

Ophthalmology

Retinal vein occlusion

A retinal vein occlusion is a common cause of sudden, painless reduction in vision, which can occur mainly in older people.

This information aims to explain what a retinal vein occlusion is, its causes, how your sight is affected, the treatment options and steps you can take to prevent it occurring again.

Terminology

Occlusion: Blockage of a vessel

Retina: The retina is the thin membrane made up of light sensitive cells which lines the back of the eye. Its function is similar to the film of a camera.

Retinal blood vessel: These are the veins and arteries in the retina. Retinal **veins** carry waste products back out of the eye. Retinal **arteries** bring blood to nourish the retina.

What is a retinal vein occlusion?

This is where the flow of blood in the veins is blocked or slows down and cannot drain the blood out of the retina. Some blood or protein may leak out of the vein which can cause swelling of the surrounding retina which can damage your sight.



Patient Information

The symptoms are variable and range from mild to severe visual loss, depending on the size and site of the blocked vein. Where the flow of blood stops completely, parts of the retina can die and vision is severely affected.

Loss of vision may happen suddenly or gradually depending on the blockage.

Types of retinal vein occlusion

There are two types:

Branch retinal vein occlusion (BRVO)

This is where the obstruction is in one of the four branch retinal veins.

Each vein drains approximately a quarter of the retina. See above

Central retinal vein occlusion (CRVO)

This is where the obstruction is in the main vein formed from the four branches which drain blood from the retina. See above

In general, visual loss is more severe if there is blockage in the central vein, although a very mild blockage may not affect your sight.

What causes retinal vein occlusion?

A blockage occurring in the vein is often due to clot formation causing an obstruction of the blood flow.

Patient Information

Conditions which cause hardening of the arteries may cause the artery to press on the vein and block it. The distance between the arteries and veins varies in different people which may be one reason why some people are more likely to develop a blocked vein than others.

There are several common risk factors which make retinal vein occlusion more likely. These include:

- Advancing age
- High blood pressure
- High cholesterol
- Glaucoma
- Diabetes
- Smoking and obesity
- Certain rare blood disorders

Treatment

Persistent bruising and swelling at the centre of the retina (the macula) is the main cause of permanent loss of central vision. This waterlogging or swelling (oedema) is the result of damaged blood vessels which leak fluid.

A number of treatments are available to reduce further impact on the eye but currently there is no treatment available which will restore vision in the affected eye which is why prevention is so important.

Intravitreal injection of Anti-VEGF treatment

Anti-vascular endothelial growth factor (anti-VEGF) drugs may be helpful in reducing leakage and waterlogging. These are administered by injection into the eye and are given every month or two depending on the drug choice.

Patient Information

More details about this treatment can be found in a separate leaflet, please ask staff for a copy.

Laser treatment

Laser treatment (narrow beam of light) is sometimes used alone or in combination with other treatments to help stabilise or improve central vision in branch occlusions.

In a few but not all cases a laser can be used to help control bleeding and swelling, and can mean that sight improves a little. Often the laser is also used to stop more damage occurring, so although no sight is restored the likelihood of losing more sight is reduced.

Steroids injections

Steroids can also be used to control the swelling in the macula area and help stabilise or improve the condition. These can be given over a number of months or sometimes the ophthalmologist will use a steroid implant which will last for longer in your eye. These treatments can often be used when it isn't possible to use laser treatment.

Observation

Observation or monitoring the condition of your eye is sometimes an option. Branch retinal vein occlusions have a better chance of natural resolution than central retinal vein occlusions. However, early active injection treatment of macular oedema has been shown to achieve the best results.

How to prevent the condition?

It is important to identify the risks and treat accordingly in order to prevent the risk to the other eye (10%) and prevent the complications in the same eye.

Patient Information

As well as ensuring that these conditions are controlled, other lifestyle changes can help:

High blood pressure

Controlling the blood pressure helps to prevent the arteries getting 'harder' and can prevent a blocked vein in the other eye. Some experts now believe a blood pressure below 140/80 will not only help prevent a second occlusion, but help reduce any retinal leakage from the one present already

Diet

A healthy diet is important, and the Department of Health recommends:

- Five portions of vegetables or fruit every day
- Small amounts only of animal fat (meat, dairy food)
- Reduce salt in the diet
- Keep to the government guidelines on alcohol consumption – do not exceed 21 units per week for men, 14 units for women.
- 30 minutes exercise a day (such as walking, swimming)

High cholesterol:

Treatment with tablets and diet modification is recommended best to seek advice from your GP.

Obesity increases the risk of a retinal vein occlusion

Diabetes: Vein occlusion is common amongst people with high blood sugar. Hence, good control is required to preserve the vision and prevent complications.

Patient Information

High eye pressure: There is strong association between glaucoma and vein occlusion especially in central vein occlusion, so treatment with drops to reduce the pressure may be effective in preventing further vein occlusion in the same as well as the other eye and preserve the vision.

Oral contraceptive pills should be stopped.

If you are using hormone replacement therapy and have a retinal vein occlusion, some experts advise generally this should be stopped.

Smoking

If you smoke, try to stop. Smoking is a factor in causing hardening of the arteries.

For advice on how to stop, contact your GP, pharmacist, the NHS Smokefree Helpline 0800 0224 332, or University Hospital's Stop Smoking Service on 024 7696 4760

Follow-up

You will have follow-up appointments at intervals appropriate to your individual condition and treatment. This will be explained to you.

If you are concerned about your vision

If your sight deteriorates dramatically, or if your eye becomes painful, contact -

Emergency eye appointments: new booking system



Scan the QR code or visit uhcw.nhs.uk and search Eye Emergency Referral Service with University Hospital, Coventry.

You will be spoken to by an expert clinician who will give you specialist advice on the next steps to take.

Please provide a phone number which you can be contacted on for the consultation. Please also be aware that you will be phoned as close to the allotted time as possible, although at busy times unfortunately there may be a delay.

In the event that you feel you cannot wait to speak to someone or do not have online access then you may call 0247 696 4800.

This phone line is open 9am - 1pm; 1.30pm - 5pm (Monday - Friday, excluding bank holidays) and 9am - 12pm (Saturday).

Please only attend the Eye Outpatient department if you have had a telephone consultation in advance and have been advised to attend.

Out of hours there is a reduced emergency eye service available via the Accident and Emergency Department.

Patient Information

Useful contact numbers are:

Retinal Specialist Nurse, Sister Mann (Jas) **024 7696 4000**
(switchboard) and ask them to bleep **2828** or Macarthur Calica on
bleep **5836** and stay on the phone until you are connected

Mr Manjunatha/Mrs Mukherjee : **024 7696 6496**

Mr Pagliarini secretary: **024 76 966497**

Rugby St Cross

Vicky AMD injection co-ordinator **01788 663338**

Diabetic injection co-ordinator **01788 663992**

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