

Retinal Vein Occlusion



Branch Retinal Vein Occlusion Central Retinal Vein Occlusion

When a peripheral retinal vein is occluded, this is called a branch retinal vein **occlusion (BRVO)**. In a BRVO, swelling (edema) and hemorrhage are usually limited to one part of the retina. When the main vein draining the eye is occluded, this is called a **central retinal vein occlusion (CRVO)**. In a CRVO, edema and hemorrhage can involve the entire retina resulting in more severe vision loss.

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The retinal blood supply consists of arteries and veins. Arteries supply blood to the retina and veins drain blood from the retina. Occlusions, or blockages, in a retinal vein can occur for various reasons. The most common reason for a retinal vascular occlusion is atherosclerosis, or "hardening of the arteries", that occurs with increasing age, high blood pressure, or high cholesterol.

When a retinal vein is blocked, blood has dificulty draining the eye. This leads to back presssure on the vessels and spillage of blood and fluid into the retinal tissue. If blood and fluid (macular edema) build up in the central retina, vision loss develops. Back pressure in the vein can also impair overall blood flow though the macula causing poor oxygen levels (macular ischemia). This can lead to permanent vision loss.

Diagnosis: The diagnosis of a retinal vein occlusion can usually be made by a direct clinical examination of the retina. Fluorescein angiography is a useful clinical tool to determine the severity of the edema and ischemia. Optical coherence tomography (OCT) can be used to document the thickness of the retina and the amount of fluid in the macula.

Treatment & Prognosis: Some patients with retinal vein occlusion are candidates for treatment. Laser treatment and intraocular injections are both used to treat retinal vein occlusions. Retinal laser is employed to lessen the amount of macular swelling in patients with branch retinal vein occlusions and to prevent a potentially serious complication called neovascularization in patients with central and branch retinal vein occlusions. In addition to laser treatment, intraocular injections with medicines such as steroids, Lucentis®, Avastin®, and Eylea® are also commonly used treatments for macular swelling in central and branch retinal vein occlusions. Not all patients with retinal vein occlusions require treatment, and careful monitoring by an eye doctor will determine whether treatment is needed. The visual prognosis for CRVO and BRVO depends primarily upon the severity of the disease.

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