



Retinal Vein Occlusion

A retinal vein occlusion occurs when a blood clot forms in a retinal vein.

What is a retinal vein occlusion?

Retinal vein occlusion is a common cause of sudden painless reduction in vision in older people. It occurs when a blood clot forms in the blood vessels of your retina, the layer of light sensitive nerves that lines the inner surface of the back of your eye. A blockage in one of the veins prevent blood from escaping out of the eye and causes blood and fluid to leak into the retina, with bruising and swelling as well as lack of oxygen at the back of the eye. This interferes with the ability of the retina to detect light and reduces vision. The condition is uncommon under the age of 50, but becomes more frequent in later life.

There are two types of retinal vein occlusion:

- Branch retinal vein occlusions are due to blockage of one of the four retinal veins, each of which drains about a quarter of the retina
- Central retinal vein occlusion is due to blockage of the main retinal vein, which drains blood from the whole retina In general, visual loss is more severe if the central retinal vein is blocked.

What causes retinal vein occlusion?

A clot forms in the vein and obstructs the blood flow. The exact cause is unknown, but several conditions make the condition more likely. These include:

- High blood pressure
- High cholesterol
- Glaucoma
- Diabetes
- Smoking
- Certain rare blood disorders

Prevention and treatment

It is essential to identify and treat any risk factors to reduce the risk to the other eye and prevent a further vein occlusion in the affected eye. Treatment of the risk factors listed above also reduces the risk of other blood vessel blockages such as may happen in a stroke (affecting the brain) or a heart attack or, in those with rare blood disorders, a blocked vein in the leg (deep vein thrombosis) or lung (pulmonary embolism). Persistent bruising and swelling at the centre of the retina is the main cause of permanent loss of central vision. Laser treatment is sometimes helpful in restoring some central vision in branch retinal vein occlusions. This treatment is normally recommended at about three months after the occlusion. About three in 10 patients with retinal vein occlusions develop abnormal blood vessels growing on the iris at the front of the eye or on the retina. These abnormal blood vessels can bleed or cause a marked pressure rise in the eye leading to further loss of vision. This can normally be prevented by laser treatment to the retina. This treatment is most effective if applied before vision is lost. For this reason, patients with central retinal vein occlusions are normally checked every six to eight weeks for six months. There is extensive research into a number of new injection treatments to either improve blood flow out of the eye or reduce



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bruising and swelling. Your doctor will discuss these treatments with you if they are likely to help your eye. The following three tests are frequently recommended for patients with retinal vein occlusion. Retinal photography to help monitor accurately the degree of retinal damage. Fluorescein angiography to determine the need for laser or other treatment. Optical coherence tomography to monitor and help assess the need for and response to treatment Patients with central retinal vein occlusions are checked frequently for about six months and patients with branch occlusions less often. Recurrence or deterioration is unlikely after this and most patients are discharged after one to two years.

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