

RETINAL DETACHMENT

Basic Eye Anatomy

The eye works like a camera. The lens system in the front of the eye (cornea, pupil and lens) focuses light onto the back of the eye, the retina. The retina is the inner lining of the eye and works like the film in a camera; it senses light and allows you to see by transmitting this information to your brain through the optic nerve. Your central vision allows you to see fine details, read and recognize faces. The macula is the part of the retina responsible for your central vision.

What is a posterior vitreous detachment versus a retinal detachment?

Retinal detachments are a common cause of visual loss and are often considered surgical emergencies. Rhegmatogenous retinal detachments are the most common form and develop because of a hole or tear in the retina. Approximately 1 out of every 300 people will develop such a retinal detachment over the course of a lifetime. Some people have an increased risk of developing a retinal detachment; for example, very nearsighted people have up to a 5% lifetime risk. Factors that may increase a patient's risk of developing a retinal detachment include lattice degeneration, eye surgery, trauma or a family history of retinal detachment.

Light passes to your retina through a large space in the center of the eye called the vitreous cavity. This cavity is filled with a clear, jelly-like substance called vitreous which is normally in contact with the retina. A posterior vitreous detachment occurs when the vitreous gel separates from the retina. This happens in most eyes as we age and tends to occur earlier in myopic eyes and after trauma or eye surgery. When a posterior vitreous detachment occurs, the vitreous gel can pull holes or rip tears in the retina.

A retinal detachment occurs when the retina is separated from its underlying blood supply. This can occur when a retinal hole or tear allows fluid to pass behind the retina, lifting the retina away from the back surface of the eye.

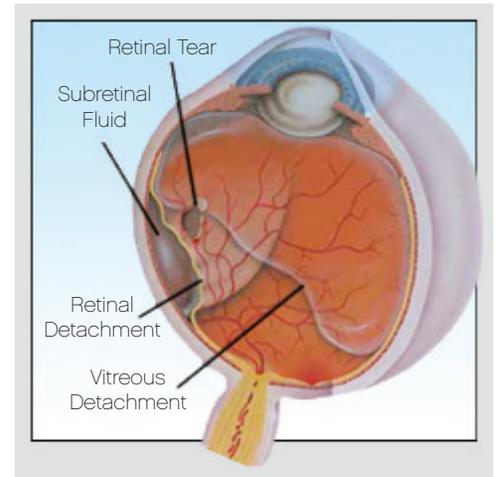
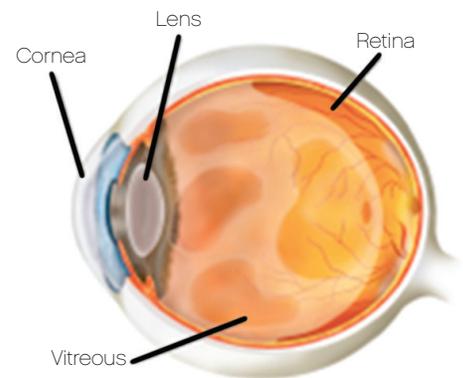


Diagram of a retinal detachment



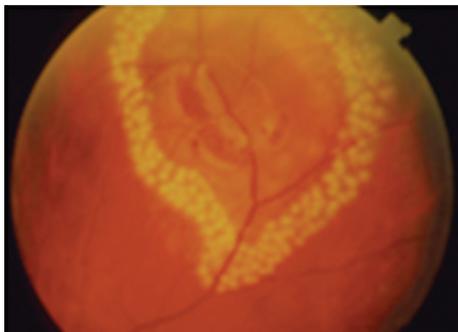
Posterior vitreous detachment with no retinal tear or detachment

Possible symptoms of a retinal detachment

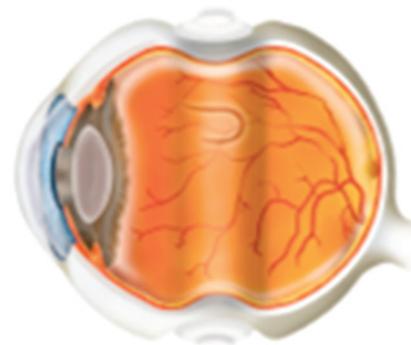
- Flashes of light
- Floaters (like cobwebs or spots in your field of vision)
- Curtain or shadow in your field of vision
- Blurry vision



Possible symptoms of a retinal detachment include floaters or a shadow in your vision



Small retinal detachment after laser treatment



Schematic of scleral buckle supporting a retinal tear

What is the treatment of a retinal detachment?

In many cases a retinal tear or detachment is an emergency that requires prompt treatment. There are no drops or medications that can reattach a detached retina. A retinal detachment usually requires surgery. There are many ways to surgically repair a detached retina depending on the specific clinical situation.

Examples of interventions your ophthalmologist may recommend include:

- **Laser or freezing (cryo) therapy** may be applied to seal off a retinal tear or hole if there is no detachment or if the detachment is very localized. This procedure is performed in the office.
- **Pneumatic retinopexy** is a procedure in which laser or freezing therapy is used to seal off retinal tears or holes. This is accompanied by injection of a gas bubble into the eye in order to reattach the retina. This procedure is performed in the office.
- **Scleral buckle** surgery, performed in the operating room, involves placing a silicone band around the outside of the eye to provide permanent, external support to retinal tears or holes.
- **Vitrectomy surgery** is a procedure performed in the operating room. Tiny instruments are used inside the eye to remove the vitreous gel, reattach the retina and seal off all retinal tears and holes with laser or cryo therapy. A gas bubble or silicone oil bubble will be placed in the eye in order to keep the retina flat until the eye heals. If gas is used, the eye will refill itself with clear fluid as the gas bubble reabsorbs over the course of a few weeks. If silicone oil is used, it may need to be removed surgically from the eye once the retina is stable.