

# Patient Information

# A guide to Retinal Vein Occlusion (RVO)

---

## Introduction

This leaflet has been written to help you understand more about Retinal vein occlusion (RVO).

## What is retinal vein occlusion?

Occlusion (blockage) of the retinal vein is a very common cause of sudden, painless, reduction in vision in older age groups. Men are more likely to suffer this condition than women.

The retina is a thin membrane that lines the inner surface of the back of your eye. Its function is similar to that of the film in a camera. Blockage of one of the veins draining blood out of the eye causes blood and other fluids to leak into the retina, causing bruising and swelling as well as lack of oxygen. This interferes with the light receptor cells and reduces vision.

The condition is uncommon under the age of 60, but becomes more frequent in later life.

There are two types of retinal vein occlusion:

- Branch retinal vein occlusions are due to a 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 a blockage of the main retinal vein, which drains blood from the whole retina.

In general, vision loss is more severe if the central retinal vein is blocked.

If vision drops significantly in the early phase, the long term outcome is not good. A small number of minor branch vein occlusions recover without treatment.

## **What causes retinal vein occlusion?**

A blockage forms in the vein, usually due to a blood clot, and this obstructs the blood flow. The exact cause is unknown, but several conditions make the condition more likely. These include

- high blood pressure,
- diabetes,
- high cholesterol,
- glaucoma,
- smoking and
- certain rare blood disorders.

Stopping smoking and controlling your weight with regular exercise will lower your risk of occlusion in the future.

## **Prevention and treatment**

It is essential to identify and treat any risk factors to minimise the risk to the other eye and prevent a further vein occlusion in the affected eye. In a small number of cases, no risk factors can be found, with the cause being unknown. Treatment of any risk factors detected reduces the risk of a further vein occlusion occurring in either eye, and may also help to reduce the risk of other blood vessel blockages, such as those that 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 (the macula) is the main cause of permanent loss of central vision. The swelling is caused by damaged blood vessels which leak fluid. Different medicines such as anti-vascular endothelial growth factor (anti-VEGF) medicines or steroids may be helpful in reducing this leakage. These medicines are given by injection into the eye and the injections often need to be repeated as the effect of the medicine wears off.

Laser treatment is sometimes helpful in restoring some central vision in branch retinal vein occlusions.

About 20 per cent of patients with retinal vein occlusions (blockage) 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 severe pressure rise in the eye leading to further loss of vision. This can normally be prevented by laser treatment to the retina, which is most effective if applied before vision is lost. For this reason, patients with central retinal vein occlusions are normally checked every four to eight weeks for six months, but branch retinal vein occlusions can be checked less often as the risk is much less.

The following four tests, which provide digital images of the retina and its blood circulation, are frequently recommended for patients with retinal vein occlusion to help monitor the condition and decide the most appropriate treatment:

- Fundus Fluorescein Angiography (FFA).
- Optical Coherence Tomography (OCT).
- Optical Coherence Tomography – Angiography (OCT-A)
- Optos – wide field photography.

Most patients are discharged after four years as recurrence or deterioration is unlikely after this.

## **Where can I find further information on RVO?**

### **Royal National Institute for the Blind (RNIB)**

Helpline number 0303 123 9999

helpline@rnib.org.uk

### **Macular Society**

Helpline number 0300 3030 111

help@macularsociety.org

**If there is anything you do not understand, or you are concerned about RVO, please speak with your doctor at your next review.**

**Note:** The information in this booklet is provided for information only. The information found is **not** a substitute for professional medical advice or care by a qualified doctor or other health care professional.

**Always** check with your doctor if you have any concerns about your condition or treatment. This is only indicative and general information for the procedure. Individual experiences may vary and all the points may not apply to all patients at all times. Please discuss your individual circumstances with your eye doctor.

**Author: Mr S Shafquat FRCS FRCOphth  
Consultant Ophthalmologist , Retina Lead**

