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Kingston Hospital **NHS**
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Epiretinal membrane

Patient information leaflet

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What is an epiretinal membrane (ERM)?

An epiretinal membrane (ERM) is an 'additional' layer of tissue that develops on the surface of the macula, the central and most sensitive part of the retina.

If you compare your eye to a camera, the retina is like the photographic film within the camera; it is sensitive to light and sends information to the brain. The most important part of the retina is the macula. It is specialized for high acuity vision, allowing us to see fine details for things such as reading, computer work and driving.

What causes an ERM?

An ERM is most commonly caused by separation of the jelly inside the eye (the vitreous) from the retinal surface – a vitreous detachment.

This is more common in those aged over 50. This is due to some of changes that occur as a result of getting older. An ERM may also form after other eye surgery, inflammation in the eye and from trauma to the eye and surrounding area.

How is an ERM diagnosed?

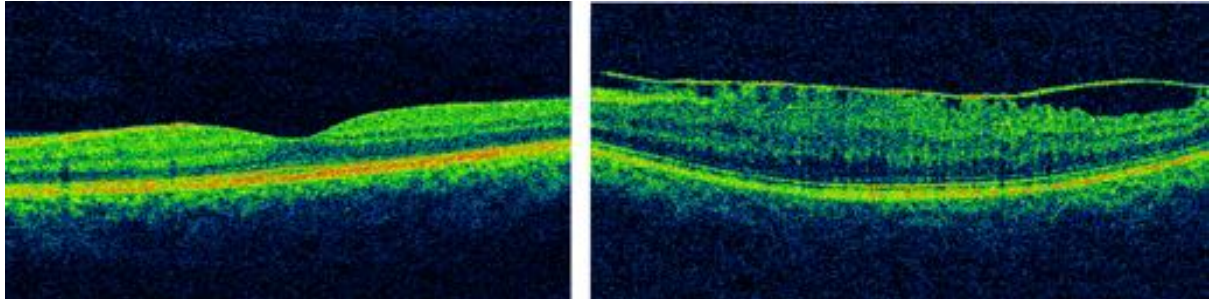
An ERM is diagnosed by:

1. Slit lamp examination

This is the examination performed by your eye doctor in the clinic using a special microscope and a magnifying lens. Dilating eye drops will be instilled to help the doctor see as much of the back of the eye as possible.

2. Optical coherence tomography (OCT)

An OCT scan is performed at each visit. It is non-invasive, and uses light energy to produce detailed images of the back of the eye.



The OCT scan of the left shows a normal macula with a central dip. The OCT scan on the right shows an ERM, seen as a line on the surface of the retina.

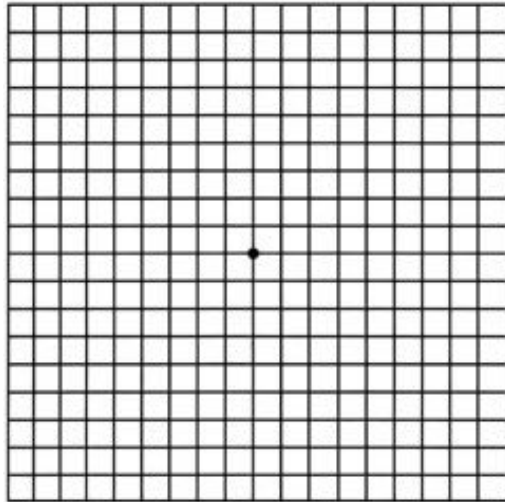
What are the symptoms of an ERM?

You may not have any symptoms. However, if the ERM grows or contracts, there is an increased chance that you will notice distortion to your central vision e.g. straight lines may appear wavy and in some cases there may be total loss of central vision. An ERM on its own does not lead to total blindness.

What is the treatment for ERM?

1. Observation

If the ERM is not causing any visual distortion, you may simply be asked to monitor your own vision to see if it is getting worse. You will be given an Amsler grid chart to help with this. Some patients never develop any problems from their ERM and therefore do not require any treatment.



Amsler chart which is used to monitor for any visual distortion. In an ERM the straight lines will look bent and wavy.

2. Vitrectomy surgery and peeling of the ERM

This is the only treatment for ERM, and will be offered to you if your visual distortion is causing you trouble with activities such as working, reading, computing or driving.

Vitrectomy is an operation to remove the vitreous gel from the eye. The vitreous gel is a transparent jelly-like structure that lies behind the iris (coloured part of your eye) and lens and in front of the retina (light-sensing tissue at the back of the eye). The surgery is carried out through 3 small incisions (about 1mm each) that are made into the sclera (the white of the eye). These incisions will be used to introduce the instruments into the eye—these usually comprise a light source, an infusion port (to infuse fluid, e.g. saline, continuously into the eye to keep the eye pressurised during the operation) and a cutting device (vitrector) that cuts and ‘sucks out’ the vitreous. Once the vitreous has been removed, a pair of micro-forceps are used to peel the epiretinal membrane.

Will I feel or see anything during the operation?

No. The operation is normally performed under local anaesthetic, often with sedation. This means that you will be awake during the operation, but the eye will be numbed, and you will be given an injection into the vein to help you feel more relaxed. Occasionally it is performed under general anaesthetic, when you are put to sleep.

How long will the operation last?

The operation usually takes 1 to 2 hours, depending on complexity.

Does the vitreous gel get replaced?

No. Once the vitreous is removed, the vitreous cavity is filled with saline (balanced salt solution). This will gradually be replaced by the aqueous humour, which is a clear fluid constantly produced at the front of the eye. This should not affect the quality of the vision in the eye as the both the vitreous and saline or aqueous humour have the same refractive index (i.e. bend the light in a similar way).

The vitreous, however, is sometimes replaced during surgery with an air or gas bubble. These naturally get absorbed within 1 to 4 weeks. The vision may be blurred until the gas bubble is absorbed.

What are the risks of vitrectomy?

Vitrectomy has a good success rate. However there can be some risks associated with the surgery. The main risks include:

- Red eye, soreness or gritty sensation – due to mild bruising, stitches and disturbance to the surface of the eye. These symptoms usually get better in 1 to 2 weeks.
- Serious eye infection (endophthalmitis) (<1 in 2000).
- Retinal tears or detachment requiring more than one operation (<1:100).
- Transient increase in eye pressure, inflammation or bleeding in the eye.
- Cataract (unless you have already had the cataract surgery) will develop quicker in almost all the patients, requiring surgery within a year or two after vitrectomy surgery.

What should I expect after a vitrectomy?

- You should expect your eye to be red for up to 4 weeks.
- If you have had an air or gas bubble injected into the eye, your vision will be blurry until the air or gas bubble naturally absorbs. You may notice a 'curved edge' of the air/gas bubble in your line of vision as the bubble gets smaller before it completely absorbs.
- You will be prescribed eye drops to reduce the inflammation and protect against infection. Sometimes additional drops or tablets may be given to help control the eye pressure.

What should I expect with regards to my vision?

After surgery, vision gradually improves over a period of three to six months in 70%-80% of patients. However, in some cases vision may not improve, due to damage caused by the ERM, especially if it has been in the eye for a long time.

It is important to remember that surgery usually improves the vision, mainly by reducing the distortion in the affected eye, but vision very rarely returns to being completely normal.

Are there any activities I need to avoid after vitrectomy?

- You should avoid physical exercises or sports and swimming for 1 month.
- If you have had a gas bubble inserted into the eye, you will be given a wrist band to indicate what gas has been injected and to remind you that you must not fly in an aeroplane or travel to high altitudes until the gas absorbs.
- Also, in the event that you require general anaesthesia for any other operations, you will need to let the anaesthetist know that you have a gas bubble in the eye.

Contact details

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Mon-Fri 5pm to 8.30am, weekends and Bank Holidays

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