

## FACT SHEET ABOUT MACULAR EDEMA FOLLOWING RETINAL VEIN OCCLUSION (RVO)

### WHAT IS MACULAR EDEMA FOLLOWING RETINAL VEIN OCCLUSION (RVO)?

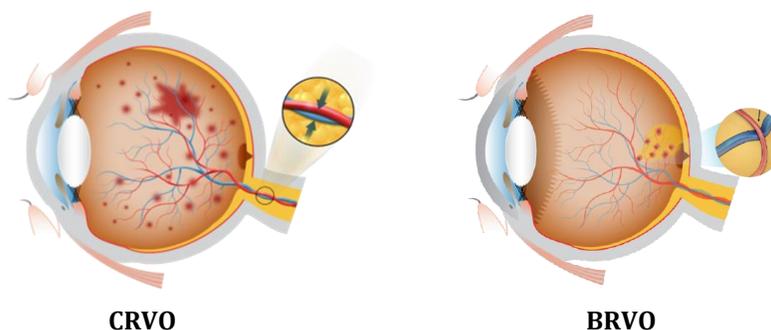
---

RVO is a common cause of vision impairment in adults and the second most common retinal vascular disease.<sup>1,2</sup>

RVO occurs when there is an obstruction in a vein in the retina, the light-sensitive nerve tissue lining the back of the eye. The blockage causes a backup of blood and leads to a poor blood supply in the affected retina. This results in the release of Vascular Endothelial Growth Factor (VEGF), a naturally-occurring protein in the blood vessels that causes them to become leaky. The leaky vessels result in swelling in the center portion of the eye called the macula (a condition called macular edema), which is the most common cause of vision loss in RVO.<sup>1,3</sup>

There are two main types of RVO. In **Central Retinal Vein Occlusion (CRVO)**, the blockage occurs in the central retinal vein, the main blood vessel that carries de-oxygenated blood out of the back of the eye. In **Branch Retinal Vein Occlusion (BRVO)**, the blockage occurs in a smaller retinal vein that drains blood away from the retina.<sup>1</sup>

RVO affects approximately one to two percent of adults over the age of 40.<sup>1</sup> Although BRVO is four times more common than CRVO, CRVO generally is the most significant threat to vision.<sup>1</sup>



### VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) AND MACULAR EDEMA FOLLOWING RVO

---

Clinical studies have shown increased levels of VEGF in patients with RVO,<sup>1</sup> and elevated VEGF levels in RVO patients have been shown to correlate with the severity of macular edema.<sup>3</sup> Increased VEGF production is thought to be the major cause of macular edema following RVO.<sup>3</sup>

## WHAT ARE THE RISK FACTORS FOR RVO?

---

Major risk factors for RVO include:<sup>1,2</sup>

- Increasing age
- High blood pressure
- Diabetes mellitus
- High cholesterol
- Cigarette smoking
- Kidney disease

In addition, glaucoma or elevated pressure within the eye may also be risk factors for CRVO.<sup>1</sup>

## HOW DOES MACULAR EDEMA FOLLOWING RVO IMPACT VISION?

---

Normally, the macula provides clear vision. The loss of blood supply, swelling and collection of fluid in the back of the eye that occurs with RVO can lead to central vision loss.

RVO often comes on suddenly with painless loss of vision in one eye,<sup>1</sup> but can also be silent and asymptomatic.<sup>3</sup>

The pictures to the right depict how a patient with Macular Edema following CRVO and BRVO may see.

### CRVO

Blurry Vision:



Distorted Vision:



### BRVO

Blurry Vision:



Distorted Vision:



## REFERENCES

---

1. Wong TY, Scott IU. Retinal-vein occlusion. *N Engl J Med.* 2010;363:2135-2144.
  2. Rogers S, McIntosh RL, Cheung N, et al. The prevalence of retinal vein occlusion: pooled data from population studies from the United States, Europe, Asia and Australia. *Ophthalmology.* 2010;117(2):313-319.
  3. Karia N. Retinal vein occlusion: pathophysiology and treatment options. *Clin Ophthalmol.* 2010;4:809-816
-