

Retinal detachment

Retinal detachment describes an emergency situation in which a thin layer of tissue (the retina) at the back of the eye pulls away from its normal position.

Retinal detachment separates the retinal cells from the layer of blood vessels that provides oxygen and nourishment. The longer retinal detachment goes untreated, the greater your risk of permanent vision loss in the affected eye.

Warning signs of retinal detachment include the sudden appearance of floaters and flashes and reduced vision. Contacting an eye specialist (ophthalmologist) right away can help save your vision.

Symptoms

Retinal detachment itself is painless. But warning signs almost always appear before it occurs or has advanced, such as:

- The sudden appearance of many floaters — tiny specks that seem to drift through your field of vision
- Flashes of light in one or both eyes
- Blurred vision
- Gradually reduced side (peripheral) vision
- A curtain-like shadow over your visual field

When to see a doctor

Seek immediate medical attention if you are experiencing the signs or symptoms of retinal detachment. You are at greater risk of developing a retinal detachment if:

- You're older than 50
- You or a family member has had a detached retina
- You're extremely nearsighted

Retinal detachment is a medical emergency in which you can permanently lose your vision.

Causes

Retinal detachment can occur as a result of:

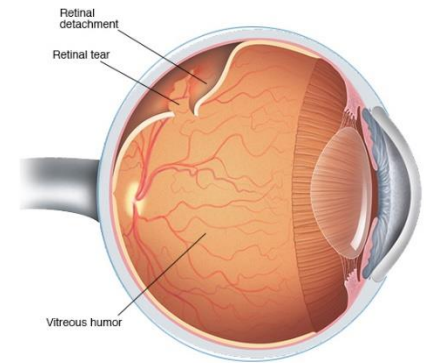
- A sagging vitreous (VIT-ree-us) — the gel-like material that fills the inside of your eye
- Injury
- Advanced diabetes

How retinal detachment occurs

Retinal detachment can occur when the gel-like material (vitreous) leaks through a retinal hole or tear and collects underneath the retina.

Ageing or retinal disorders can cause the retina to thin. Retinal detachment due to a tear in the retina typically develops when the vitreous collapses and tugs on the retina with enough force to create a tear.

Fluid inside the vitreous then finds its way through the tear and collects under the retina, peeling it away from the underlying tissues. These tissues contain a layer of blood vessels called the



choroid (KOR-oid). The areas where the retina is detached lose this blood supply and stop working, so you lose vision.

Aging-related retinal tears that lead to retinal detachment

As you age, your vitreous may change in consistency and shrink or become more liquid. Eventually, the vitreous may separate from the surface of the retina — a common condition called posterior vitreous detachment (PVD).

As the vitreous separates or peels off the retina, it may tug on the retina with enough force to create a retinal tear. Left untreated, fluid from the vitreous cavity can pass through the tear into the space behind the retina, causing the retina to become detached.

PVD can cause visual symptoms. You may see sudden new floaters or flashes of lights (photopsia). These may be visible even in daylight. The flashes may be more noticeable when your eyes are closed or you're in a darkened room.

Risk factors

The following factors increase your risk of retinal detachment:

- Aging — retinal detachment is more common in people over age 50
- Previous retinal detachment in one eye
- A family history of retinal detachment
- Extreme nearsightedness (myopia)
- Previous eye surgery, such as cataract removal
- Previous severe eye injury
- Previous other eye disease or inflammation

Diagnosis

Your doctor may use the following tests, instruments and procedures to diagnose retinal detachment:

- **Retinal examination.** The doctor may use an instrument with a bright light and a special lens (ophthalmoscope) to examine the back of your eye, including the retina. The ophthalmoscope provides a highly detailed view, allowing the doctor to see any retinal holes, tears or detachments.
- **Ultrasound imaging.** Your doctor may use this test if bleeding has occurred in the eye, making it difficult to see your retina.

Your doctor will likely examine both eyes even if you have symptoms in just one. If a tear is not identified at this visit, your doctor may ask you to return within a few weeks to confirm that your eye has not developed a delayed tear as a result of the same vitreous separation. Also, if you experience new symptoms, it's important to return to your doctor right away.

Treatment

Surgery is almost always used to repair a retinal tear, hole or detachment. Various techniques are available. Ask your ophthalmologist about the risks and benefits of your treatment options. Together you can determine what procedure or combination of procedures is best for you.

Retinal tears

When a retinal tear or hole hasn't yet progressed to detachment, your eye surgeon may suggest one of the following procedures to prevent retinal detachment and preserve vision.

- **Laser surgery (photocoagulation).** The surgeon directs a laser beam into the eye through the pupil. The laser makes burns around the retinal tear, creating scarring that usually "welds" the retina to underlying tissue.
- **Freezing (cryopexy).** After giving you a local anesthetic to numb your eye, the surgeon applies a freezing probe to the outer surface of the eye directly over the tear. The freezing causes a scar that helps secure the retina to the eye wall.

Both of these procedures are done on an outpatient basis. After your procedure, you'll likely be advised to avoid activities that might jar the eyes — such as running — for a couple of weeks or so.

Retinal detachment

Pneumatic retinopexy

If your retina has detached, you'll need surgery to repair it, preferably within days of a diagnosis. The type of surgery your surgeon recommends will depend on several factors, including how severe the detachment is.

- **Injecting air or gas into your eye.** In this procedure, called pneumatic retinopexy (RET-ih-no-pek-see), the surgeon injects a bubble of air or gas into the center part of the eye (the vitreous cavity). If positioned properly, the bubble pushes the area of the retina containing the hole or holes against the wall of the eye, stopping flow of fluid into the space behind the retina. Your doctor also uses cryopexy during the procedure to repair the retinal break.

Fluid that had collected under the retina is absorbed by itself, and the retina can then adhere to the wall of your eye. You may need to hold your head in a certain position for up to several days to keep the bubble in the proper position. The bubble eventually will reabsorb on its own.

- **Indenting the surface of your eye.** This procedure, called scleral (SKLEER-ul) buckling, involves the surgeon sewing (suturing) a piece of silicone material to the white of your eye (sclera) over the affected area. This procedure indents the wall of the eye and relieves some of the force caused by the vitreous tugging on the retina.

If you have several tears or holes or an extensive detachment, your surgeon may create a scleral buckle that encircles your entire eye like a belt. The buckle is placed in a way that doesn't block your vision, and it usually remains in place permanently.

- **Draining and replacing the fluid in the eye.** In this procedure, called vitrectomy (vih-TREK-tuh-me), the surgeon removes the vitreous along with any tissue that is tugging on the retina. Air, gas or silicone oil is then injected into the vitreous space to help flatten the retina.

Eventually the air, gas or liquid will be absorbed, and the vitreous space will refill with body fluid. If silicone oil was used, it may be surgically removed months later.

Vitrectomy may be combined with a scleral buckling procedure.

These procedures are often done on an outpatient basis.

After surgery your vision may take several months to improve. You may need a second surgery for successful treatment. Some people never recover all of their lost vision.

Coping and support

Retinal detachment may cause you to lose vision. Depending on your degree of vision loss, your lifestyle might change significantly.

You may find the following ideas useful as you learn to live with impaired vision:

- **Check into transportation.** Investigate vans and shuttles, volunteer driving networks, or ride shares available in your area for people with impaired vision.
- **Get glasses.** Optimize the vision you have with glasses that are specifically tailored for your eyes.
- **Get help from technology.** Digital talking books and computer screen readers can help with reading, and other new technology continues to advance.
- **Brighten your home.** Have proper light in your home for reading and other activities.
- **Make your home safer.** Eliminate throw rugs and place colored tape on the edges of steps. Consider installing motion-activated lights.
- **Enlist the help of others.** Tell friends and family members about your vision problems so they can help you.
- **Talk to others with impaired vision.** Take advantage of online networks, support groups and resources for people with impaired vision.

Preparing for your appointment

Here's some information to help you get ready for your appointment.

What you can do

- **Be aware of any pre-appointment restrictions.** At the time you make the appointment, ask if you need to do anything in advance.
- **List any symptoms you're experiencing,** including those that seem unrelated to the reason for which you scheduled the appointment.
- **List key personal information,** including major stresses and recent life changes.
- **List all medications,** vitamins and supplements that you're taking, including doses.
- **Ask a family member or friend to come with you.** You may wish to ask someone who could drive you home if your eyes are dilated as a part of your exam. Or this person could write down information from your doctor or other clinic staff during the appointment.
- **List questions to ask your doctor.**

For retinal detachment, some basic questions include:

- What's the most likely cause of my symptoms?
- What are other possible causes of my symptoms?
- What tests do I need? Do they require any special preparation?
- Is my condition likely temporary or ongoing?
- What are my treatment options, and which do you recommend?
- What are the alternatives to the first approach that you're suggesting?
- I have another medical condition. How can I best manage them together?
- Do I need to restrict my activities in any way?
- Do I need to see another specialist?
- Do you have any brochures or other printed material I can take with me? What websites do you recommend?
- What will determine whether I should plan for a follow-up visit?
- If I need surgery, how long will recovery take?
- Will I be able to travel after surgery? Will it be safe to travel by plane?

What to expect from your doctor

Your doctor is likely to ask you a number of questions, such as:

- When did you first start having symptoms?
- Do you have your symptoms all the time, or do they come and go?
- How severe are your symptoms?

- Have you had any symptoms in your other eye?
- Have you ever had an eye injury?
- Have you ever experienced eye inflammation?
- Have you ever had eye surgery?
- Do you have any other medical conditions, such as diabetes?
- Have any of your family members ever had a retinal detachment?