

Retinal Vein Occlusion (RVO)

This leaflet provides information about the condition called Retinal Vein Occlusion and how it can be treated / managed.

What is Retinal Vein Occlusion (RVO)?

The veins of the body carry the blood back to the heart and the veins of the eye carry the blood from the tissues back to the heart. These veins can become blocked suddenly and an 'occlusion' is the equivalent to having a stroke in the eye. There are two types of vein occlusions resulting in variable amount of bleed in the retina with or without fluid collecting in the macula (centre of the retina). Some eye doctors call it a burst blood vessel and others call it clot in the retina. Both are correct.

1. Branch Vein Occlusion

This is where one branch of the main retinal vein has blocked and the results of this on the vision can vary from person to person.



2. Central Retinal Vein Occlusion

This is where the main central vein in the retina is blocked and the vision is usually significantly reduced.



When the distribution of the vein involves the centre of the retina (macula), bleeding and fluid leakage may occur, causing macular oedema (collection of fluid).

What is the cause?

It is often due to a thickening of the vein walls in the eye, known as arterio-sclerosis, and is a phenomenon which happens with age. Most common risk factors that may lead to this condition include high blood pressure, diabetes, raised cholesterol, high pressure within the eye (glaucoma) and some auto-immune diseases. There are other risks but less common whereby the blood becomes too thick and sludges up within the veins of the eye.

Will any tests be undertaken?

The doctor will be able to advise of any specific blood tests that are required to determine if there is a treatable cause. Typically, blood tests will be carried out to see if the blood is too thick.

What is the treatment for the cause

If there is an underlying cause such as high blood pressure, diabetes or high eye pressure, then this will be specifically treated. However, commonly, it is due to arterio-sclerosis and there is no specific treatment.

Will my vision return?

In a central retinal vein occlusion, it is very unlikely that your vision will return to normal. In a branch retinal vein occlusion some vision may recover but this varies from person to person. Also, the long term outcome will depend upon how good your vision is before you start any treatment.

Is any treatment necessary?

Currently, the treatment is aimed to dry associated swelling in the retina (macular oedema), if present. In branch vein occlusion, laser treatment can be used in suitable patients. However, laser does not improve the vision but non-invasive. On the other hand, invasive treatment to dry macular oedema can be administered in branch and central vein occlusion, equally, which may improve vision as well as stabilising it. This treatment involves injecting drugs inside the eye (intravitreal injections) but also have risk of unwanted ocular or systemic side effects. Those drugs are indicated based on specific criteria. Please, ask your eye specialist for more details.

Are there any later complications?

In certain circumstances, the retina does not get enough oxygen (ischaemia) and produces a chemical (vaso-proliferative) factor which causes new blood vessels to grow on retina or iris (coloured part of the eye). That would result in bleeding in the back or the front of the eye respectively. When blood vessels grow on the iris, this is called 'rubeotic glaucoma'. It results in high pressure within the eye which can be very painful. The doctor will make an assessment of this risk and also possibly undertake a dye test (fluorescein angiogram) if they think it is necessary.

If the risks of this complication are high, then laser photocoagulation treatment (laser surgery to cauterize blood vessels) to the retina will be undertaken; not to improve the vision but to either prevent or treat the new vessels on the iris and so hopefully reduce the risk or severity of rubeotic glaucoma.

This can occur even quite late and should you notice any pain developing in the eye then please ask your GP to make a further appointment for you at the hospital. However, the risk of this complication is relatively low.

Will the other eye become affected?

About 10% of people have the second eye affected, but only 25% of these occur within 5 years and only. Thus there is an increased risk, but most people will not have the second eye involved.

Will glasses help?

Not specifically. However, you should always have the best possible glasses and your optometrist or ophthalmic doctor can advise you on this.

If you have any further questions or comments, please ask your attending doctor.

Contacting us

If you have got a minor eye problem, please seek advice from your GP, optician or pharmacist. If you think your problem might be urgent, please attend Eye Casualty.

Eye Casualty (Reading):	Mon-Fri 9am to 5pm; Sat & Sun & bank holidays 9am-12.30pm; Closed Christmas Day and New Year's Day
Eye Casualty: Prince Charles Eye Unit (Windsor):	Mon-Fri 9am to 5pm; Sat 9am-12.30pm; Closed Sun & bank holidays
Dorrell Ward (Reading):	0118 322 7172 (24 hours a day)
Eye Day Unit (Reading):	0118 322 7123 (Mon-Fri 7am to 6pm)

Outside of Eye Casualty hours you should telephone your GP's out of hours service, ring NHS 111 or if you have serious concerns, visit your nearest Emergency Department (A&E).

Further information

- Visit the Trust website at www.royalberkshire.nhs.uk
- NHS Website www.nhs.uk
- Royal College of Ophthalmologists Tel: 0207 935 0702
- Specific Eye Conditions www.eyecconditions.org.uk

This document can be made available in other languages and formats upon request.

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