Terrace Eye Centre

2nd Floor
87 Wickham Terrace
BRISBANE QLD 4000

Phone: 07 3831 0101
Fax: 07 3831 3203
www.terraceeyecentre.com.au

MACULAR HOLE SURGERY PATIENT INFORMATION

WHAT IS A MACULAR HOLE?

A macular hole is a retinal problem whereby a hole develops in the macular region. This region is the part of the eye that gives you your central vision. A macular hole therefore causes distortion in the central vision and sometimes a dark spot in the centre of the vision.

The underlying cause is thought to be due to a fine membrane around the macular region which undergoes outwards traction which pulls the hole open.

This is something that happens with age, and is not related to genetics, diet, exercise or due to anything you have done to your eye.

WHAT ARE THE SYMPTOMS OF A MACULAR HOLE?

Some patients have no symptoms at all until they cover the other eye. Most notice a reduction in central vision or distortion. Straight lines may look bent or wavy or may have an area missing.

WHAT HAPPENS IF I DO NOTHING?

If a macular hole is not treated, it will usually progress and get larger until the central vision is lost. The macula will gradually lose function, and the eye will become legally blind (unable to see the largest letter on top of the eye chart). The peripheral vision will remain intact.

In a small percent of cases, very small holes (Stage I or IIa) may close spontaneously, but once the hole reaches a certain size (Stage III), the chance of spontaneous closure are rare.

WHAT ARE THE TREATMENT OPTIONS FOR MACULAR HOLE REPAIR?

Modern eye surgery is now very successful in closing the macular hole and improving vision. Surgery involves vitreoretinal microsurgery where very fine microsurgical instruments are inserted inside the eye and the vitreous gel is removed. The membrane which causes the macular hole is also removed. Also, a special gas bubble is left in the eye which is absorbed over two to four weeks is used to assist with closure of the macula hole. Fluid produced naturally within the eye (aqueous humour), replaces the gas bubble in time.

WHAT TYPE OF ANAESTHESIA IS USED AND WHAT ARE ITS RISKS?

Macular hole surgery is performed under local anaesthesia, with sedation. It is typically performed in a day surgery or hospital setting and an overnight stay is not required. The surgery takes less than one hour and is not painful.

There are risks associated with anaesthesia, whether general or local.

Complications of anaesthetic injections around the eye may include:

- Perforation of the eyeball,
- Injury to the optic nerve resulting in loss of vision,
- Vitreous cavity haemorrhage,
- Retinal detachment,
- Interference with retinal circulation resulting in possible vision loss,
- Systemic hypotension (low blood pressure)
- Respiratory depression.

Terrace Eye Centre

2nd Floor
87 Wickham Terrace
BRISBANE QLD 4000

Phone: 07 3831 0101
Fax: 07 3831 3203
www.terraceeyecentre.com.au

- Any anaesthesia or medication can very rarely cause severe anaphylaxis (allergic reactions) which can result in death.

WHAT IS THE CHANCE OF SUCCESS?

Modern vitreoretinal surgery is now very successful in closing the hole. The success rate of closure of a macular hole is greater than 95%. Some holes may require further surgery if the macular hole does not successfully close and this is most likely in very large macular holes (>1000um), those that have been present for a long period of time (years) and/or those that have other causes of macular damage, such as macular degeneration. If the initial surgery is not successful in closing the hole, additional procedures maybe required to help promote macular hole closure and hopefully improve the vision.

What is the chance of my vision improving?

The amount of vision that returns depends mostly on how much vision was lost pre-operatively and how long the hole was present for. If the hole has been present for many months or years, the amount of vision that returns will be less than if it were only present for a few weeks. It is important to understand that any improvement occurs very slowly, as the retinal cells remodel, and the vision may continue to improve slowly for up to **one to two years**. Some patients who are not satisfied at the 3 month mark, will be satisfied by the improvement noted after 6 or even 12 months.

What happens after the surgery?

Immediately after the surgery, a patch will be placed on your eye with tape. This will be removed the morning after the surgery when you come to the office. After that, there is no need to wear a patch during the day. A protective shield is recommended for sleeping, for the first week after the surgery.

Following surgery, the vision will be very blurred due to swelling and the dilating eye drops. Some patients who have a gas bubble will see a black, wobbly, horizontal line which will slowly become lower and lower. This is the edge of the gas bubble and is normal and will go away completely when the bubble is reabsorbed.

For the first one to two weeks following surgery you need to take it easy. Eye drops need to be used for one to two months following surgery. These should commence the day after surgery, after you have seen your surgeon.

New spectacles may need to be obtained three to four months following surgery.

What can I do or not do with a gas bubble

- Dr Hogden will tell you if you have a gas bubble placed during surgery. If so, you will need to keep your face down for the first 3 days. This is best done for at least 50-55 minutes in the hour, the other 5-10 minutes may be used to perform normal duties. You need to sleep with your head face down as much as possible. The face down position can be maintained whilst sitting in a chair and keeping one's head down.

- While the bubble is present, you **MUST NOT FLY** in an airplane under any circumstances. Doing so will result in blindness as the bubble expands with altitude. If you have air travel plans within the first two months after your surgery, mention this to your doctor.

- If you need to travel over the range to Toowoomba, you must discuss this with your doctor first. The increased altitude can cause severe, vision threatening pressure rises. It is usually best to stay at sea level for 1 week before going back over the range. This depends on the type of bubble, so ask your doctor.

- If you require surgery of any kind over the following two months you MUST TELL THE ANAESTHETIST ABOUT THE GAS BUBBLE, as nitrous gas anaesthetics will cause the bubble to expand and cause severe vision threatening pressure rises. This includes dental procedures.

FACE DOWN POSITIONING AIDS

2nd Floor
87 Wickham Terrace
BRISBANE QLD 4000

Phone: 07 3831 0101
Fax: 07 3831 3203
www.terraceeyecentre.com.au

These are not essential, and most patients do not need them, however for those with back or neck problems, this equipment can be useful. There are companies that hire out equipment to help you maintain the face down posture reducing the strain on your neck and back.

What are the risks of surgery?

There is no guarantee that surgery will improve your condition. Sometimes despite everyone's best efforts it does not work. In addition, all surgery has risks. Sometimes it can make the problem worse, cause an injury, or create a new problem; if it does, this is called a complication. Complications can happen right away or not until days, months, or years later. You may need more treatment or surgery to treat the complications.

It is important that you understand the risks involved with macular hole surgery so that you can make an informed and educated decision on the best course of action for your eye care. Below are listed some of the may risks associated with this surgery:

- A **cataract** develops in all adults usually around age 60-80 but will usually develop earlier after a vitrectomy than would be expected during the normal aging process. Sometimes cataract surgery will be required within a few months after macular hole repair.
- Occasionally, the eye may develop increased pressure (**glaucoma**) and medication may be required to control this. A retinal tear or detachment may develop post-operatively and would require further surgery to correct.
- **Infection** and **haemorrhage** are very rare risks which may occur with any surgery. Very rarely, if you have a severe infection or severe bleeding you can go **blind in the eye**. The chance of this occurring is much less than 1 percent.

Other major risks can include:

- Poorly healing or non-healing corneal defects
- Corneal clouding and scarring (in severe cases may require corneal surgery)
- Lens complications such as dislocation or need for removal / replacement1
- Double Vision
- Eye lid droop
- Loss of circulation to vital tissues in the eye, resulting in decrease or loss of vision
- Phthisis (disfigurement and shrinkage of eyeball)

IS THERE A RISK TO MY OTHER EYE?

If you have surgery on one eye, extremely rarely, the vision in the other eye can be affected by a condition called sympathetic ophthalmitis, however the incidence of this is less than 1 in 10,000.

Finally, the above list of complications covers most possibilities but is not complete and if you have any further queries, please do not hesitate to discuss these with Dr Hogden pre-operatively.