

## Retinal detachment

The retina is the curved back layer of the eye and is covered in light sensitive cells. These cells get their names because they are shaped like rods and cones. Rods respond to dim light, while cones recognise colour with red, green or blue responsive cones. Light enters the eye through the pupil and is focused by the cornea and the lens so that a crisp picture can fall on the retina. Information is then relayed to the brain via the optic nerve.

When a person has a detached retina, it means the retina has separated from the back of the eye. Without treatment, retinal detachment may worsen until the retina is completely detached and unable to send information down the optic nerve to the brain. This results in blindness. Around one in 10,000 people are affected by some degree of retinal detachment. Older people are at increased risk.

### Symptoms

The symptoms of retinal detachment include:

- Floaters
- Blurry vision
- Bright lights or sparks, particularly in the periphery of the visual field
- Areas of darkness, shadow or shade in the visual field
- Loss of vision.

### Tears in the retina

The effect on eyesight depends on the location and severity of the detachment. For example, if the retina detaches at its centre (macula), the person may lose their central vision. Detachment is caused by small tears or splits in the retina that allow fluid inside the eye to seep through and separate the retina from its underlying tissue. The most common cause of retinal tears is the shrinking of the vitreous, the thick and jelly-like substance that fills the eyeball and keeps it firm. As the vitreous retracts, it can pull the retina away from the back of the eye. Small beads of blood may be experienced as a fresh batch of floaters. However, a large tear may lead to a complete and sudden loss of vision. Less commonly, little splits may be the result of eye injury or inflammation.

### Risk factors

Some people are more likely than others to experience retinal detachment. Risk factors include:

- Family history of the condition
- Short-sightedness
- Prior eye surgery, such as cataract surgery
- Eye injury
- Advancing age
- Prior retinal detachment in the other eye.

### A range of complications

If left untreated, the retinal detachment can permanently affect the vision or lead to blindness. Other possible complications include:

- Bleeding into the eyeball (which will cloud the vitreous)
- Build-up of pressure inside the eyeball

- Cataract formation.

## Diagnosis methods

Retinal detachment is diagnosed using a range of eye tests, including:

- Vision tests
- Examination of the retina
- Ultrasound scan.

## Treatment options for retinal tears

Treatment options to close up retinal tears and prevent retinal detachment may include:

- **Photocoagulation** - laser surgery. A laser is used to seal the tears by burning the retina and triggering the formation of scar tissue. A scar helps to anchor the retina to the back of the eye.
- **Cryopexy** - 'freeze' treatment. A small, extremely cold instrument called a cryoprobe prompts the retina to produce scar tissue. This tissue seals the tear, and helps to anchor the retina to the back of the eye.

## Treatment options for retinal detachment

Treatment options to reattach the retina may include:

- **Pneumatic retinopexy** - a small gas bubble is injected into the vitreous to press the retina against its underlying tissue. Laser surgery or cryopexy will also be needed to seal the tears. Pneumatic retinopexy is usually reserved for simple cases of retinal detachment.
- **Scleral buckle** - a tiny buckle or belt presses against the front of the eye and pushes the retina against its underlying tissue. The excess fluid needs to be drained off and any tears sealed with laser surgery or cryopexy.
- **Vitrectomy** - the vitreous is removed and a gas bubble injected. The bubble presses the retina against its underlying tissue and the body gradually absorbs the bubble. Vitrectomy is used in complicated cases of retinal detachment, or when there is a lot of blood clouding the vitreous humour. The procedure may be followed by a scleral buckle.

## The outlook is promising

The success rate of treatment for this condition is high, with around nine out of 10 retinas able to be reattached. Sometimes, a second operation may be needed. After treatment, the person's vision may improve over subsequent months, but often some vision loss is permanent. A change of prescription glasses is usually required.

## Where to get help

- Your doctor
- Eye specialist.

## Things to remember

- The retina is the curved back layer of the eye and is covered in light sensitive cells.
- Retinal detachment means the retina has separated from the back of the eye.
- Older people are at increased risk.
- The treatment success rate is high, with around nine out of 10 retinas able to be reattached.

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

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