Retinal Detachment

Retinal detachment occurs when the retina separates from the back of the inside of the eye, rather like wallpaper peeling off a damp wall. The retina needs to be attached to the back of the eye to survive and work properly. If a retinal detachment is not detected and treated immediately it may result in the loss of some or all the vision in your eye.

A retinal detachment is usually a medical emergency and needs to be assessed as soon as possible so that your ophthalmologist (eye doctor) is able to make decisions about any treatment you may need.

How your eye works

Light passes through the cornea at the front of your eye, and is focused by the lens onto your retina. The retina is a delicate tissue that lines the inside of your eye. The retina converts the light into electrical signals that travel along the optic nerve to your brain. The brain interprets these signals to “see” the world around you.

Light from the object you are looking at directly is focused onto a tiny area of the retina called the macula at the back of the eye. The macula is about 4mm across and is responsible for detailed central vision and most colour vision. It provides the vision you need to read, recognise faces, drive a car, see colours clearly, and any other activity that requires detailed, fine vision. The rest of the retina gives you side vision (peripheral vision).

Causes of retinal detachment

Most retinal detachments happen because a tear or hole in the retina allows fluid to leak between the retinal layers causing the retina to detach. Holes and tears in the retina can occur because of changes that happen as you age, or because the retina has been pulled and torn. Tears mostly occur when the vitreous gel that fills the middle of the eye suddenly becomes detached from the retina (known as acute posterior vitreous detachment or PVD). Most PVDs do not result in retinal detachment.

A direct blow to the eye may cause a retinal detachment, whereas a knock to the head without any eye injury does not.

Other eye conditions such as diabetic retinopathy can result in fibrous scar tissue forming inside the vitreous gel and on the surface of the retina. This scar tissue can then pull on the retina (traction) causing a detachment.

A rare type of retinal detachment can occur when fluid from the vessels behind the
retina leaks between the retinal layers without a hole or tear being present. This happens because of another condition such as inflammation or a tumour.

**Who is at risk?**

Retinal detachment is rare, occurring in about 1 in 10,000 people each year. Retinal detachment can happen to someone of any age but is very rare under the age of 16 and most commonly happens to people aged over 60. This is because changes to the vitreous gel are very common in older people, occurring in 60 per cent of people over 60 years of age. For the vast majority of people these changes do not result in any serious complications.

Younger people who are very short sighted are also at increased risk.

You have an increased risk of retinal detachment if you:

- are short sighted
- have had previous cataract surgery
- have had trauma (injury or blow) directly to the eye
- have already had a detachment in one eye then there is an increased likelihood of a detachment in the other eye
- have a family history of retinal detachment

**Warning symptoms of retinal detachment**

**Floaters**

Floaters are caused by bits of debris in the vitreous gel casting a shadow on the retina. Floaters are very common and most people can expect to have a few as they get older. People who are short sighted or have had eye operations in the past often have more floaters. Floaters can take many shapes being described as rings, worms, spider legs or cobwebs. They are not generally a cause for concern especially if they have been present for months or years.

However, if you notice a recent, dramatic increase in the number of floaters or notice showers of dust-like floaters, this could be a sign that changes are happening at the back of your eye.

If you experience a sudden onset of floaters or change to the nature or numbers of your floaters, you should have your eyes examined by an optometrist or ophthalmologist as soon as possible. If an optometrist has even a suspicion that you may have a retinal detachment, you should be referred urgently to an ophthalmologist.

**Flashing lights**

Many people experience flashing lights, most commonly around the edges of their vision. Flashes occur when the retina is stimulated by something within the eye rather than by the light entering the eye. They are often caused by the vitreous gel inside the eye moving and pulling on the retina.
In most cases, flashes are caused by a gradual vitreous detachment with no long-term problems to vision. However, flashing lights can indicate that there is a tear in the retina. You cannot tell whether flashes are caused by the vitreous or by a retinal tear. If you suddenly experience new flashes you should have your eye examined by an optometrist as soon as possible.

**Dark shadow**
If the retina detaches, it can't work properly. This will appear as a dark shadow or curtain moving in from the sides of your vision which you cannot see around or through. If more of your retina detaches then the shadow will keep moving towards the centre of your vision.

If you experience a dark shadow moving up, down or across your vision you need to see your ophthalmologist or attend your local hospital eye clinic or emergency department immediately. Do not delay.

**Blurring of vision**
Vision can gradually become blurred for many reasons and a visit to the optometrist will help you find out why. If your vision suddenly becomes blurred, especially if any of the other symptoms of flashing lights, floaters or a shadow are present, then this is more serious and you need to consult your optometrist or ophthalmologist immediately.

### Dealing with symptoms of retinal detachment

Many people have flashes and floaters and this is normal for their eye. Most people with flashes and floaters do not develop a retinal detachment. However, if you experience flashes or floaters for the first time, or your usual flashes and floaters change, then you should have your eyes examined.

If you have been checked for retinal detachment in the past you should have been given clear instructions on what to do if you have further symptoms. This usually involves contacting the ophthalmologist or hospital eye clinic if you have any concerns.

### Prevention of retinal detachment

If you have a healthy retina, there is no treatment that can reduce the risk of a detachment. Regular eye tests are an important way to make sure your eyes are healthy and you have no signs of any eye conditions. Most people should have their eyes tested every two years. However, some people may need more regular tests. Your optometrist or ophthalmologist will be able to recommend how often you need to have your eyes tested.

One of the causes of retinal detachment is trauma to the eye. Wearing eye protection when using tools, gardening or for sport is something you can do to reduce the risk of an eye injury. Retinal detachment does not happen as a result of straining your eyes, bending or heavy lifting.
If you experience symptoms of flashes and floaters, and the eye clinic detects a tear in your retina, this may be treated to reduce the risk of a retinal detachment developing. Not all retinal tears or holes need treating. Treatment of retinal tears is preventative - it stops the retinal tear from causing a retinal detachment.

The treatment of a retinal tear or hole can be done by using a laser or a cryoprobe (“cryo”). A laser causes very small burns in the area around the retinal tear or hole which “welds” the retina more firmly to the back of the eye. “Cryo” freezes the area of the retina around the retinal tear or hole and similarly “sticks” it down. The retinal tear or hole is surrounded by the laser or cryo and this prevents fluid passing through the hole to cause a detachment.

You can have this type of treatment as an outpatient using a local anaesthetic. Your vision is not usually affected by this type of treatment because only a very small localised area of the retina is treated.

**Treatment of retinal detachment**

A retinal detachment should be treated with surgery to reposition the retina against the back of the eye. The sooner treatment is carried out, the better the results are likely to be. If retinal detachment is not treated then you are likely to lose all the vision in the affected eye over time. **A retinal detachment will not get better without treatment.**

Retinal detachment surgery is complex, and individual to each case. The type of surgery depends on the type and location of the detachment and any complicating factors, such as other eye conditions you have.

After an initial assessment, the specialist eye surgeon will decide how quickly surgery needs to be carried out - this may be within 24 hours or within a week. Usually, only one operation is needed and the types of surgery described below may be combined. Most people will have a local anaesthetic, meaning that you will be awake but should feel nothing in your eye. Some people, in particular children, will have a general anaesthetic, which means they are unconscious for the operation. You and your eye surgeon will decide which type of anaesthetic will be best for you. Many people go home the same day but some may need to stay in hospital for a day or two.

**Vitrectomy**

Most people with a retinal detachment will have an operation called a vitrectomy which removes the vitreous gel. Depending on the location of the detachment, the gel is replaced with a gas bubble or silicone oil. The bubble or silicone oil then holds the retina in place against the inside of your eye.

**Scleral buckle**

In some cases, a scleral buckle may be used. This involves attaching a tiny piece of silicone material to the outside of your eye. This pushes the outside of the eye against the detached retina into a position which helps the retina to re-attach. Cryotherapy
or laser treatment will be used to seal the area around the retinal tear. The buckle is usually not removed and is not visible once surgery is finished.

**Pneumatic retinopexy (gas bubble surgery)**

If the retinal detachment is small and uncomplicated, a gas bubble can be injected into the vitreous of the eye. This bubble then presses the retina back in place, and cryotherapy or laser is applied round the hole or tear. The gas is reabsorbed over a period of weeks and the retina should remain in place. Depending on the size and position of the bubble, vision may be blurry in the first few weeks.

You should discuss the risks and benefits of surgery with your surgeon.

---

**Recovery from retinal detachment surgery**

After surgery, the eye will feel uncomfortable, possibly for a few weeks. There may be some bruising and the eyelids may be sticky. Eye drops will be given to help prevent infection and to control swelling.

**First few weeks after surgery**

If a gas bubble has been placed into the eye, vision will be very blurry for a while. As the gas is absorbed, a wavy line may appear across your vision which is the divide between the gas and liquid content of the eye. This will slowly move and then disappear over a period of 10 days up to a few weeks.

Even without a gas bubble your vision may be blurry for a number of days, possibly weeks, following the surgery. Despite this, you don’t have to limit how much you use your eyes. Watching TV or reading will not cause any problems. You may have specific positioning instructions which may restrict some activities.

The eye surgeon will advise which activities should be avoided directly after the operation. The advice may be different depending on the type of surgery performed. It also depends on whether you work and the type of work you do. For example, driving may be dangerous if you have a gas bubble in your eye.

Once your eye has healed from the surgery you can continue the sports or activities you enjoy. Again, your eye surgeon is the best person to let you know if any of your regular activities should be avoided in the long term. Usually full contact sports which may involve a blow to the eye such as boxing, kick-boxing and martial arts aren’t recommended for someone who has had retinal reattachment surgery.

**Posturing**

Posturing is lying or sitting with your head in a certain position. Depending on the location of the detachment, and the surgeon’s preference, posturing may needed for up to 10 days after the operation. If posturing is needed, the medical team will explain how to lie or sit and for how long. If possible, it may be useful to have someone help at home while you are posturing, but if that is not possible, you should let your eye surgeon or GP know your circumstances as they may be able to arrange some additional help.
Flying after surgery
You need to tell your eye surgeon if you need to fly after having surgery. If a gas bubble has been used, it is not safe to fly until the gas bubble has been completely reabsorbed. If you are having any other operations, the anaesthetist also needs to know that you have a gas bubble. As a safety measure, you should have a wrist bracelet which advises of the precautions relating to the gas bubble.

Posturing
If the surgeon decides that you need to posture, you will need to plan some things before the operation and you will probably need some help afterwards. Staying face down for several days can be difficult and may be made more difficult if you have other problems such as arthritis. It is important to discuss with the surgeon any other medical problems that may affect your ability to posture. In some cases it may be possible to get short term help from social services.

Usually 50 minutes out of every hour needs to be spent face down, although your surgeon may recommend otherwise. Time off from posturing is usually allowed for things such as eating, using the bathroom and applying post-surgery eye drops.

It is not necessary to lie completely flat and many people posture whilst sitting in a chair. Trying out different posturing positions can help avoid stiffness and boredom. For example:
- sitting at a table and leaning forwards onto the table
- sitting in an armchair leaning onto a small stool
- when lying in bed propping pillows on either side of you can stop you rolling onto your back

Preparing for posturing
Preparation before you go into hospital is important as you will be expected to start your posturing as soon as you return home. Before you go into hospital consider things such as:
- doing housework and ensuring the home is clear of trip hazards
- shopping and food preparation (eg prepare frozen meals)
- arrange delivery of meals or other social services
- talk to your surgeon about renting a posture table or head rest with a cut out for your face. You can also contact the Foundation for information on where these can be obtained. It may take a week or so for these to be delivered, so be sure to leave enough time.
- make sure your posturing furniture or aids are in the right place
- if you live alone, arrange for someone to stay with you
How successful is treatment?

Surgery is usually very successful at reattaching the retina. The extent to which your detailed and peripheral vision will improve depends on how much of the retina detached, if the macula was detached, if you have another eye condition such as diabetic retinopathy and how quickly you were treated.

If your macula (which enables fine, detailed vision) remained attached then results are often very good and your central vision may not be affected at all. If your macula had detached but treatment was carried out quickly then central vision can return but it may be distorted and wavy. Many people find they adapt to this distortion with time.

If you had a shadow in your peripheral vision, this should disappear after surgery but you may still have some restriction to your peripheral vision.

Unfortunately for some people, the operation may be successful at reattaching the retina but it may not bring back detailed central vision or areas of peripheral vision. This can happen in any circumstance but the risk is higher the longer the retina has been detached without any treatment.

Untreated or unsuccessful treatment for retinal detachment

Most people will lose all useful vision if a retinal detachment is left untreated, or if the surgery is unsuccessful. However, if the first surgery does not succeed, it is usually possible to have one or more operations to try to re-attach the retina. At each stage, your eye surgeon will discuss with you the likelihood of success and the need to have more treatments.

What if my sight is not as good as before?

If you lose vision in one eye due to a retinal detachment you may still have useful vision in your remaining eye. It can sometimes take a few months to get used to seeing with only the one good eye if the other eye interferes. With time the brain normally learns to ignore the poorer vision in most situations.

Managing vision loss

When managing vision loss, a key priority is maintaining quality of life and independence. Contacting a low vision organisation can be helpful as they can work with you to assess your individual needs and determine which aids and technologies can help. There are many excellent solutions to help you live well with low vision.

Contact Macular Disease Foundation Australia to discuss your low vision needs and to receive free information on low vision.
Macular Disease Foundation Australia Resources

Macular Disease Foundation Australia has developed a comprehensive range of publications on macular degeneration, diabetic eye disease and other macular diseases. Information and advice on living well with vision loss is also available. Call the Foundation for a free information kit or to register to receive newsletters and invitations to attend education sessions and events.