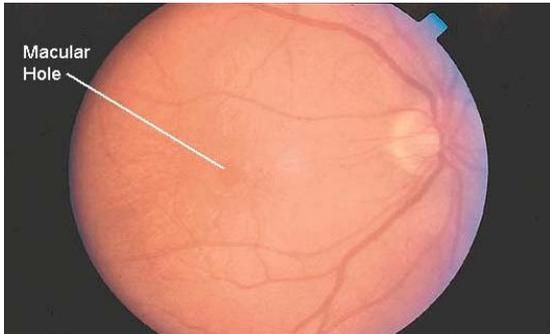


# **ADELAIDE EYE AND RETINA CENTRE**

## **Macular hole information sheet**

Macula is the central area in the retina, responsible for central, sharp



vision. Macular hole is a break in the macula which causes blurred and distorted central vision. Straight lines appear wavy or broken and there could be a blind spot in the field of central vision. Macular hole is seen more commonly in elderly individuals over the age of 60. The chance of

developing the macular hole in the fellow eye is higher if one is affected.

To maintain the contour, the eye ball is filled with a jelly like substance known as the vitreous. The vitreous is attached firmly to some parts of the retina including the macula. As the age advances, the vitreous jelly liquefies and shrinks towards the front of the eye, being replaced by natural eye fluid, leading to its separation from the areas of attachment on the retina. This process is uneventful in some people only leading to appearance of some floating structures like cobwebs in front of the eye. In some individuals the vitreous attachments are very firm and some fibers of the vitreous remain attached to the retina which contract, pulling the retina and causing a hole or tear in the retina. If the tear is in the periphery it leads to retinal detachment but if the tear is in the centre at the macula, it enlarges and causes a round or oval macular hole. The fluid which replaces the vitreous may trickle under the hole causing localized separation of the central retina, this is one possible theory

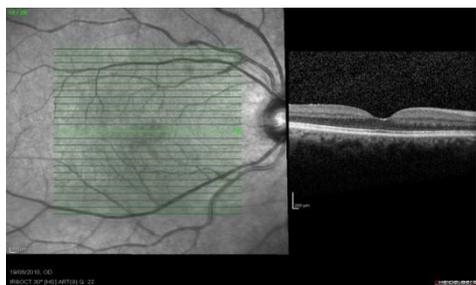
The other eye conditions in which a macular hole can occur are:

High myopia (short-sightedness)

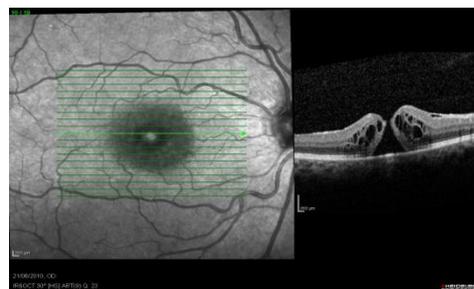
Injury to the eye

Epiretinal membrane

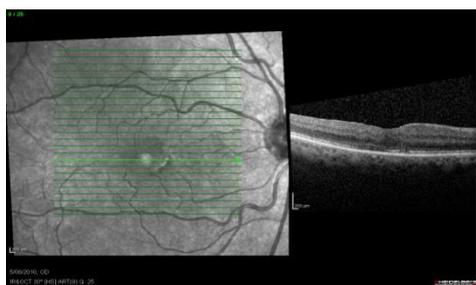
Macular hole can be detected by a thorough ophthalmoscopic examination after dilating the pupils with eye drops. Also to confirm the extent of the hole and to know if there is any associated fluid under the hole, an eye scan called the OCT (Ocular Coherence Tomography).



Normal OCT



OCT macula hole



Oct Macula hole after surgery

Rarely a macular hole seals by itself and does not require any treatment. Most of the patients need vitrectomy (see vitrectomy information sheet) surgery to seal the hole and improve the vision. During vitrectomy, the vitreous jelly is removed and replaced by a bubble of mixture of air and gas. This bubble acts as a tamponade as it is absorbed slowly and helps to seal the hole.

To allow the bubble to remain in close approximation with the macula, to have maximum tamponade, it is important to maintain a certain posture after surgery. The recommended posture is face down for 30 minutes every hour during the day for at least 1 week. As the bubble is injected at the back of the eye, this posture helps the bubble to float upwards and exert maximum effect on the centre of the retina (macula)

enhancing the chances of sealing of macular hole. Hence maintaining this posture is essential for the successful closure of the hole.

Maintaining the posture for such long durations could be difficult in some patients and these problems must be discussed with the doctor before surgery. Some of the alternatives to this posture could be sitting in a chair with head down. This could enable the patient to read or write. At nighttime, the patient could snuggle the cheek at the edge of the pillow with the head in slightly down position. Also there are aids available to help with posturing.

Travelling by aeroplane or at higher altitudes is strictly NOT recommended as the change in the air pressure can cause expansion of the gas bubble increasing the eye pressure and possible loss of sight.

As with any surgery, there are some risks involved with macular hole surgery. Most of the patients undergoing macular hole surgery develop a cataract, which necessitates its removal. The other risks involved are infection, bleeding, retinal detachment, reduced vision, further surgery, failed closure of the macular hole and increase in eye pressure, slow recovery.

80-95% of macular holes close after surgery depending on the size and duration of the hole. The visual improvement depends on the duration of the hole. Normally, recent holes with less than six to twelve months duration have better visual improvement than older holes of longer duration. In most cases visual improvement is gradual over a period of 3 - 12 months.

Regular follow-up and complete eye examination is important for patients with high risk and those who have been diagnosed to have the macular hole. Often the patient realizes only after the damage has been done. Hence it is recommended to have routine eye check up so that the disease can be treated at the earliest.