

Pt Info Brochure

Epiretinal Membrane

Q: What is Retina?

A: The retina is a thin delicate tissue that lines the inside of the back of the eye. It is nerve tissue that senses light that shines into the eye, converts the light into an electrical signal and sends this signal through the optic nerve to the brain, which then processes the information resulting in sight. The macula is the very central area of the retina that gives us sharp central vision and reading vision, as well as most of our colour vision.

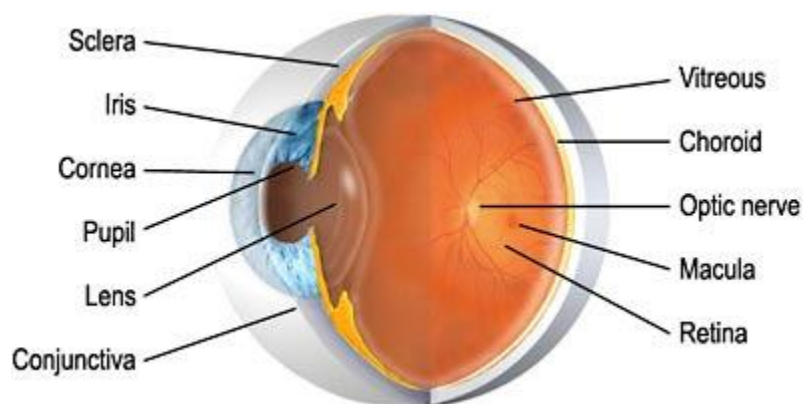


Fig 1. Anatomy of eye

Q: What is an epiretinal membrane?

A: An epiretinal membrane is a thin sheet of fibrous tissue that can develop on the surface of the macula. When a membrane develops on this very thin, delicate macular area of the retina it acts like a film through which it is harder to see than normal. Furthermore, it may contract just as scar tissue does, pulling on the retina and distorting it, causing not only distortion of the vision due to distortion of the macula, but also causing the retina to become swollen and work less well. Because it is often the distortion of the macula that is the most obvious feature of this problem, it is sometimes also called a macular pucker, premacular fibrosis, surface wrinkling retinopathy or cellophane maculopathy.

Q: What causes an epiretinal membrane?

A: In most cases an epiretinal membrane is idiopathic, that is it develops in an eye with no history of any previous problems. It is not due to anything the afflicted individual has done, but instead is caused by natural changes in the vitreous gel overlying the macula that cause normal biological cells derived from the retina and other tissues within the eye to become liberated into the vitreous gel and eventually settle onto the surface of the macula. In some cases these cells may begin to proliferate into a "membrane".



Fig 2. An epiretinal membrane – in colour and more obviously in black and white

In many instances this membrane remains very mild and does not have any significant effect on the macula or the person's vision. In other cases however, the membrane may slowly become more prominent, eventually creating a disturbance in the retina that leads to visual blurring and/or distortion in the affected eye, particularly if the membrane contracts.

However, an epiretinal membrane can also develop if cells are liberated into the eye by a previous problem, such as a retinal tear or detachment, trauma, inflammatory disease, blood vessel abnormalities, or other conditions. These are called secondary epiretinal membranes; they have the same effect on vision as the idiopathic type and are treated in the same way.

Q: How does an epiretinal membrane affect vision?

A: Many epiretinal membrane are mild and have little or no effect on vision. However, if the epiretinal membrane grows more prominent and contracts, causing mechanical distortion (“wrinkling”) of the macula , blurring and/or distortion of the central portion of vision in the affected eye may occur and may get slowly worse over time.

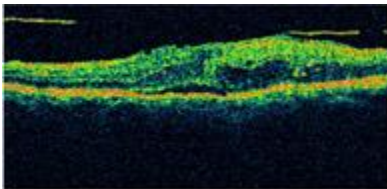


Fig 3: An OCT scan showing an epiretinal membrane distorting the macula

An epiretinal membrane does not make an eye go completely blind. It typically affects only the central area of vision and does not cause a loss of the peripheral (side) vision.

Q: Is an epiretinal membrane the same as macular degeneration?

A: No! An epiretinal membrane and macular degeneration are completely different conditions affecting the retina

Q: Is there treatment for an epiretinal membrane?

A: Yes. An epiretinal membrane can be treated with surgery. However, not all epiretinal membranes require treatment. Treatment is unnecessary if the epiretinal membrane is mild, stable and having little or no effect on vision. Only cases in which the membrane is causing problems require consideration of surgery. However, if an epiretinal membrane is getting worse it is better to remove it sooner rather than later, as severe mechanical distortion of the macula may cause permanent changes that removing the membrane may not improve or only improve to a limited extent.

There is no other treatment apart from surgery for an epiretinal membrane.

Q: What is epiretinal membrane surgery like?

A: The surgery for an epiretinal membrane is called a vitrectomy. This surgery is usually done as a day (outpatient) surgery using a local anesthesia, and takes up to an hour. The surgery consists of making very small ports through the white part of the eye (the sclera) 3 mm behind the edge of the cornea. Newer surgical techniques and instrumentation allow the surgeon to perform the surgery through tiny "self-sealing" incisions that do not require sutures. This new technique allows faster healing of the eye with minimal or no post-operative ocular irritation.

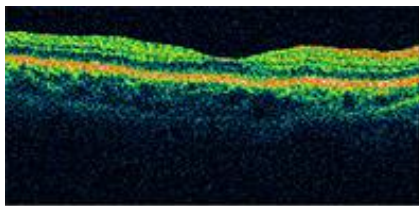


Fig 4. An OCT scan following surgery showing a normal, not distorted macula

While looking into the eye through a microscope the surgeon can use a variety of very specialised instruments placed through these incisions to work within the eye. The vitreous gel is first removed as is the posterior hyaloid membrane which is at the back of this gel. This holds the gel together like the skin of a balloon filled up with water; removing it also removes any floaters that one may have. The vitreous gel is then replaced with a specially designed saline solution. The surgeon can then "peel" the epiretinal membrane from the surface of the macula. Sometimes the surgeon also peels a very thin membrane (the "internal limiting membrane of the retina") from the surface of the macula which can become puckered by the epiretinal membrane sitting on top of it. Steroid treatment or air are commonly placed inside the eye to hasten the rate at which the retina recovers from having been distorted by the membrane, and laser and freezing (cryotherapy) treatment is usually also used to secure the peripheral retina in place.

Q: What is the postoperative care like after epiretinal membrane surgery?

A: A patch is worn over the eye until the morning after surgery. Eye drops (an anti-inflammatory and an antibiotic) are then used several times each day for up to 4 weeks after surgery. Patients can usually resume normal non-strenuous physical activities the day after

surgery. How quickly the patient can drive, return to work, perform fine visual tasks, or engage in strenuous activities will vary from person to person.

Q: How much will my vision improve after surgery?

A: The amount of visual improvement will vary depending on the age and anatomic characteristics of the epiretinal membrane, how significantly the vision has become affected by the epiretinal membrane, and the presence of any other ocular abnormalities that might limit vision. It is not unusual to recover vision of 6/6 or 6/9 after successful epiretinal membrane surgery, and the distortion improves in 90% of patients. However, some individuals may have more limited improvement in vision, especially if the membrane had been there for a long time and the vision had already become very poor, and a small percentage of people may not improve very much at all even with successful surgery. It takes anywhere from 3 months to 1 year for vision in the affected eye to reach its maximal improvement.

Q: What complications may occur as a result of epiretinal membrane surgery?

A: Any surgical procedure carries a risk of complications and this surgery is no exception. There are 3 major potential complications of surgery:

1. **Post-operative infection (endophthalmitis):** This is an infection that develops inside the eye after ocular surgery. Though most infections can be effectively treated if identified at an early stage, there is a risk that an infection can create severe damage that could lead to blindness in the affected eye. Fortunately, endophthalmitis is rare, occurring in only 1 of 1000 cases.
2. **Retinal detachment:** Retinal detachment can occur spontaneously in an eye that has never had surgery of any type. However, an eye that has undergone surgery is at greater risk of developing retinal detachment. A retinal detachment may occur relatively soon after surgery, but may occasionally develop months or years later, and can lead to blindness if not repaired. Fortunately nearly all retinal detachments can be between 1 and 2 out of 100 cases.
3. **Cataract:** Cataracts, or haziness in the lens of the eye, commonly develop as a natural consequence of aging of the eye. However, a cataract will often develop or progress to a point of significant visual blurring sufficient to warrant cataract surgery more quickly after having had this surgery. This is not a concern if the patient has had cataract surgery prior to having a vitrectomy surgery.