

# RETINAL VEIN OCCLUSION



Macular  
Disease  
Foundation  
AUSTRALIA

A retinal vein occlusion (RVO) is when one of the veins in the retina becomes blocked.

You may experience varying degrees of vision loss with RVO, depending on the severity and location of the blockage.

Vision loss can be significant, especially if it affects the central part of the retina (macula), but it is important to know that RVO doesn't cause total or 'black' blindness.

RVO affects about one to two per cent of people over 40 years of age, although most cases occur in people over 60 years of age. It usually only occurs in one eye, although about 10 per cent of people with RVO will eventually develop the problem in the other eye.

There are steps you can take to reduce the risk of retinal vein occlusion recurring or impacting your other eye.

The macula is the name given to the area at the centre of the retina.

## How the eye works

Your eye works very much like an old-style film camera. The front of your eye, made up of the cornea, iris, pupil and lens, focuses the image onto the retina, which is the light-sensitive tissue that lines the back of your eye. The retina acts like the film in a camera, capturing images and then sending them via the optic nerve to the brain, where the images are interpreted.

The macula is only about 5.5mm in diameter and is responsible for detailed central vision and most of your colour vision. You use your macula to read, recognise faces, drive a car, see colours clearly, and perform any other activity that requires detailed central vision. The rest of the retina is called the peripheral retina. Peripheral vision (or side vision), which is not as clear as central vision, is used to see general shapes and surroundings.



## What causes retinal vein occlusion?

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The retina is a very active nerve tissue and requires a constant blood supply. Arteries carry freshly oxygenated blood from the heart and lungs to all the cells in the body, including those in the retina. Veins take away the blood that has been used by the cells and return it to the lungs and heart to be refreshed with oxygen and other nutrients.

Almost any blood vessel in the body can become blocked. For example, when a blood vessel blockage occurs in the brain, it is called a stroke. Although blockages of the retinal arteries can occur, they are not as common as blockages of the retinal veins.

Blockage of a retinal vein is known as a retinal vein occlusion (RVO) and the main cause is the formation of a blood clot. This usually occurs where a retinal artery crosses over a vein, slightly constricting it, and slowing blood flow.

If this blood cannot drain away properly in the vein, it 'backs up' in the system. This blocking and pooling of blood can cause the retinal area to swell. It can also lead to areas of haemorrhage, or bleeding. This, in turn, can damage the cells of the retina and consequently damage your sight.



## What are the risk factors for retinal vein occlusion?

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The risk factors for RVO are similar to the risk factors for other conditions involving blockages of arteries and veins, such as heart attacks and strokes.

- Age (most retinal vein occlusions happen in people over 60 years of age)
- High blood pressure
- High blood lipid levels
- Diabetes
- Smoking
- Overweight

While you cannot do anything about your age, the other risk factors can be controlled.

Regular visits to your doctor will help diagnose and manage any circulation problems like high blood pressure and high blood lipid levels. If you have diabetes, working with your diabetic care team can help you optimise control of your blood sugar levels.

Smoking is a risk factor for many diseases, including RVO. It's hard to stop but with help and support, you can quit.

Diet and exercise play an important role in keeping your macula healthy and maintaining your weight.

## What are the symptoms of retinal vein occlusion?

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Most people with a RVO notice a painless loss of vision and this may be gradual or sudden. If the blockage is well away from the macula you may not notice much vision loss at all, if any. In the majority of cases only one eye is affected.

## Treatment of retinal vein occlusion

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If you notice any changes in your vision it is important to have an eye check with your eye health professional – an optometrist or ophthalmologist. Optometrists are trained to diagnose RVO but will refer you to an ophthalmologist for treatment, and to your GP for management of any risk factors.

Your ophthalmologist may simply decide to monitor your eye in the cases where there is no vision loss resulting from a RVO that does not involve the macula. In most cases, the macula will be involved, vision will be affected and treatment will be necessary. The treatment required will depend on the nature, location and size of the blockage causing the RVO.

If the macula is affected, and vision is reduced due to swelling in this region, anti-VEGF drugs injected into the eye may be recommended. The usual treatment regimen begins with monthly injections for three months. These injections can continue indefinitely, or until the swelling has resolved. The interval between these ongoing injections varies and will be decided by your ophthalmologist in consultation with yourself.

In some (but not all) cases, a laser can be used to help control swelling and bleeding in the retina. If the swelling and bleeding is reduced, sight can sometimes improve. Laser is often used as an adjunct treatment with intravitreal injections of an anti-VEGF drug.

Sometimes a RVO can cause fragile, abnormal new blood vessels to grow in the eye. If this occurs, there is a threat of major bleeding inside the eye or, less commonly, the development of blinding glaucoma.

If abnormal new blood vessels do start to grow, then appropriate treatment will involve intravitreal injections of an anti-VEGF drug and laser.

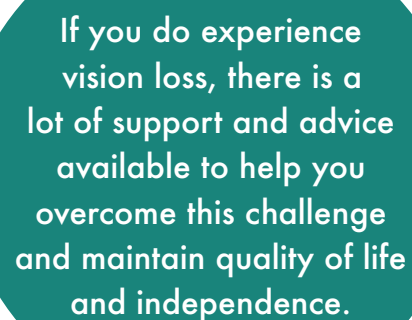
## Managing vision loss from retinal vein occlusion

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Any loss of vision can be a cause of great concern. However, as a RVO typically occurs in one eye only, it is common for people to adjust to their new level of vision fairly quickly. Initially you may be constantly aware of the change in your vision but after a short period of time the better eye gradually 'takes over' (becomes dominant), the brain ignores the 'bad' eye and tasks that were previously difficult usually become easier.

If one eye is affected quite badly, you may feel slightly unbalanced and depth perception can be affected for a period. This can make it difficult to judge distances, such as how far away a table is, or the height of steps. Most people are able to judge these distances better with time and practice, but you may need to take extra care in the first couple of months.

Loss of sight in one eye does not mean the loss of a driver's licence, providing the sight in the other eye remains good. In some cases it may be wise to delay driving until the better eye becomes dominant. Speak to your optometrist or ophthalmologist about whether it is safe for you to drive.



If you do experience vision loss, there is a lot of support and advice available to help you overcome this challenge and maintain quality of life and independence.



## Need more information?

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Learn more about macular disease at [www.mdfoundation.com.au](http://www.mdfoundation.com.au).

How's your macula? Take the quiz at [www.CheckMyMacula.com.au](http://www.CheckMyMacula.com.au).

You can also access our free, personalised support services and order information kits and Amsler grids by calling our National Helpline on **1800 111 709**.

M DFA has a free newsletter and you can sign up to receive invitations to education sessions and events in your area.

Macular Disease Foundation Australia is committed to reducing the incidence and impact of macular disease, by providing up-to-date information, advice and support.



**National Helpline**

☎ **1800 111 709**

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**W** [www.mdfoundation.com.au](http://www.mdfoundation.com.au)

**W** [www.CheckMyMacula.com.au](http://www.CheckMyMacula.com.au)

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