

## **Macular Holes**

The retina is the light sensitive area of the back of your eye. The macula is the center of your retina, the part of your eye that you use to see fine details.

The vitreous gel inside your eye is attached to the retina and the macula, but as we age, the vitreous becomes thinner and separates from the retina. Sometimes, this pulls on the macula and causes a hole to develop. This hole can take several weeks or months to form.

Your central vision will be affected, depending on the severity and extent of the formation of the hole. A partial hole, which affects only part of the macular layers, will cause distorted vision, while a full-thickness macular hole will cause a complete loss of central vision.

### **Symptoms**

There is no pain with a macular hole, and only the central vision is affected. The side vision is unaffected. Symptoms, which vary according to the severity of the hole and how advanced it is, include...

- Difficulty with any task, such as reading, that requires seeing fine detail
- Blurred central vision
- Distorted or wavy central vision
- Gray area in central vision
- Blind spot in central vision

The distortion is common early on in the formation of the hole, while a blind spot happens later in the development.

### **Causes**

A macular hole can be caused by several things, including an eye injury, disease, swelling in the macula or an eye inflammation. The most common cause is the change that occurs in the vitreous gel with age.

### **Treatment**

We diagnose a macular hole by looking inside your eye with specialized equipment. A newer test called an OCT can readily differentiate between a hole and other retina pathology and help determine the extent of the damage.



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Sometimes, a macular hole will heal on its own, without treatment, but in many cases, surgery is required to seal the hole and restore vision. Vitrectomy is the only treatment that can repair a macular hole that does not heal on its own.

During vitrectomy, the vitreous gel is gently removed using delicate instruments, eliminating traction on the macula. A gas bubble is then injected to place pressure on the macula and help the hole to seal. After surgery, the patient must maintain a constant face down position to keep the gas bubble in contact with the macula. Airplane travel or travel to high altitudes is strictly forbidden until the bubble has dissipated.

The success of the surgery and how much vision is regained is often dependent on how long the hole has been present. The macular hole slowly closes and the eye regains part of its lost sight, but vision does not usually return completely.

There are risks, including bleeding, infection and a greater possibility of loss of side vision, cataract formation or retinal detachment, involved in the surgery. Because of this and because many patients have normal vision in the other eye, some people choose not to have the macular hole repaired.