What You Should Know About Macular Holes

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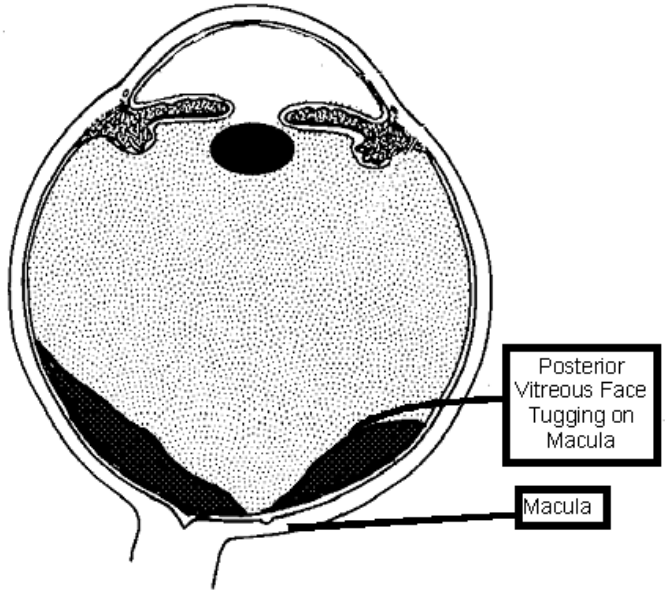
A macular hole is a hole in the center of the retina (the macula) where the fine reading vision is performed. It causes loss of the ability to read, watch TV clearly, and see road signs, but never takes side vision. Thus patients with this problem never “go blind”. It usually affects those over age 50, and affects women twice as often as men. In these cases no direct cause can be found for the hole. In a minority of cases, a direct cause can be found such as a hard blow to the eye, extreme nearsightedness, or being struck by lightning. These cases may affect even young people. Macular holes are not the same as macular degeneration, a common source of confusion.

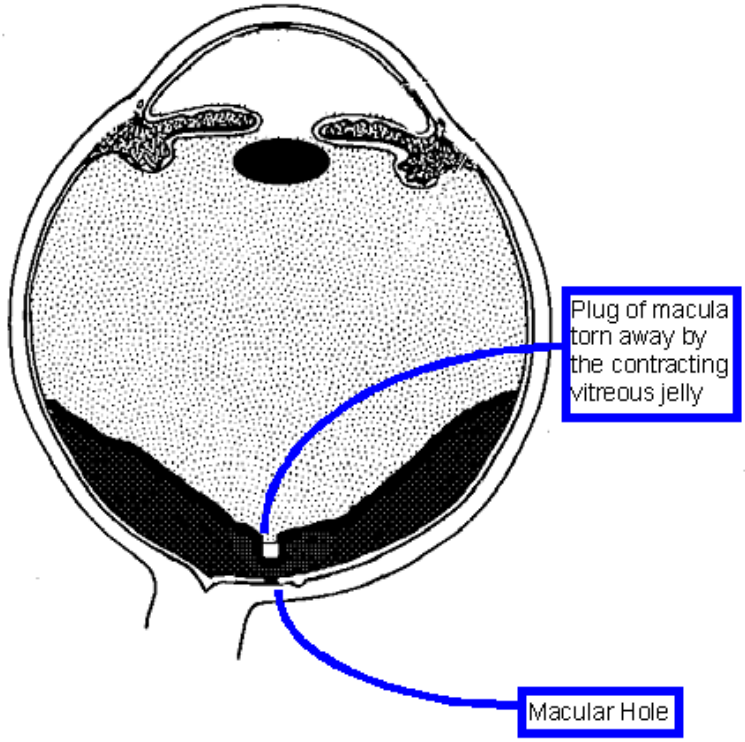
What Causes Macular Holes?

We do not know why the common type of macular hole found in those over age 50 occurs. The most commonly accepted theory suggests that the jelly filling the back of the eye, called vitreous, pulls on the center of the retina when it ages and shrinks. In most people, the vitreous will eventually release the retina. In a few, the retina is so adherent to the vitreous at the center (the macula) that it fails to release and is instead torn, causing the macular hole. The figure to the left illustrates what happens.



This figure shows the retina being pulled on by the contracting vitreous. The retina is the fine white lining of the back of the eye. The macula is the center of the retina. The vitreous is the jelly filling the volume of the eye in the back, shown as the black dotted substance in this figure.

The next figure shows what happens if the vitreous does not let go of the macula.



What Can Be Done About Macular Holes?

Once a macular hole develops, the chances of it spontaneously resolving are less than 5%. If the patient is bothered sufficiently by the symptoms, an operation called vitrectomy can be done to restore some central vision. The vitreous gel is removed from the eye. In its place, a gas bubble fills the eye. The bubble is used to float the edges of the hole flat. The patient must keep the head down, parallel with the floor, so that the bubble works properly to help the edges of the hole come together and heal. Over the years the amount of time devoted to face-down positioning has decreased. Back in the 1990s, it was routine for patients to spend two weeks doing this. In 2014 the time has decreased to 1-3 days and some surgeons are reporting excellent success with no face-down positioning. It is best to talk to your surgeon to determine the current recommendation.(1)

Face down positioning allows the edges of the hole to heal flat. During this period, the patient may sit up normally to eat and may be up to shower and groom. The rest of the time must be spent in the face

down position. The positioning can be varied by sitting in the “school nap” position and by using various special tables and beds. The postoperative positioning is important and patients should make a commitment to follow the surgeon’s directions in order to have the best chance for a successful outcome.

About 85% of patients who have macular hole surgery end up with improved vision. Some gain a lot, some a little. The longer the macular hole has been present, the less the visual improvement, on average. The other 15% of patients undergo surgery, but fail to improve. Perhaps 1% of patients or fewer have complications of surgery with loss of vision. Complications can include retinal detachment, bleeding, and infection. All patients who have their natural lens can expect macular hole surgery to accelerate the development of a cataract.

The Other Eye

About 10% of patients getting a macular hole in one eye will eventually get a macular hole in the fellow eye. For this reason, it is a good practice to check the Amsler grid with the fellow eye routinely as a way of detecting this occurrence. If the grid begins to look distorted, with wavy lines or a blurred spot in the center, the ophthalmologist should see the patient soon. This is not, however, an emergency.

After reading this brochure, if you have a desire to read in more depth about macular holes, an excellent resource is the Pubmed page on the National Library of Medicine website at the following link: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi.

Reference List

(1) Iezzi R, Kapoor KG. No face-down positioning and broad internal limiting membrane peeling in the surgical repair of idiopathic macular holes. Ophthalmology 2013; 120:1998-2003.

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