

## Retinal detachment surgery

Retinal detachment surgery involves reattaching the retina to the back of the eye and sealing any breaks or holes. If there is a break or hole in the retina, fluid can collect beneath it and weaken the attachment.

A retinal tear may be accompanied by the sensation of flashing lights in the affected eye. If there is bleeding into the vitreous gel, there may also be showers of dark 'floaters' and blurred vision. As the retina detaches it often causes a dark shadow – like a curtain or veil – in the peripheral vision, which usually progresses to complete vision loss.

See your doctor or eye specialist immediately if you experience any of the above visual disturbances. A retinal detachment needs prompt corrective surgery to prevent permanent damage to your eyesight.

### The retina

The retina is the innermost layer of the wall of the eye. It is made up of light-sensitive cells known as rods and cones. These detect shape, colour and pattern. The retina is supported on the inside by the jelly-like vitreous, which fills the eyeball behind the lens. On its outer side, it is attached to the choroid, or middle layer, which is rich in blood vessels. Nerve fibres leaving the retina bundle together to form the optic nerve, which relays visual information from the retina to the brain.

If the retina becomes separated from its support or tears (detachment), vision is lost.

### Causes of retinal detachment

Once a retinal tear or hole develops, fluid can collect beneath it and reduce the adhesion of the retina to the choroid, resulting in a detachment. When this happens the retina can no longer function and vision is lost.

Some people are more at risk of retinal breaks. They include:

- Older people with age-related shrinkage of the vitreous gel, which may lead to tearing at a weak point in the retina – this is the most common cause
- Near-sighted people
- Anyone who has undergone cataract surgery
- Anyone who has had a severe eye injury.

### Medical issues to consider

See your doctor or eye specialist immediately if you experience any vision disturbances. This condition needs prompt corrective surgery to prevent permanent damage to your eyesight, which could amount to total blindness and shrinkage of the eye. Your retinal specialist will examine your eye and conduct various eye tests to help decide which type of surgery would be best for you.

### Operative procedures

There are various methods available to reattach the retina, including:

- **Pneumatic retinoplexy** – this is the simplest procedure for repair of a detachment, but is not suitable for all cases. The retinal surgeon injects a gas bubble into the vitreous cavity and treats the tear(s) with either laser or cryotherapy (freezing). The bubble presses the retina flat against the wall of the eye and the laser or freezing sticks the retina down. In order for this to happen, it is important to follow the surgeon's instructions about keeping your head in the correct position after the surgery. The gas gradually disappears over the days or weeks following the surgery.
- **Scleral buckling** – the retinal tear is treated with cryotherapy. The fluid under the retina is drained and a specially shaped piece of silicone rubber is sutured to the outer wall of the eye (the sclera). The silicone creates an indent, which closes the tear and holds it in place while the cryotherapy seal has time to form. The scleral buckle is permanent.

- **Vitreotomy surgery** – under an operating microscope, the vitreous is surgically removed using very fine instruments. Any tears are treated with laser or cryotherapy and the eye is filled with gas or silicone oil. It is important to follow instructions about post-operative head positioning to allow the retina to stick down. You will experience temporary poor vision while your eye is filled with gas. However, if the surgery is successful your vision will improve as the gas reabsorbs and is replaced with the eye's own clear fluid. If silicone oil has been used, you will still be able to see, although the image will tend to be out of focus. Silicone oil is usually removed after a few months; occasionally, however, the retinal surgeon may decide to leave it in the eye indefinitely.

### **Immediately after the operation**

After the operation, you can expect:

- The eye will be covered with an eye pad and perhaps a protective eye shield.
- You may need to stay in hospital overnight or, occasionally, longer.

### **Taking care of yourself at home**

Be guided by your surgeon, but general suggestions for care of your eye after the operation include:

- Your eye may be sore for several weeks, although this is less likely following a vitrectomy in which modern fine-gauge instruments have been used.
- Your vision will be blurry – it may take some weeks or even three to six months for your vision to improve.
- Your eye may water.
- It is normal to experience a 'gritty' feeling on the surface of your eye – this is caused by the tiny stitches.
- Avoid rubbing or pressing on the eye.
- You may need to wear an eye pad for protection at night while your eye is healing.
- Make sure to follow all directions for medications, such as eye drops.
- Avoid vigorous activity for some weeks following surgery.
- Obey all instructions on head positioning.
- See your surgeon immediately if you experience severe pain.

### **Possible complications**

Risks and complications depend on the procedure used, but can include:

- The formation of cataracts (loss of clarity of the lens of the eye)
- Glaucoma (raised pressure in the eye)
- Infection
- Haemorrhage (bleeding) into the vitreous cavity
- Vision loss
- Loss of the eye, although modern surgical techniques make this is very unlikely.

### **Long-term outlook**

In most specialist centres, around nine out of 10 retinal detachments are successfully repaired with a single operation. In the remaining cases, the retina detaches again and needs another operation. The final success rate is over 95 per cent.

Whether or not your vision returns depends not only on the success or failure of the operation, but also on the duration, extent and location of the detachment. For example, if the macula (the part of the retina responsible for central vision) has detached, it is unlikely that full vision will ever return – even if the operation is successful.

### **Seek treatment immediately**

Retinal detachment can only be repaired with surgery. If left untreated, your vision will most likely worsen beyond repair. It is important to see an eye specialist as soon as you experience symptoms to make sure you give yourself the best chance of a good outcome.

### **Where to get help**

- Your doctor
- Eye specialist
- Retinal surgeon

- Royal Victorian Eye and Ear Hospital Tel. (03) 9929 8666

### **Things to remember**

- If left untreated, a detached retina can cause permanent damage to your eyesight.
- Retinal detachment surgery involves reattaching the retina to the back of the eye and sealing any breaks or holes in the retina.
- Whether or not your vision returns depends on the extent and location of the retinal detachment.

**This page has been produced in consultation with, and approved by:**

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