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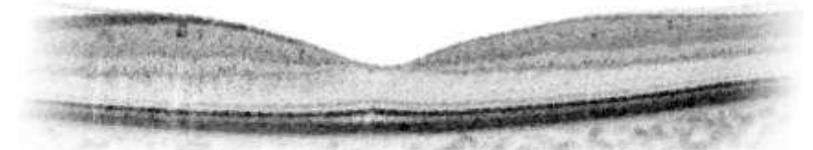
Website: [www.ashfordstpeters.nhs.uk](http://www.ashfordstpeters.nhs.uk)

# Macular Hole Surgery

## Ophthalmology Department



Cross-section of a macula with a macular hole



Cross-section of a healthy macula

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## Further Information

We endeavour to provide an excellent service at all times, but should you have any concerns please, in the first instance, raise these with the Matron, Senior Nurse or Manager on duty.

If they cannot resolve your concern, please contact our Patient Experience Team on 01932 723553 or email [asp-tr.patient.advice@nhs.net](mailto:asp-tr.patient.advice@nhs.net). If you remain concerned, the team can also advise upon how to make a formal complaint.

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## Where can I find more information?

The **RNIB** have further information on macular holes, especially some practical advice

Helpline: **0303 123 9999**;

Internet: [www.rnib.org.uk](http://www.rnib.org.uk)

Email: [helpline@rnib.org.uk](mailto:helpline@rnib.org.uk)

## The Macular Disease Society

Helpline: **0845 241 2041**;

Internet: [www.maculardisease.org](http://www.maculardisease.org)

Email: [info@maculardisease.org](mailto:info@maculardisease.org)

## Contact Details

We want to hear from you if you are worried about anything after the operation:

**Contact Eye Unit Helplines.** These helplines are manned Monday to Friday, 08.30-17.00. It may take a few hours for a nurse to call you back. Please leave your telephone number and a short message after the recorded message.

- Ashford Hospital: **01784 884402**
- St Peter's Hospital: **01932 722686**

**Out of hours:** 17.00-08.30, Weekends and Bank Holidays, please ring: **01784 884488** or **01932 722000** and ask for the eye doctor on call.

## What is the macula?

The back of the eye has a light-sensitive lining called the retina, similar to the film in a camera. Light is focused through the eye onto the retina, allowing us to see. The centre part of the retina is called the macula - it is here that light must be focused for us to see fine detail, to be able to read and to see in colour.

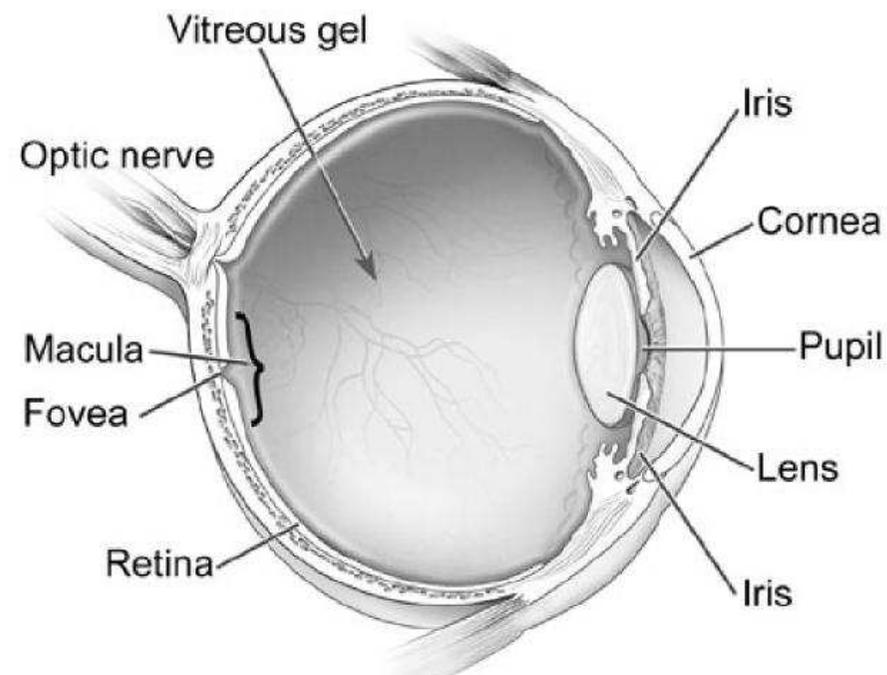


Figure 1: **Cross section of eye, showing back (retina and centre of retina- macula) and front (cornea, lens) of eye.**

## What is a macular hole?

A macular hole is a small, circular gap which opens up at the centre of the retina. This causes blurred vision and often distorted vision where straight lines or letters look wavy or bowed. There may also be a patch of missing vision at the centre.

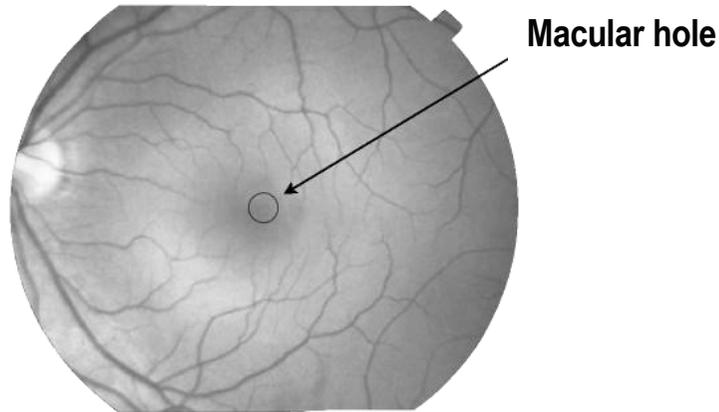
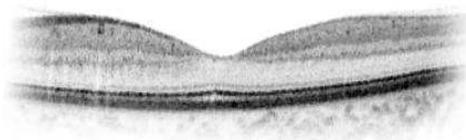


Figure 2: View of back of eye showing macula & macular hole

## Is a macular hole the same as age-related macular degeneration?

No, macular holes and macular degeneration are different conditions although they affect the same area of the eye. They can sometimes both be present in the same eye.



Cross-section of a healthy macula



Cross-section of a macula with a macular hole

## What can I do after surgery?

If you have been given any posturing instructions then these should be followed. You can bath or shower, but avoid splashing water near the eye. Generally you may do anything with which you are comfortable.

If a gas bubble has been put into the eye, most people choose not to drive until the gas bubble goes since the gas bubble can be distracting. You must not fly until the gas bubble has gone and you must inform the anaesthetist if you require a general anaesthetic for any operation whilst there is gas in your eye.

## When will I need to be seen again after the surgery?

Post-operative review is usually performed the next day (or within a few days) after surgery; then 2 weeks later and, provided all is well, again at 3 months.

## Will I have to get my glasses changed?

Most people will need to change their spectacle prescription at some point after surgery. This would normally be at about 3 months following the operation, after the gas bubble has gone. As each case is different, please check with your surgeon before visiting an optician.

## **Will I have to take any drops or medication after the operation?**

You will be given eye drop(s) to reduce inflammation (steroid) and prevent infection (antibiotic), and sometimes additional drops to keep the pressure inside the eye within normal limits. You will be advised on how many times a day to use the drops before you leave hospital.

If all is well at the 2 week check-up, then the drops are reduced over the following 2-4 weeks.

## **What will I expect to feel / look like after the operation?**

You should expect your eye to feel a little gritty after the operation. When you take the pad off the following day the eye may be very bloodshot. This is normal.

If you have had gas / air put into the eye, your vision will be very blurred after the operation. The gas can take 2-8 weeks to disappear. As the gas bubble gets smaller in your eye, you will notice a line going from the top to the bottom of your vision.

If at any point your eye starts to become more painful, more red with a yellow discharge or the vision gets worse, please ring one of the numbers at the end of the leaflet straightaway.

## **Why does it happen?**

We do not know why macular holes develop. They most often occur in people aged 60-80, and are twice as common in women as men. We are increasingly aware that it is mainly slightly long sighted people who are affected. Other causes of macular holes include severe trauma to the eye, being very short sighted (myopic), those who have had a retinal detachment or as a result of longstanding swelling of the central retina (cystoid macular oedema).

## **What would happen if I did not have my macular hole treated?**

If untreated, there is a small chance that some macular holes will close spontaneously, with improvement in vision. In the majority of patients, the central vision will gradually get worse to a level where the patient is unable to read even the largest print on an eye test chart. The condition does not affect the peripheral vision, so patients will not go completely blind from this condition

## **Can I develop a macular hole in my other eye?**

Careful examination can assess the risk of developing a macular hole in the other eye. Your surgeon will tell you your risk but this may be from extremely unlikely to a 1 in 10 chance. It is very important to monitor for any changes in vision of the fellow eye, and report these to your eye specialist / family doctor / optician straightaway.

## **What is the treatment & how successful is it?**

A macular hole can often be repaired by an operation called a Vitrectomy, peel and gas.

If the hole has been present for less than a year, the operation will be successful in closing the hole in about 90% of cases. Of these, more than 70% will be able to see two or three lines more down a standard vision chart, compared to before the operation. Even if this degree of improvement does not occur, the vision is at least stabilized and many patients find that they have less distortion. In a minority of patients the hole does not close despite surgery and the central vision can continue to deteriorate; however, a second operation can still be successful in closing the hole. It is important to understand that return to completely normal vision is not possible.

## **Does it matter how long I have had the macular hole if I am interested in having the surgery done?**

There is evidence that relatively early treatment (within months) gives a better outcome in terms of improvement in vision. Studies have shown, however, that vision improvement may be possible in some patients with long-standing macular holes.

1. Failure of the macular hole to close: this occurs in 1-2 out of 10 patients. In most circumstances, it is possible to repeat the surgery. If the hole fails to close, then the vision may be a little worse than prior to the surgery.
2. Cataract: this means that the natural lens in eye has gone cloudy. If you have not already had a cataract operation, you will almost certainly get a cataract after the surgery, usually within a year but it can happen very rapidly. As cataract is inevitable, you may be offered combined surgery with cataract extraction at the same time as the macular hole repair.
3. Retinal detachment: the retina detaches from the back of the eye in 1-2% of patients undergoing macular hole surgery. The vast majority of retinal detachments are repairable, but further surgery is required and this can be a potentially blinding complication.
4. Bleeding: this occurs very rarely, but severe bleeding within the eye can result in blindness.
5. Infection: this is also very rare and would be expected to occur in about 1 in 1000 patients and if it occurs further treatments may be needed. Infection can lead to blindness.
6. Raised eye pressure: a temporary increase in pressure within the eye is quite common in the days after macular hole surgery, usually due to the expanding gas bubble. In most cases it is short-lived and controlled with extra eye drops and / or tablets to reduce the pressure, preventing any harm coming to the eye. If the high pressure is extreme or becomes prolonged, there may be some damage to the optic nerve as a consequence. In the majority, the high pressure does not adversely affect the vision, but some patients require long term treatment to keep the eye pressure controlled.

## **Am I able to travel after macular hole surgery?**

You must not fly or travel to high altitude on land whilst the gas bubble is still in the eye (up to 12 weeks). If ignored, the bubble will expand at altitude, causing very high pressure resulting in severe pain and permanent loss of vision. In addition, if you need a general anaesthetic whilst gas is in your eye, then it is vital that you tell the anaesthetist so they can avoid certain anaesthetic agents which can cause similar expansion of the bubble. None of these exclusions apply once the gas has fully absorbed. You will notice the bubble shrinking and will be aware when it has completely gone.

## **How much time will I need off work?**

Most people will need two weeks off work. Your vision is reduced while the gas bubble is in the eye and this also affects depth perception. However, it depends on the type of work you do and the speed of recovery. This should be discussed with your surgeon.

What are the potential complications of macular hole surgery? As with any procedure there may be risks involved and you should discuss these with the consultant prior to your operation, however it is unlikely that you will suffer harmful effects from a macular hole operation. In a small minority, the vision may end up worse than before the surgery, and there is even a tiny chance of total loss of sight. Six specific complications of macular hole surgery, which you must be aware of, are outlined on next page:

## **What does the operation involve?**

Macular hole surgery is a form of keyhole surgery performed under a microscope, using 3 small incisions (1-2 mm in size) in the white of the eye for insertion of very fine instruments. Firstly the vitreous jelly is removed (vitrectomy), and then a very delicate layer (the inner limiting membrane) is carefully peeled off the surface of the retina around the hole to release the traction forces that keep the hole open. The eye is then filled with a temporary gas bubble, which presses against the hole to help it seal. The bubble of gas blocks the vision whilst it is present, but slowly disappears over a period of about 8 weeks.

If you have a local anaesthetic, you will be awake during the operation. Before the operation, we will give you eye drops to enlarge your pupil. After this, we will give you an anaesthetic to numb your eye. This involves injecting local anaesthetic solution into the area around your eye. During the operation you will not need to worry about keeping your eye open – the lids are gently held open with a device called an eyelid speculum. The local anaesthetic also “numbs” the eye movements and the vision so that you don’t need to worry about keeping the eye still and you won’t see clearly during the operation.

A sticky sheet is stuck to the skin around the eye during the operation and the sheet covers the other eye. The sheet covers your face but is lifted up off the mouth and nose. If you are having a local anaesthetic and suffer from claustrophobia, please tell the surgeon / pre-assessment nurse since you may need to have a general anaesthetic instead.

During the operation we will ask you to lie as flat as possible and keep your head still.

## **How long does the operation take and do I need to have a general anaesthetic?**

Macular hole surgery usually takes 45-90 minutes and can be done with the patient awake (local anaesthetic), or asleep (general anaesthetic), often as a day case procedure. Most patients opt for a local anaesthetic, which involves a numbing injection around the eye so that no pain is felt during the operation.

## **How long will I have to stay in hospital?**

For most patients the operation can be done as a day case (you come into hospital on the day of the operation and go home after the operation later on the same day). Be prepared to be in hospital for some hours before and after the operation.

Occasionally patients may stay overnight in hospital after surgery to allow recovery from general anaesthesia or if the eye requires close monitoring.

## **Do I have to posture face down after the operation?**

The aim of face down posturing is to keep the gas bubble in contact with the hole as much as possible to encourage it to close. Whether you are required to posture, and for how long, will depend on the size of the macular hole, and also the preferences of your surgeon. There is evidence that posturing improves the success rate for larger holes, but it may not be needed for smaller holes.

If you are asked to do some face down posturing, your head should be positioned so that the tip of your nose points straight down to the ground. This could be done sitting at a table, or lying flat on your stomach on a bed or sofa. You should try to remain in this position for 50 minutes in each hour for the duration advised (usually 2-5 days after the operation). A short break of 10 minutes can be taken every hour to allow eating, trips to the bathroom etc. Your surgical team will advise on aids that can make face down posturing easier to manage e.g. a horseshoe-shaped pillow or frame. Please remember that if you are not able to posture then there is still a good chance that the hole will close successfully.

If face down posturing is not prescribed, you may simply be advised not to lie on your back for a period of two weeks after the surgery, with some surgeons recommending sleeping in a chair or at 45° in bed, supported by pillows for the same period.