis). There is a small risk of glaucoma (increased pressure in the eye) and cataract (cloudy lens). With frequent injections there is a small risk (1-2%) of cardiovascular events such as heart attack and stroke.

With Ozurdex treatment the main risks are glaucoma (increased pressure in the eye) and cataract (cloudy lens) in approximately 25% cases. The injection carries a small risk (0.3%) of sight-threatening infection in the eye (endophthalmitis). In all cases, there is a very small risk of accidental injury to lens, retina or other eye structures. The risk of total sight loss due to any complication is less than 1 in 1000.

**What should I look out for?**

If you experience sudden loss of vision after injection especially associated with severe pain, contact the emergency number: 01872 252324.

**How long is the treatment required?**

If the treatment is successful initially, it can be carried on for up to 2 years. In some cases if macular oedema keeps recurring, the treatment can be extended. If treatment fails to relieve macular oedema in the first instance further treatment should be stopped.

**Why does the treatment not work in everyone?**

This may be because, despite successfully treating the swelling at the back of your eye, the vision fails to improve as a result of structural damage to the retina caused by the vein occlusion itself. Sometimes the treatment does not improve the macular swelling and sometimes the vision gets worse because of a worsening of the vein occlusion or complications from the treatment as described above.

**Any questions?**

This leaflet provides just an overview of retinal vein occlusion. If you have any questions please don't hesitate to speak to us during your clinic visit. Further information can also be obtained by contacting:

Royal National Institute for Blind (RNIB) on 0303 123 9999 or  
Macular Disease Society (MDS) on 0300 3030 111

If you would like this leaflet in large print, Braille, audio version or in another language, please contact the General Office on 01872 252690

**CONSENT FORM 1**  
**PROCEDURE SPECIFIC PATIENT AGREEMENT**

NHS number: \_\_\_\_\_  
 Name of patient: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Date of birth: \_\_\_\_\_  
 CR number: \_\_\_\_\_

# Retinal vein occlusion

## Intravitreal injection of therapeutic drug

**STATEMENT OF HEALTH PROFESSIONAL** (to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)

**Procedure: Intravitreal injection (injection in to the jelly of the eye)**

Drug to be injected:    Lucentis                        Eylea              
    Ozurdex                        Other (please specify): \_\_\_\_\_  
 Eye:                            Right eye                        Left eye           

**I have explained the procedure to the patient.** In particular, I have explained the intended benefits:

- Prevent rapid vision loss

**Significant, unavoidable or frequently occurring risks**

- Temporary blurring of vision, minor discomfort, seeing a few 'floaters' or 'bubbles', cataract formation, glaucoma (build up of pressure in the eye).

**Uncommon but more serious risks:**

- Severe pain or discomfort lasting 2-3 days
- Accidental injury to structures (lens, retina) inside the eye.

**Rare but serious risks:**

- Infection in the eye causing total sight loss
- Cardiovascular event such as stroke and heart attack.

**Any extra procedures which may become necessary during the procedure:**

- Other procedure (please specify): \_\_\_\_\_

**I have also discussed what the procedure is likely to involve**, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

**I have given and discussed the Trust's approved patient information leaflet for this procedure: Retinal Vein Occlusion CHA4223 which forms part of this document.**

**I am satisfied that this patient has the capacity to consent to the procedure.**

This procedure will involve:     General and/or regional anaesthesia     Local anaesthesia     Sedation

Health Professional signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (PRINT): \_\_\_\_\_ Job title: \_\_\_\_\_

**STATEMENT OF INTERPRETER** (where appropriate)

I have interpreted the information above to the patient to the best of my ability and in a way in which I believe he/she can understand.

Interpreter signature: \_\_\_\_\_ Name (PRINT): \_\_\_\_\_ Date: \_\_\_\_\_

affix patient label

**STATEMENT OF PATIENT**

Please read this form carefully. If your treatment has been planned in advance, you should already have a copy of the patient information leaflet which describes the benefits and risks of the proposed treatment. If not, you will be given a copy now. If you have any further questions, do ask - we are here to help you. You have the right to change your mind at any time, including after you have signed this form.

**I agree** to the procedure or course of treatment described on this form.

**I understand** that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience.

**I understand** that I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of my situation prevents this. (This only applies to patients having general or regional anaesthesia).

**I understand** that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

**I understand** that tissue samples will only be taken in relation to the procedure explained to me. No samples will be taken for quality control, clinical education or research purposes.

**I have been told** about additional procedures which may become necessary during my treatment. I have listed below any procedures **which I do not wish to be carried out** without further discussion.

**I have received a copy of the Consent Form and Patient Information leaflet: Retinal Vein Occlusion CHA4223 which forms part of this document.**

Patient signature: \_\_\_\_\_ Name (PRINT): \_\_\_\_\_ Date: \_\_\_\_\_

A **witness** should sign below if this patient is unable to sign but has indicated his or her consent. Young people / children may also like a parent to sign here (see guidance notes).

Witness signature: \_\_\_\_\_ Name (PRINT): \_\_\_\_\_ Date: \_\_\_\_\_

**CONFIRMATION OF CONSENT** (to be completed by health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

On behalf of the team treating the patient, I have confirmed with the patient that they have no further questions and wish the procedure to go ahead.

Health Professional signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (PRINT): \_\_\_\_\_ Job title: \_\_\_\_\_

**Important notes** (tick if applicable):

See advance decision to refuse treatment  Patient has withdrawn consent (ask patient to sign/date here)

Patient signature: \_\_\_\_\_ Name (PRINT): \_\_\_\_\_ Date: \_\_\_\_\_

**CONSENT FORM 1**  
**PROCEDURE SPECIFIC PATIENT AGREEMENT**

# Retinal vein occlusion

## Intravitreal injection of therapeutic drug

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Name of patient: .....

Address: .....

Date of birth: .....

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