



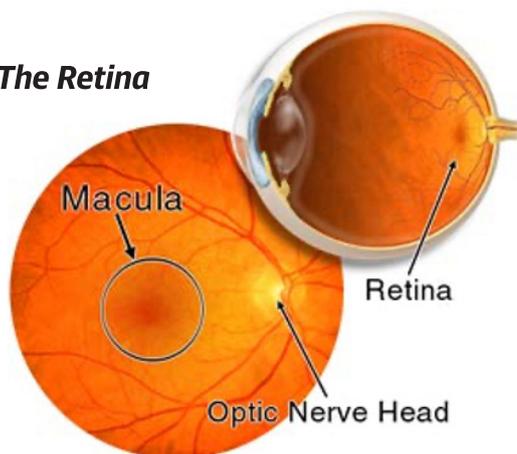
## Epiretinal membrane

### What is an epiretinal membrane?

An epiretinal membrane (ERM) is a very thin layer of scar tissue that forms on the surface of the retina. The part of the retina affected by ERM is called the macula, which provides the sharp central vision needed for seeing fine detail such as when reading or driving.

When an ERM forms it may contract and crumple up the macula resulting in distorted and/or blurred vision. It's more common as we get older - by age 80 approximately 1 in 10 people will have one. However not all ERMs cause problems or require treatment.

#### The Retina



### What causes an epiretinal membrane?

The development of ERM is usually related to normal ageing changes of the vitreous gel inside the eye - a process called posterior vitreous detachment (PVD). In some cases it can be related to other conditions such as diabetes, blockage of a blood vessel, inflammation, or following retinal surgery.

Although ERM affects the macula it is not the same thing as macular degeneration and does not usually affect both eyes.

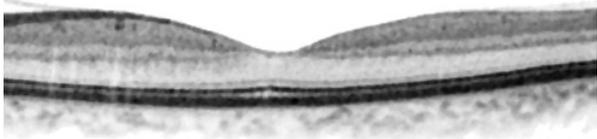
### What are the symptoms of epiretinal membrane?

Many people with an ERM have no symptoms and will only be diagnosed during a routine eye examination with their optometrist. If the ERM contracts it can pull on the underlying retina, leading to swelling of the retina, causing blurred vision, and displacement of the delicate macula cells - which causes distortion (straight lines appear bent or crooked).

Left untreated an ERM can cause slowly progressive blurred vision and distortion. While it will never cause complete blindness the longer an ERM is present the less improvement can be expected with treatment.

### What are the tests for ERM?

Your eye specialist will first see an ERM during a retinal examination. Next we do an Optical Coherence Tomography (OCT) scan. This quick, painless diagnostic test is done during your appointment, and it visualises the macula in high definition and microscopic detail. The images obtained from the OCT scan will confirm the ERM and reveal how much it is disturbing the underlying retina.



***Cross-section of a healthy macula***



***Cross-section of a macula with an epiretinal membrane***

## **Do I need treatment for my ERM?**

Your eye surgeon will help you decide if treatment is required. If you are not aware of any visual problems, or if problems are only minor, monitoring with occasional examinations and OCT scans may be recommended. If the vision disturbance from the ERM is affecting your ability to work, read, drive, or perform other important activities, you should consider treatment.

## **What is the treatment for ERM?**

Changing your glasses, eye drops or undertaking laser treatments do not help – the only way to improve vision is to physically remove the scar tissue of the ERM from the retina by vitrectomy surgery.

Vitrectomy surgery takes around an hour and is usually performed under local anaesthetic. This means you are awake during the surgery but the eye is completely numb from an anaesthetic injection so there is no pain and you cannot see what is happening. Some relaxing medication or general anaesthetic can be provided if necessary.



## **What is vitrectomy surgery?**

Vitrectomy surgery is keyhole surgery on the eye. The surgeon makes tiny incisions, less than 1mm across, in the white part of the eye to remove the vitreous gel, the clear jelly-like substance that fills most of the eye.

Your eye surgeon will then use delicate forceps to gently peel the ERM from the surface of the retina. This allows the macula to relax back to a normal position and reduces swelling. At the end of the operation the space previously occupied by vitreous gel may be left filled with saline solution or a gas bubble, which will eventually be replaced by natural fluid produced within the eye.

Stitches are sometimes required to close the small openings made in the white wall of the eye but these dissolve in 4-6 weeks. An eye pad will keep the eye closed and protected overnight.

## **What should I expect after surgery?**

- You will have an appointment the day following surgery to remove the eyepad and examine your eye.
- Your eye is usually not painful but redness and grittiness are relatively common for the first week or so after surgery, especially if stitches were required.
- Many people do not require pain relief. However if your eye is sore, we recommend taking paracetamol, and lubricant eye drops can help improve grittiness.
- You will be prescribed eye drops for approximately 4 weeks to reduce inflammation and risk of infection.

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- Your vision will often be slightly more blurred for the first week after surgery before beginning to improve.

If your eye becomes increasingly painful despite paracetamol please contact your eye surgeon or Southern Eye Specialists immediately.

## **What do I need to know if I have a gas bubble in my eye?**

After your ERM surgery you may have a temporary gas bubble in your eye. This is normal part of the ERM removal process. There are a few things to remember if this occurs:

- Vision will be very blurry (similar to having your eyes open underwater) until the gas bubble has half disappeared. Typically this takes 1-2 weeks but varies depending on the type of gas bubble used.
- You will not be able to drive until the gas bubble has mostly disappeared as it temporarily causes poor depth perception.
- You may be asked to regularly position your head and body in a certain way to have the gas bubble floating in the correct position within the eye.
- You cannot fly in a plane, scuba dive or travel to high altitude until the gas bubble has completely dissipated. These activities can cause high pressure in the eye as the gas expands, leading to severe pain and blindness.
- In addition, if you need a general anaesthetic whilst gas is in your eye, it is vital that you tell the anaesthetist so they can avoid certain medications (which can cause similar expansion of the bubble).
- A green 'gas bracelet' will be placed on your wrist at the end of surgery which you must wear until the gas bubble is completely gone to remind you of these instructions.

- Your surgeon will tell you what type of gas was used and how long it will take for your vision to improve and for the bubble to completely disappear.

## **How long will I need off work after surgery?**

Most people will need 1-2 weeks off work after surgery. The exact amount of time will depend on the kind of work and this should be discussed with your eye surgeon. Two issues that may affect your ability to work are:

- If you have a gas bubble, which will blur your vision and lead to poor depth perception (making visual tasks more difficult and meaning you are temporarily unable to drive).
- If your work includes strenuous activity or exercise, which is not permitted for one week following surgery.

## **What should I expect from my vision after surgery?**

Vision typically begins to improve 1-2 weeks after surgery and can continue to improve for up to 6 months.

The majority of people will have improved vision and reduced distortion but we would not usually expect the vision to return back to 'perfect' pre-ERM standards. In some people blurred vision and distortion do not improve. This is more likely if the ERM is very severe, has been present a long time, or is caused by a secondary problem such as a blocked vein. ERM can grow back in around 5% of people, who may then require additional surgery.

If your vision suddenly worsens, you develop new floaters, or notice an enlarging shadow in your peripheral vision, please contact your surgeon or Southern Eye Specialists immediately.

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## What are the risks of vitrectomy surgery?

Surgery for an ERM is generally safe and successful but, as with any procedure, there are potential risks. These should be discussed with your eye surgeon prior to your operation. Some specific risks are:

### **Cataract**

- Cataract is cloudiness of the natural lens of the eye that causes symptoms like blurred vision, reduced contrast and glare.
- 3 out of 4 patients who have vitrectomy surgery will require cataract surgery within 2 years.
- Because cataract is common after vitrectomy surgery, your surgeon may recommend performing combined cataract surgery at the same time as ERM removal.

### **Retinal detachment**

- Approximately 1 in 100 people develop retinal detachment during or after vitrectomy surgery.
- If your surgeon can see retinal detachment starting during the operation, they will perform extra measures to treat it, such as a laser treatment and use of a gas bubble.
- If a retinal detachment occurs after surgery you will require another operation to re-attach the retina. Despite this, vision may be permanently affected.

### **Infection or bleeding**

- All necessary precautions will be taken to prevent infection. Despite this there is an approximate 1 in 1000 chance of developing a severe infection or bleed within the eye. This may cause severe, permanent visual loss.

### **High eye pressure**

- Your eye pressure will be monitored at each follow-up visit.
- High pressure is quite common following vitrectomy surgery but is usually temporary and doesn't affect vision.
- You may require extra treatment, such as drops or tablets, to treat this.
- In the unusual situation where the pressure is very high, or remains high for a long time, there may be damage to the optic nerve. This requires long-term treatment and monitoring.

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## **Southern Eye Specialists**

128 Kilmore Street, Christchurch, New Zealand  
PO Box 21023, Edgware, Christchurch 8143  
[www.southerneye.co.nz](http://www.southerneye.co.nz)

**T:** 03 355 6397

**F:** 03 355 6156

**E:** [info@southerneye.co.nz](mailto:info@southerneye.co.nz)