

EPIRETINAL MEMBRANE

What is an epiretinal membrane?

An epiretinal membrane is a thin sheet of fibrous tissue that can develop on the surface of the macular area of the retina and cause a disturbance in vision. The retina is a clear film of very delicate tissue that lines the inside of the back of the eye. The retina is nerve tissue that senses light that shines into the eye and sends signals through the optic nerve to the brain, which then processes the signals resulting in sight. The macula is the center area of the retina that gives us sharp central vision and reading vision. It is on this very thin, delicate macular area of the retina that an epiretinal membrane area can develop. An epiretinal membrane is also sometimes called a macular pucker, premacular fibrosis, surface wrinkling retinopathy or cellophane maculopathy.

What causes an epiretinal membrane?

In most cases an epiretinal membrane develops as a result of cellular changes that occur spontaneously in the back of the eye between the clear vitreous gel that is normally present, and the macula. These changes are not due to anything the afflicted individual has done, but are natural changes that may become pathological in a small percentage of people.

Normal biological cells derived from the retina and other tissues within the eye 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". 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.

In the majority of cases an epiretinal membrane develops in an eye with no history of a previous problem. This type of epiretinal membrane is called idiopathic. Occasionally however, an epiretinal membrane will develop in an eye as a result of retinal detachment, trauma, inflammatory disease, blood vessel abnormalities, or other pathological conditions. These are called secondary epiretinal membranes and may have the same effect on vision as the idiopathic type.

How does an epiretinal membrane affect vision?

The majority of epiretinal membranes are mild and have little or no effect on vision. However, in some cases the epiretinal membrane may slowly grow more prominent and begin to cause disturbance or mechanical distortion ("wrinkling") in the macula which may in turn lead to blurring and/or distortion of the center portion of vision in the affected eye. These effects on vision may grow slowly worse over time. An epiretinal membrane does not make an eye go completely blind. It typically affects only the center area of vision and does not cause a loss of the peripheral (side) vision.

Is an epiretinal membrane the same as macular degeneration?

No! An epiretinal membrane and macular degeneration are completely different conditions affecting the retina. For information about macular degeneration please see that specific section on the VRS website.

Is there treatment for an epiretinal membrane?

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 and having little or no effect on vision. Only cases in which the membrane is causing disturbing visual symptoms require consideration of surgery.

There is no non-surgical treatment for an epiretinal membrane.

What is epiretinal membrane surgery like?

The surgery for an epiretinal membrane is called a vitrectomy. This surgery is usually done as a day (outpatient) surgery using a local anesthesia. The surgery consists of making very small incisions on the white part of the eye (the sclera) 3 mm behind the edge of the cornea. While looking into the eye through a microscope the surgeon can use a variety of very specialized instruments placed through these incisions to work within the eye. The vitreous gel is first removed and replaced with a specially designed saline solution. The surgeon can then "peel" the membrane from the surface of the macula. At the end of surgery very fine absorbable sutures are used to close the incisions.

Newer surgical techniques and instrumentation may allow the surgeon to perform the surgery in some cases 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.

What is the postoperative care like after epiretinal membrane surgery?

A patch is worn over the eye until the morning after surgery. Eye drops or ointment that facilitates healing is then used several times each day for 2-3 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,

How much will my vision improve after surgery?

Most patients will enjoy a significant improvement in vision after surgery. The visual improvement occurs gradually over several months following surgery. The amount of visual improvement may vary from person to person depending on multiple factors including the severity and chronicity of the epiretinal membrane, the level of vision preoperatively, and the presence of any other ocular abnormalities.

The best long-term visual prognosis is seen in eyes with a mild to moderate epiretinal membrane, moderate visual disturbance due to the epiretinal membrane prior to surgery, and no other vision limiting ocular abnormalities.

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

Any surgical procedure carries a risk of complications and epiretinal membrane surgery is no exception.

There are 3 major potential complications of epiretinal membrane surgery:

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.

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 repaired with additional surgery. The incidence of retinal detachment after epiretinal membrane surgery is approximately 1 out of 100 cases.

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 develop or progress to a point of significant visual blurring sufficient to warrant cataract surgery in most eyes within 1 year of epiretinal membrane surgery. This is not a concern if the patient has had cataract surgery prior to having surgery for an epiretinal membrane.

What's new in epiretinal membrane surgery?

Greater surgeon experience, better surgical instruments and the ability to use tiny incisions that do not require sutures may allow surgery to be performed at an earlier stage and with more precision than previously. These factors can lead to better short-term and long-term visual outcomes.