

Ophthalmology department

# Macular Hole

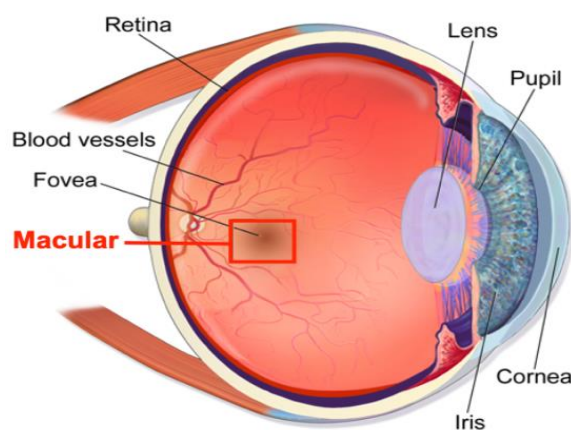
## Information for patients, relatives and carers

### Introduction

This leaflet has been designed to give you information about **Macular Hole** and answer some of the questions that you or those who care for you may have. It is not meant to replace the discussion between you and your medical team but aims to help you understand more about what is discussed. If you have any questions about the information below, please call us on 020 3312 3236.

### What is the macula?

A thin layer of light-sensitive tissue called the **retina** lines the back of the eye. This layer allows us to see. The centre of the retina is called the **macula** and is most important for vision as it has the highest number of sensitive cells. The macula is responsible for central vision, i.e., reading and colour vision as well as the fine detailed vision.



*Image courtesy of Blausen.com staff (2014)*

### What is a macular hole?

A **macular hole** occurs when a hole forms in the centre of the macula. Early on, it can cause mild blurring and distortion (where straight lines or letters become bowed or wavy). As the condition progresses, it can lead to a significant gap and loss of central vision. Patients often complain of missing letters when reading.

The condition typically affects people over the age of 60 and is twice as likely to affect women. In 10 per cent of patients it affects both eyes. Macular holes tend to form when the vitreous jelly that fills the back of the eye pulls away from the macula causing a hole as it does so.

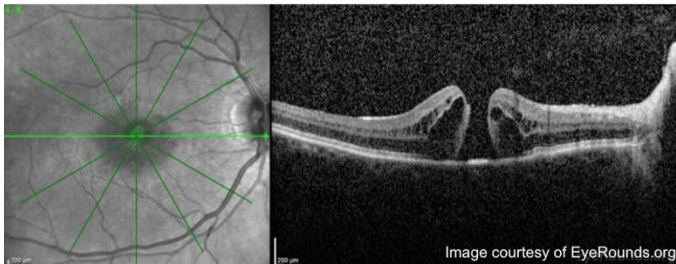
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Other causes of macular holes include

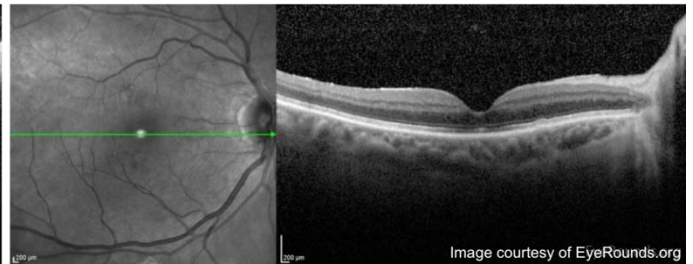
- a retinal detachment
- a severe eye injury
- slight long sightedness
- severe short sightedness
- persistent swelling of the macula (cystoid macular oedema)

## Macular hole assessment

A macular hole can be seen by an eye specialist during an examination of the back of the eye. This appointment may be in person or virtually. Firstly, the eye nurses will check your vision as well as the pressure in your eyes. To help the rest of the examination, we will give you drops to temporarily make your pupils big. You may also have a scan of the back of your eyes.



*Fig 1. OCT scan of a full thickness macular hole closed macular hole 1-month following surgery*



*Fig 2. OCT scan of a closed macular hole 1-month following surgery*

## How is a macular hole treated?

A full thickness macular hole can be managed in a number of ways. Observation may be recommended by your surgeon as macular holes sometimes close and heal on their own. Monitoring is done through optical coherence tomography (OCT) scans.

If the condition is getting worse over time and/or your vision is becoming more affected, surgery may be needed. Between 90 and 95 per cent of macular holes are closed following surgery. Vision improves by 2 – 3 lines on the vision chart in more than 70 per cent of patients and visual distortion is likely to be reduced.

Larger macular holes (>400 microns) that have been present for more than 12 months have lower closure rates after surgery. Sometimes surgery is not recommended.

It is important to note that even if left untreated, a macular hole will not cause complete blindness.

### Vitrectomy

This is where specialised instruments are used to take out the jelly-like substance which naturally fills the centre of the eye. The vitreous jelly does not grow back once removed but its removal does not harm to the eye. Over time the vitreous is replaced by the natural fluid produced by the eye.

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Once the gel is removed, the innermost layer of the retina is peeled to allow the hole to close. The eye is then filled with a gas bubble to push against the macula and help close the hole. The gas bubble lasts usually for 2 weeks but, depending on the type and concentration of gas used, it may last up to 6 weeks. Dissolvable stitches are sometimes used to close the tiny incisions (cuts) made during surgery.

Surgery is usually performed under local anaesthetic but some patients may have individual circumstances that mean they are more suited to a general anaesthetic. The surgery usually takes about one hour. It is performed as a day procedure and you will be able to go home a few hours after surgery.

## Are there any complications involved in having macular hole surgery?

- Immediately after surgery, the vision is usually more blurred due to the presence of the gas bubble. Once the bubble clears, the vision may take a few months to improve. Small improvements in vision can occur up to 12 months after surgery
- The majority of patients who have not had cataract surgery need cataract surgery within 2 years of macular hole surgery
- Some patients may still be aware of distortion even once the hole is closed – this can take several months to improve or may remain permanent
- There is a 1 in 20 chance that the hole may not close after surgery. This risk is higher with larger holes. If this happens further surgery may be needed
- There is a 1 in 50 risk of the vision ending up worse than before the operation
- There is a 1 in 50 risk of needing further surgery for other complications such as a retinal detachment or retinal tears
- There is a 1 in 100 risk of developing raised eye pressure which may need long-term drops or surgery to maintain vision
- There is a 1 in 1000 risk of developing a serious complication in the eye due to causes such as bleeding or infection which leads to the eye becoming totally blind

## What can I expect after surgery?

Your vision will be poor after surgery because of the gas bubble in your eye but this is only temporary.

We will give you drops to use usually for 4 weeks. Your surgical team will review you the day after surgery and then schedule further follow-up usually 2 weeks later. You are likely to be off work for 2 weeks after surgery but this may be longer depending on your individual circumstances. Please discuss this with your surgeon for more specific advice.

After surgery, you may need to perform 'posturing' for 5-7 days. This involves adopting a face down procedure for 25 minutes in every half hour. This ensures that the gas bubble in your eye floats against the macula and maximises the chance of hole closure. We will give you a separate leaflet with detailed instructions about posturing.

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You must not fly in an aeroplane while there is a gas bubble in the eye. If you need any other surgery while there is a gas bubble in your eye, you must tell your anaesthetist because some commonly used anaesthetics can interact with the gas bubble in your eye.

## Further information

The Royal National Institute of Blind People (RNIB) have further information on macular holes as well as practical advice.

**Helpline:** 0303 123 9999

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

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

The Macular Disease Society also has further information.

**Helpline:** 0845 241 2041

**Website:** [www.maculardisease.org](http://www.maculardisease.org)

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

## Who can I contact for more information?

- Emergency Department at Western Eye Hospital: 020 3312 3245
- Outpatients at Western Eye Hospital: 020 3312 3236
- Outpatients at Charing Cross Hospital: 020 3311 1109/ 1233/ 0137

## How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3313 0088** (Charing Cross, Hammersmith and Queen Charlotte's & Chelsea hospitals), or **020 3312 7777** (St Mary's and Western Eye hospitals). You can also email PALS at [imperial.pals@nhs.net](mailto:imperial.pals@nhs.net) The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street  
London W2 1NY

Email: [ICHC-tr.Complaints@nhs.net](mailto:ICHC-tr.Complaints@nhs.net)

Telephone: **020 3312 1337 / 1349**

## Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:  
[imperial.communications@nhs.net](mailto:imperial.communications@nhs.net)

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