

MACULAR HOLE

What is a macular hole?

The macula is the thinnest and most delicate portion of the retina. In some individuals, over time, a cellophane-like film may build up on the surface of the macula (this is referred to as an epiretinal membrane or pre-retinal fibrosis). For reasons that are not completely understood, this filmy buildup may slowly distort and stretch the underlying tissue. These stretching forces may become so strong that the retina will eventually form a hole at the macula. The macular hole is tiny—usually a fraction of a millimeter—but can result in severe blurring, distortion, and loss of detail vision.

There is no accepted therapy for preventing a macular hole from forming. Early macular holes—where some stretching is seen but no actual hole has developed—may in some cases stabilize or even regress over time. Once a true hole has developed, however, vision is markedly blurred and rarely improves spontaneously. Up until ten to fifteen years ago, no effective treatment was available for this condition, and the visual loss from macular holes was permanent.

How are macular holes repaired?

Currently, the most effective treatment for macular holes is surgery. The procedure, called a vitrectomy, involves inserting tiny instruments into the anesthetized eye to remove the vitreous gel, allowing access to the macula. Delicate forceps are then used to peel away the epiretinal membrane, which allows the macula hole to close.

Why must I position my head down after surgery?

The most important part of the surgery occurs after the procedure is done. At the end of surgery, the eye is carefully filled with a special gas that gently pushes against the macula to keep the hole closed while the eye heals. In order for this gas to properly support the macula, the patient must follow very special instructions during the postoperative period.

As bubbles rise to the surface of water, the gas bubble floats to the top of the liquid that normally fills our eyes. As the macula is in the back of the eye, the head must be positioned so that the bubble will float to the back. This is accomplished by maintaining face-down positioning—the patient's face is tilted toward the floor. This posture must be maintained 20-22 hours per day during the first week after surgery, or the likelihood of success will be dramatically reduced.

While staying face down virtually all day is not a pleasant prospect, there are several strategies that make this possible. It is possible to rent special chairs which are designed for massages, which support the body while leaning forward and which have a padded opening to support the head in a face down position. Alternatively, a pillow can be placed on the surface of any table, and the forehead placed on the pillow for support. While in bed, the face should be against the pillow, but can be turned slightly toward one side to assure easy breathing. **The most important thing is to maintain face down position all the time!** (Even when a passenger in a vehicle on the way to follow-up at your doctor's office). During meals or trips to the bathroom, steadily looking downward will help keep the gas bubble in contact with the macula. We strongly discourage patients from simply

sitting face down with out any support for the neck, as neck strain will set in quickly and will make any further positioning uncomfortable.