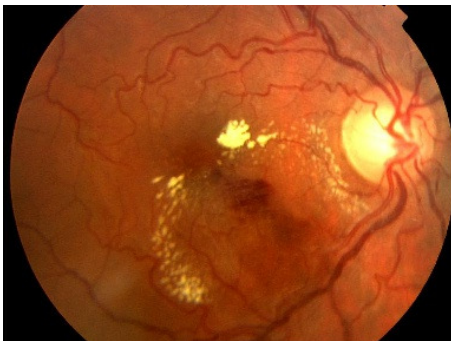


Branch Retinal Vein Occlusion (BRVO) - Patient Information

What is a BRVO?

The eye is like a camera, it has a series of lenses at the front and a light sensitive film - the retina at the back. The lenses focus light onto a special part of the retina called the Macula, this is the part that gives us focused vision. The retina is fed by a series of specialised blood vessels called the retinal arteries and retinal veins. As the retinal veins and arteries cross the artery sometimes compressed the vein and the vein becomes blocked. Blood is pushed into the retina and the retina loses function.



A Branch retinal vein occlusion, effecting the
A vein in the right eye, the yellow dots are leakage
from the blood vessel

What are the typical symptoms?

The symptoms are very variable, and range from minimal or mild to severe visual loss, depending on the size of the retinal vein affected and its location in the retina. In some patients the pressure in the eye can rise rapidly and in others vision may be lost suddenly, through a vitreous hemorrhage.

What causes BRVO?

BRVO is typically caused by a mixture of risk factors all working together. High blood pressure is key, as are: cholesterol, lipids and sugar (diabetes). In some patients ocular inflammation can play a role or other diseases that make the blood 'sticky'. A series of [blood tests](#) are recommended to exclude a whole range of causes that may have led the BRVO.

How does a BRVO affect the eye?

There are two main problems following a BRVO. The first is leakage of fluid from the blocked vein and its tributaries. The thickness of the retina can double with this fluid and when the macula is effected the vision becomes blurred and colour vision may be lost.

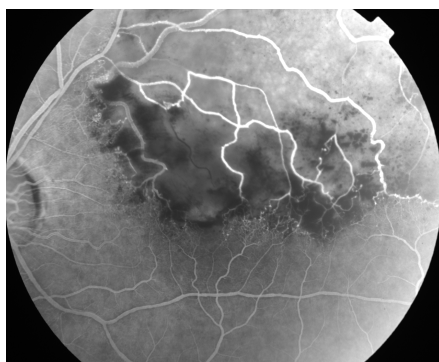
Sometimes there is a complete closure of the blood vessel and the retina blood flow is stopped. If this occurs in one of the major veins the retina can react by releasing a hormone called vascular endothelial growth factor (VEGF). This hormone stimulates the growth of new blood vessels on the retinal and in the iris-the colored part at the front of the eye.

Are there any special tests that I need?

Apart from the blood tests previously mentioned, you may need a fluorescein angiogram and OCT to determine the degree of retinal damage and the degree of retinal leakage.



An angiogram showing leakage from a right BRVO, this is affecting the macula and reducing vision.
The vision in this eye was preserved.



An angiogram of the left eye showing retinal ischaemia in the upper right hand part of the picture.
The vision in this eye was reduced and laser treatment was needed

What treatments are available?

If the retina has been badly damaged by the RVO, and new blood vessels are growing in the retina or in the iris, laser treatment is necessary. This treatment is scattered over the area of damaged retina and the release of VEGF is stopped.

When leakage at the macula is a problem, then local laser treatment can be given and this slowly helps the leaking area. Visual loss is reduced however visual improvement is relatively rare.

What complications are there with the treatment?

Laser permanently damages the retina. With scatter treatment the visual field may be damaged and there may be an increase in glare. With macula laser there may be a permanent drop in vision.

What research is there in this area?

Because of the relatively poor visual outcomes in patients with macular laser treatment, many now augment this treatment with an injection of steroid. This seems to help and there is a trial looking at the use of a long acting steroid in this condition. We are participating in this at the Southampton Eye Unit.

Disclaimer: Whilst every care has been made to produce accurate information within this website, Mr. Newsom can make no warranty as to the accuracy or applicability of any information to individual patients and cannot accept liability for any errors or omissions in the information. Mr. Newsom cannot be liable to any person for any loss or damage that may arise from the use of the information contained in any of the materials on this website.