

Ophthalmology

Macular Holes

Your doctor has informed you that you have a macular hole.

What is a macular hole and what does this mean to you?

The retina is a thin film of nerve tissue lining the back of the eye. The tiny central area used for all sensitive visual tasks such as reading and recognising faces is referred to as **the macula**.

Macular holes usually only affect one eye of a patient and typically cause central visual **distortion**. Reading and recognising faces may therefore be difficult with the affected eye. Because of their small size (less than half a millimetre) macular holes **only** affect the central vision. Peripheral vision, which is used to navigate and avoid obstacles will be preserved and is never affected. Macular holes can occur in both eyes but the risk is very small; your ophthalmic surgeon will be able to advise you about the risk of your fellow eye.

Your doctor may have offered you surgery.

What is involved in the surgery?

- Because of the very fine work involved, surgery is safer with a completely immobile eye. For this reason the surgeons at Addenbrooke's prefer operating with the patient asleep under a short general anaesthetic.
- For patients whose general health is not suitable for general anaesthesia, surgery can be performed under a local anaesthetic with the patient awake.
- You would usually come in the day before surgery for full assessment by the Eye Unit nurses, the surgical team and an anaesthetist.
- The aim of the surgery is to repair the macular hole.
- This is achieved by clearing away the vitreous gel (jelly like substance) and scar tissue from the surface of the retina. A long acting gas can then be injected inside the back of the eye.
- The gas is used as a gentle splint to close and seal the macular hole whilst it heals through the natural processes.
- The gas always floats to the highest point in the eye and the macular hole is located at the very back of the eye. You will therefore have to lie on your tummy or sit with your face down after surgery during the healing phase.

- This 'posturing' allows the gas to float to the back of the eye, therefore aiding the hole closure and **is very important to the success of the operation.**
- Typically patients will posture face down as much as possible for 7 to 10 days following surgery.
- It is quite safe to sit or stand normally in order to, for example, take meals, wash and dress. It is inevitable that some patients will be able to posture face down for longer periods than others.
- The gas can take up to two months to disperse and you should not fly until it has completely disappeared. Your surgeon will advise you when it is safe to do so.



Correct 'posturing' **is very important to the success of the operation.**

What is the expected outcome of surgery?

Macular hole surgery was introduced in 1991 and techniques to improve success rates continue to evolve. With routine surgery and good posturing we currently expect about 8 in 10 of all macular holes to close. However, the success in terms of visual improvement can be influenced by the stage of the hole and the distortion. There is no surgical procedure with 100% guaranteed success. Without closure, vision will not improve. In terms of vision improvement a good result would be an improvement of three to four lines down the vision testing chart and a significant reduction in distortion. Sometimes vision does not improve much but distortion is significantly reduced. It is very unlikely vision in the operated eye will return to normal (this means the level of vision before the macular hole developed).

This is because even with successful closure there remains a 'fault-line' in the retina at the site of the original hole. Providing the vision in the other eye is normal, it is likely to continue to enjoy the better vision of the two.

Are there any risks?

There are some risks involved with any surgical procedure and these include:

1. In nearly every patient, macular hole surgery will accelerate the development of **Cataract** (the human lens becoming cloudy). Eventually this is likely to affect the vision to such an extent that cataract surgery may be required. Although cataract surgery is a routine procedure, it does carry its own small associated risks.
2. There is about a one in 20 incidence of retinal detachment following surgery. Retinal detachment occurs when the retina becomes separated from the inner wall of the eye. Although a retinal detachment can successfully be repaired, with an extensive retinal detachment, the vision could be worse than before the macular hole was repaired.
3. There is a one in 1000 chance of getting an infection inside the eye, which could lead to a severe loss of vision.
4. There is a one in 20 chance that you may notice a part of your field of vision is missing, usually just away from the centre.

Summary and key points to consider before deciding whether or not to proceed with surgery

- Macular hole usually affects one eye and only ever affects central vision.
- If you choose not to have surgery it is quite safe to continue to read using your unaffected eye.
- Surgery carries the best chance of visual improvement but is also the only chance of extensive visual loss if complications occur.
- Consider carefully the practicalities and importance of face down posturing for 7 to 10 days following surgery before opting to go ahead.
- No flying until after the gas has gone. This typically takes two months after the operation.

Contact details

If you require any further information, please do not hesitate to call ward M5 at Addenbrooke's Hospital on 01223 256336.



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