Macular Hole

Overview:
A macular hole commonly occurs when a proliferation of repair cells-called an epiretinal membrane- contracts, pulls on, and tears the central retina called the macula. Macular holes can also form as a result of the vitreous pulling up on the macula as it separates from the back of the eye or by trauma to the eye from decelerating injuries. In some cases, the exact cause of the macular hole is unknown.

Macular holes have several stages ranging from a partial thickness (one that goes only part way through the macula) to a full-thickness defect (one that goes all the way through the macula).

Age is the biggest risk factor for developing a macular hole and most cases occur in patients over 70 years old. Patients who have any of the following conditions, no matter the age, are at a higher risk of forming a macular hole: Posterior Vitreous Detachment, recent eye surgery or eye laser treatment, diabetes, vein Occlusions, recent trauma to the eye, and inflammatory eye conditions.

What are the symptoms?
Most patients complain of one or more of the following symptoms:
1. Central blind spot
2. Blurry vision
3. Decreasing vision
4. Distortions
5. Central flashes
6. Double vision in affected eye

What treatments are available?
A macular hole may stay the same size or it may get larger. It is important to get regular check-ups because the progress of a macular hole is hard to predict.

1. When a macular hole is an impending hole (not yet occurred), only observation is required to track changes in the membrane and its effect on vision.
2. Surgical intervention is necessary when a macular hole extends most of the way through the macula and/or if it affects vision or daily life activities. A vitrectomy and the placement of a gas bubble into the eye are used to close a macular hole. To prevent future complications, the top most layer of the retina (called the internal limiting membrane) is often peeled off.

Studies have shown that holes closed in eyes with a visual acuity of 20/50 or better have a much greater chance of regaining 3 to 4 lines of vision. If a macular hole becomes too large, or causes severe damage to the retina, even surgery will do little to bring vision back.

How can the doctor determine the extent of my Macular Hole?
The doctor will perform a dilated exam using a slit lamp to determine the extent of the hole and its effect on the macula. To check the outer retina, the doctor will use an indirect ophthalmoscope. To confirm the presence of a hole or to determine the stage the hole is in, the doctor may order several tests.

What tests are performed?
Testing is important because it helps the doctor to precisely document the macular hole, determine the stage of the hole, and measure changes that occur. The three types of tests described below are performed in our clinic.

Optical Coherence Tomography (OCT) is a high definition image of the retina taken by a scanning ophthalmoscope with a resolution of 5 microns. These images can determine the magnitude of the hole and what stage it is in. The doctor will use OCT images to objectively document the progress of the disease throughout the course of your treatment.

Fundus Photography is an image taken by a digital fundus camera to visually document the hole in the macula.

Fluorescein Angiography is a test that documents blood circulation in the retina using fluorescein dye which luminesces under blue light. Fluorescein is injected into a vein in your arm and digital fundus pictures are taken afterwards for 10 minutes. The pictures are used rule out other retina conditions that may look similar to a macular hole.

What is my follow up care?
There is no known way to prevent the formation or progression of a macular hole. Return visits with us are recommended to monitor your disease progress. It is important to detect changes in your condition and formulate treatment plans as needed.