

Branch Retinal Vein Occlusion

A **branch retinal vein occlusion (BRVO)** is a painless stroke within the eye that occurs when a blood vessel that drains the retina get blocked. If the blocked retinal veins nourish the **macula**, the light sensitive central part of the retina responsible for straight-ahead fine vision, the central vision becomes blurred, distorted, blocked or lost due to macula edema. About 60% of patients with BRVO develop symptomatic macular edema with swelling of the central macular area. In about one-third of people without treatment, this macular edema will last for more than one year without treatment and vision may not recover. The severity of the loss is related to the degree of blockage, the area involved, how much leakage occurs and the duration.

High blood pressure, glaucoma and other vascular diseases can damage the veins in the eye and cause rapid visual loss. The blood can also be too thick, or sticky in certain blood conditions or the blood vessel walls can be inflamed. You may be advised to control your blood pressure and have blood testing.

The diagnosis is made on dilated fundus exam and can be confirmed with fluorescein angiography that pinpoints the

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areas of blockage and leakage. OCT imaging shows the degree of the macular edema leakage. Fundus photographs are often used to document findings and to allow interval management.

When the blocked veins cover a large area, new abnormal vessels may grow on the retinal surface, which can bleed into the eye and cause floaters and further blurred vision. This is especially common when there are large areas of the retina that have no blood flow, ischemia.

Treatment includes observation, nearly painless, low risk intravitreal pharmacologic injections, or brief office laser treatment. Injectable FDA approved medications such as the steroid Ozurdex and anti-VEGF agents including Lucentis or Eylea are also effective for treating BRVO along with non-FDA medications. The average patient requires 8-9 treatments but there is great variability. About 50% of patients improve 2 lines of vision. Combination therapy and adjunctive laser may be helpful.

If you have had a branch retinal vein occlusion, regular visits to your retinal specialist are essential to protect vision and periodic monitoring are recommended even after resolution. About 10% of fellow eyes develop the BRVO.

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