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# Treating a macular hole in your eye to improve vision

Department of Ophthalmology

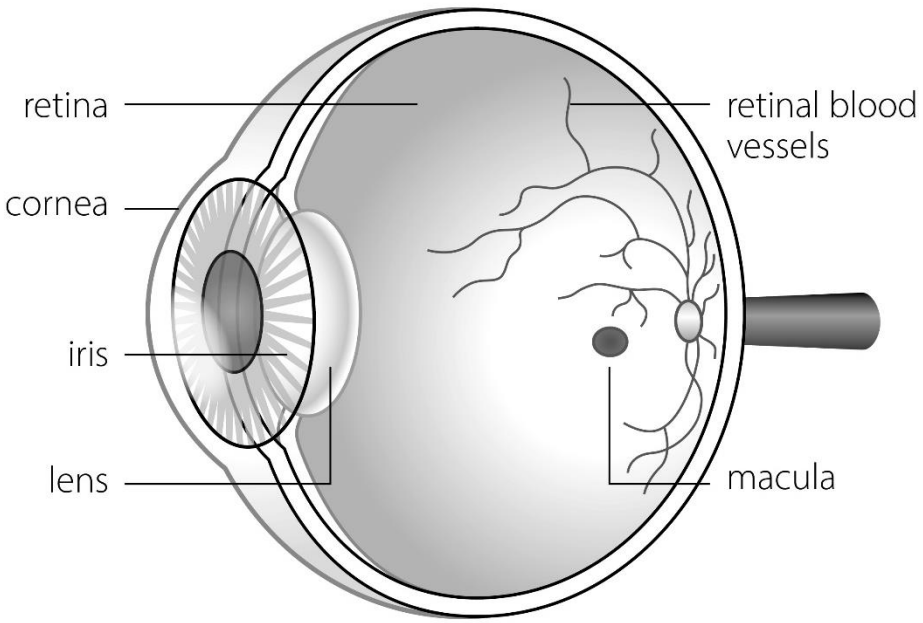
Information for Patients

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## What is a macular hole?

This is a small break in the centre of the retina in an area called the macula. The macula gives us the sharp vision we need for reading, driving and seeing fine detail.

A hole in the macular can cause blurred and distorted central vision. Macular holes mostly happen because of ageing. It often happens in people over the age of 60.



## Is it the same as age-related macular degeneration?

No. Macular holes and age-related macular degeneration are 2 different conditions. The symptoms can be similar. Both conditions are common in people 60 years and over.

## What causes it?

It is caused in most of the cases by aging.

The inside of the eye is filled with a clear, jelly-like substance called vitreous. As we get older, this jelly shrinks and separates from the retina. This is a normal process. It often causes no problems. Some people may notice floaters.

Sometimes, the vitreous stays attached to macula as it pulls away. This creates pulling (traction) that causes the tissue of the macula to stretch slowly creating a small hole. For some, a very thin membrane can form on the surface of the macula. This slowly shrinks, placing more tension on the retina causing a macular hole.

Less commonly, macular holes can happen after an eye injury or because of other eye conditions. This includes:

- high short-sightedness (high myopia),
- an epiretinal membrane (macular pucker),
- retinal detachment,
- diabetic eye disease,
- or certain inherited retinal conditions.

## What are the symptoms?

Macular holes happen slowly. In the early stage, people may see a slight distortion or blurriness in their straight-ahead vision. Straight lines or objects can start to look bent or wavy. Reading and doing other everyday tasks with the affected eye can be difficult.

## Do macular holes get worse?

Yes. It can start small and slowly become larger over time. As it gets bigger, vision may become more blurred or distorted. This will make activities like reading, driving, or recognising faces more difficult. Not all macular holes grow at the same speed. The earlier the hole is treated, the better the chance of improving vision.

## What treatment is there?

Some very small, early macular holes can close on their own and may only need regular monitoring. However, most macular holes need a surgery called a vitrectomy.

## What happens during surgery?

We often do this surgery under local anaesthetic. This means you will be awake but your eye will be numb so you will not feel pain. Most people can go home on the same day.

The jelly inside the eye (vitreous) is carefully removed to stop it pulling on the retina.

Your surgeon will also peel a very thin, transparent layer from the surface of the retina. This layer acts like a tight film. Removing it helps release tension and encourages the hole to close.

In some cases, your surgeon may gently fold a small piece (flap) of this layer over the hole, like placing a tiny patch over it, to help it heal.

At the end of the surgery, the eye is filled with a special gas bubble. The bubble acts like a bandage, gently pressing against the macular hole to help it close while it heals. Over the following weeks, the gas bubble slowly disappears on its own and is replaced by the eye's natural fluid.

## What are the risks of surgery?

If you already have a cataract, your surgeon will often recommend a combined surgery. This is where the cataract is removed at the same time as the macular hole is repaired. If you do not already have a cataract, it is very likely that you will get one or progress more quickly after vitrectomy. Many patients need cataract surgery within the next months or years.

### Less common risks:

- Infection inside the eye (endophthalmitis). This is rare but can be serious and may threaten vision.
- Retinal detachment. This is where the retina peels away from the back of the eye and needs more surgery to fix.
- Swelling at the back of the eye (cystoid macular oedema or CMO). This can cause blurred vision and is often treated with eye drops or other medication.
- Bleeding inside the eye.
- Raised pressure inside the eye. This is often temporary but may cause glaucoma and need treatment.

## Posturing and travel restrictions

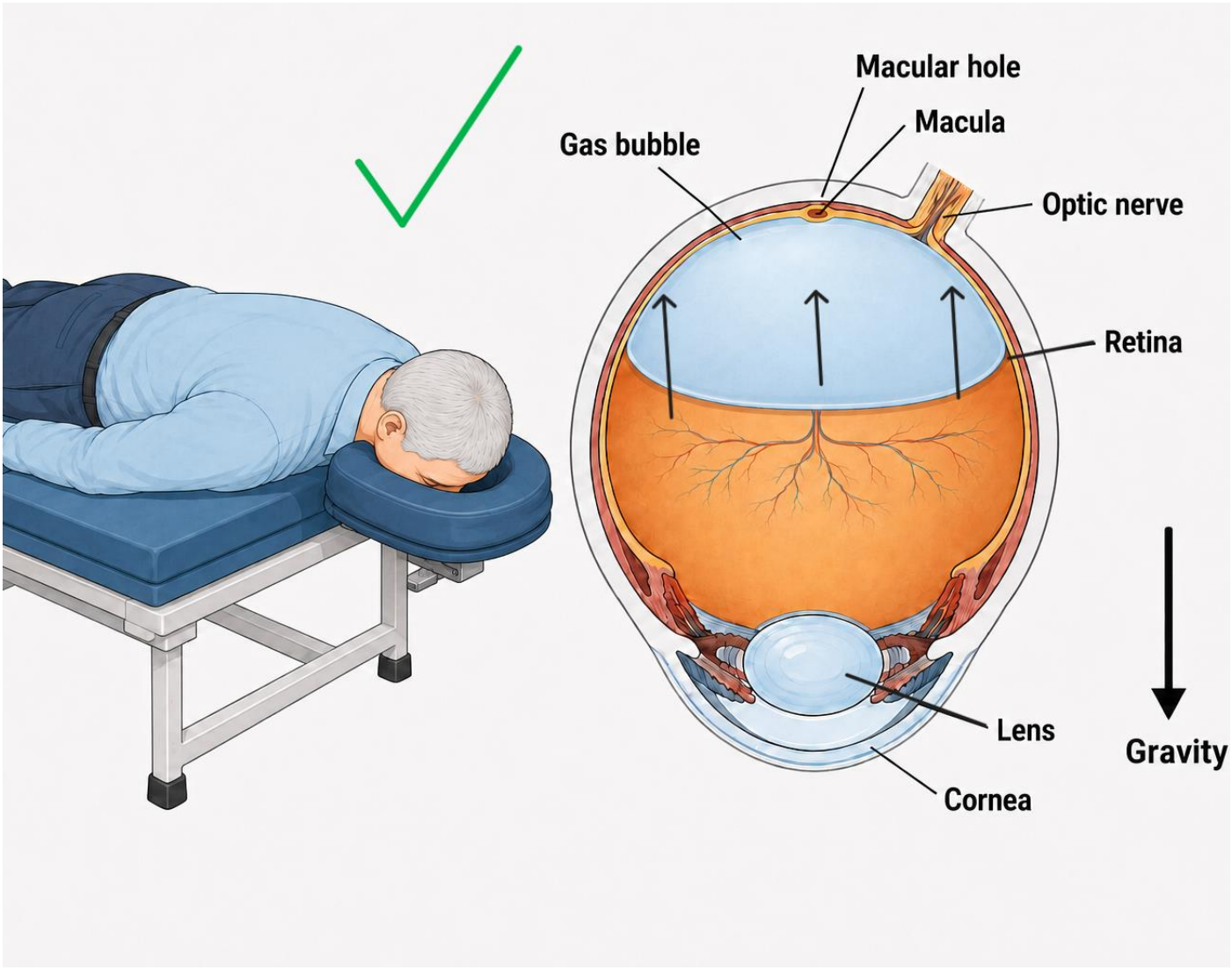
After your operation, your eye will be filled with a “gas bubble”. This helps the macular hole to heal. The bubble works like an internal bandage by gently pressing against the hole.

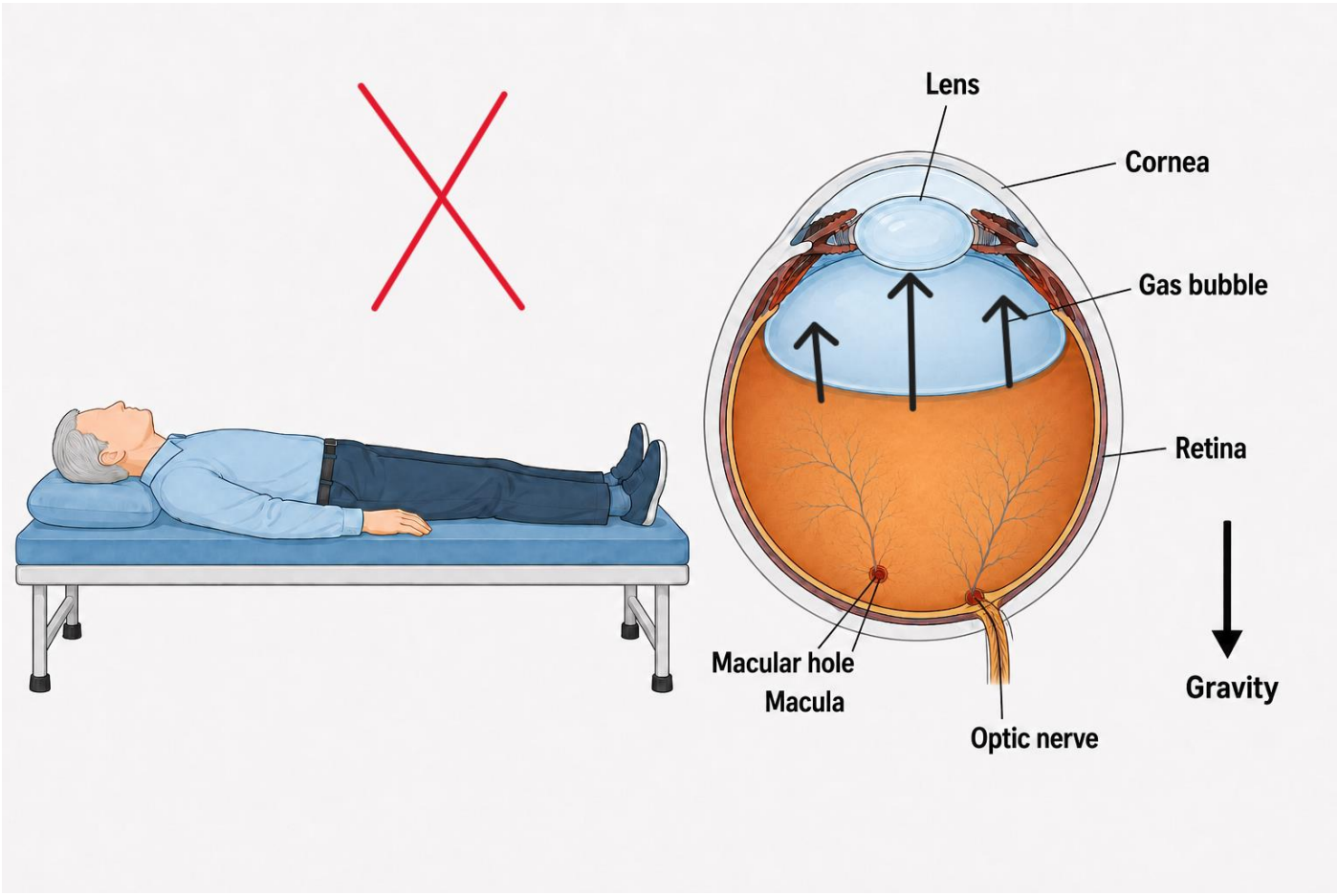
You may be asked to keep your head in a “face-down position”. This is called “posturing”. You may need to do this for a few days or for up to 2 weeks. This will depend on the size of the hole and your surgeon's advice.

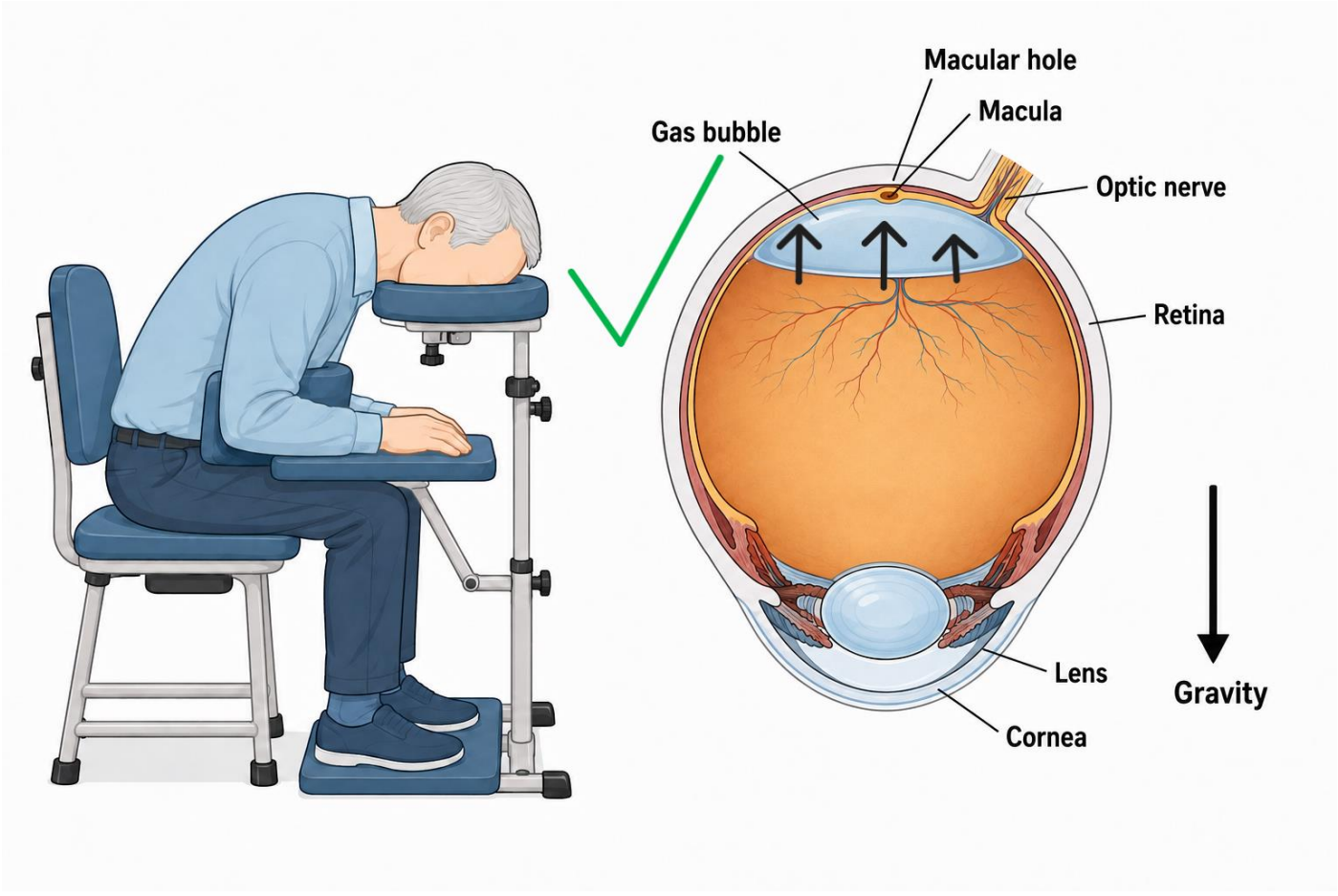
You will usually be asked to stay face down for about 45 minutes in every hour. You can take short breaks for meals, washing, using the toilet and stretching. Posturing can be difficult, but following the advice may help the hole to close.

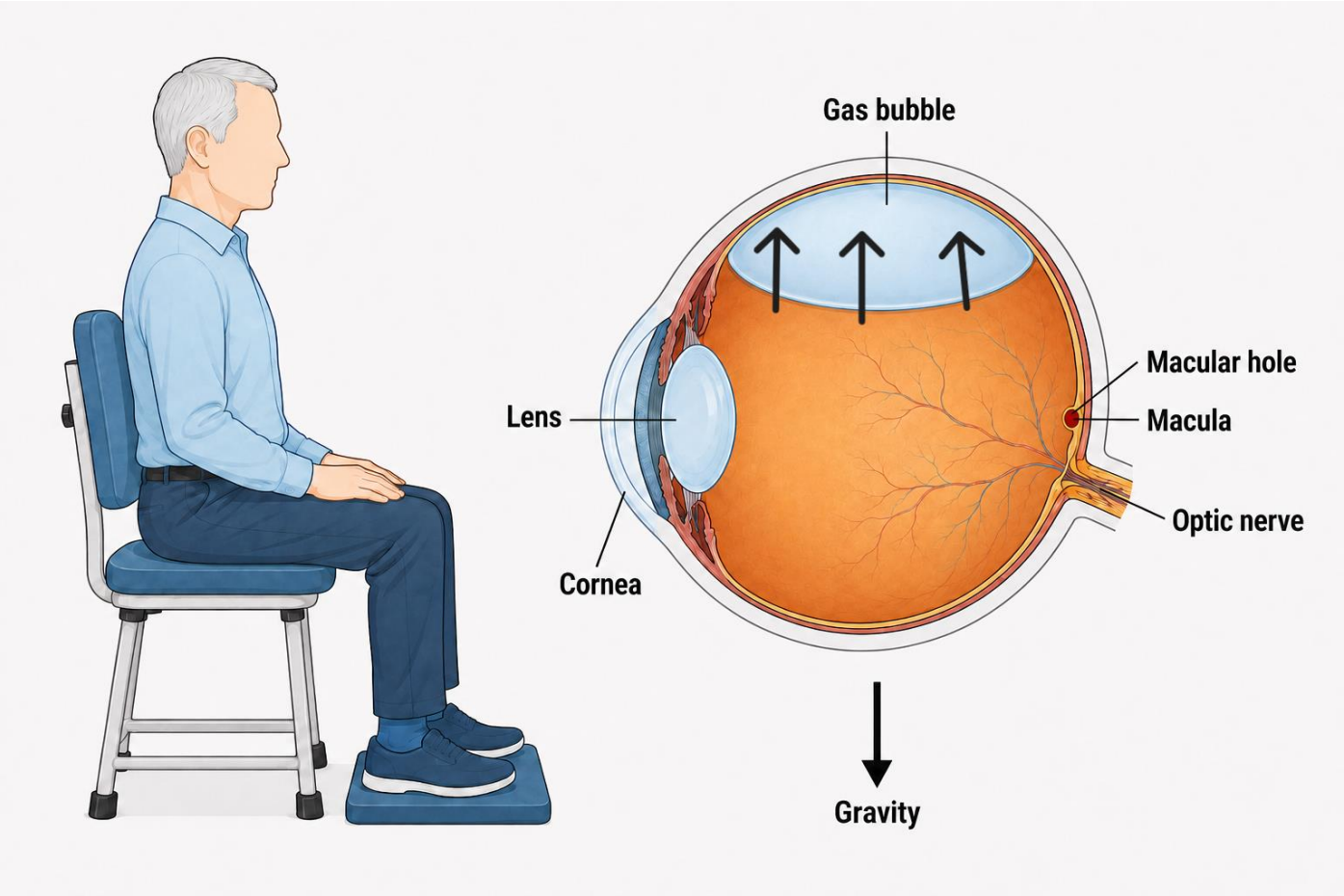
While the gas bubble is still in your eye, you must not fly or travel to high altitudes. Changes in air pressure can make the gas bubble expand. This can cause a dangerous rise in pressure inside your eye and could permanently damage your sight. Your surgeon will tell you when the gas bubble has gone and when it is safe to travel.

Always tell any doctor or anaesthetist that you have a gas bubble in your eye before having an operation or anaesthetic. Some anaesthetic gases can make the bubble expand and cause a dangerous rise in eye pressure.




Lens
Cornea
Gas bubble
Retina
Macular hole
Macula
Optic nerve
Gravity


Macular hole
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Retina
Lens
Cornea
Gravity




## How successful is macular hole surgery?

Macular hole surgery is very successful at closing the hole. About 9 in 10 macular holes close after 1 operation. If the hole does not close after the first operation, another operation may still be successful.

Closing the hole does not always mean that your vision will return to normal. Most people notice some improvement, but the amount of improvement is different for each person.

Your vision often improves slowly over 3 to 6 months after surgery. In some people, it may continue to improve for up to a year.

## What affects your final vision?

Several things can affect how well you see after surgery:

- **The size of the macular hole:** Smaller holes are more likely to close and often have a better chance of improving vision.
- **How long the hole has been there:** Holes treated within the first few months usually have better results than holes that have been there for longer.

- **Your vision before surgery:** People who have better vision before the operation are more likely to have better vision afterwards.
- **The health of your retina:** Other eye problems, such as age-related macular degeneration, diabetic eye disease or previous damage to the retina, may limit how much your vision improves.

## What if I cannot stay in a face-down position after surgery?

If you cannot stay in a face-down position after surgery for the advised duration by your surgeon, your vision may not improve as well as it could. People who cannot stay in a face-down position may not benefit from the surgery. There are devices that can make the face-down position easier for you.

If you cannot keep a face-down posturing, we may be able to use a different surgical approach in selected patients. You must talk about this with your surgeon before surgery. This is because these options may not be suitable for everyone. The results may be less predictable or less successful than with standard treatment.

## Is my other eye at risk?

If you get a macular hole in 1 eye, there is a **1 in 7** to **1 in 10 chance** of developing a macular hole in your other eye during your lifetime. Your doctor can talk about this risk with you.

## Contact details

If you have any concerns about your eyes you should contact the Eye Casualty Department on **0116 258 6273**.

Health information and support is available at www.nhs.uk or call 111 for non-emergency medical advice
Visit www.uhleicester.nhs.uk for maps and information about visiting Leicester's Hospitals.
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