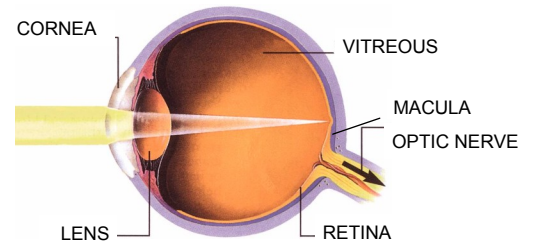


# Retinal Tear

The eye is like a camera: it has a lens in the front that focuses light and film in the back that captures light. The retina is the “film” inside the human eye and contains over a million neurons as well as a network of blood vessels that keep the tissue healthy. Between the lens in the front and the retina in the back of the eye lies a clear gel called the *vitreous*.



## What is a retinal tear?

As the vitreous gel changes with age, it may pull away from the retina in the back of the eye. This process usually starts near the back and continues towards the front of the eye, with traction on the retina at the leading edge. If the retina is unusually thin or damaged, the gel pulling may be enough to cause a full thickness tear in the retina.

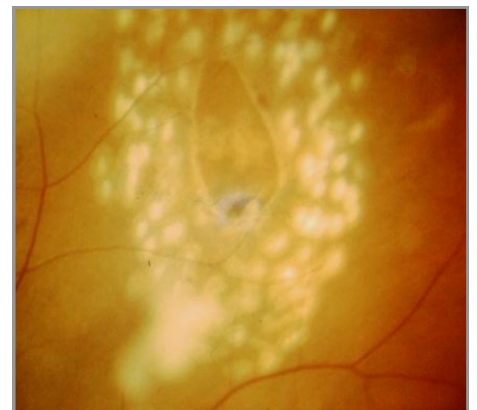
Retinal tears are more common in patients who are very near-sighted; patients with a family history of retinal tear or retinal detachment; or patients with a prior retinal tear or detachment in the same or other eye. Retinal tears may also occur after trauma or surgery in the eye.

## Treatment of retinal tear

The goal of treatment is the creation of a controlled scar surrounding the retinal tear. This scar serves to weld the retina and seal it to the underlying tissues, thereby preventing fluid from moving through the retinal tear into the space under the retina (retinal detachment). The scar can be created by either laser treatment or a freezing treatment, depending on the location and characteristics of the tear.

### **Laser Retinopexy**

Laser treatment is delivered through the front of the eye using either a head-mounted apparatus or a laser apparatus connected to a slit lamp in conjunction with a contact lens. While this treatment is generally not painful, there are sensory nerves that run through the back of the eye which may be stimulated by the



▲ Laser surrounding a retinal tear

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treatment. Some patients may have a mild headache after treatment, which is usually easily remedied with over-the-counter acetaminophen.

### ***Cryoretinopexy (cryotherapy)***

Cryotherapy involves the application of a probe to the outer wall of the eye corresponding to the location of the retinal tear. A freeze is created at the tip of the probe, extending inwards to the retina. Cryotherapy is usually experienced as an “ice cream headache” most of which resolves within minutes. Some patients have a headache or eye ache afterwards, which can be treated with over-the-counter acetaminophen.

The scar from either laser or cryotherapy can take up to a week to reach its full strength. While treatment greatly reduces the chance of a retinal tear progressing into a vision-threatening retinal detachment, there is always a small chance that the tear will extend through the scar or a new tear will occur in a different location.

## **What to expect after treatment**

Many patients with retinal tears initially present with symptoms such as flashes of light or new floaters. It is important to understand that treatment is not meant to get rid of these symptoms.

The flashes occur because the vitreous gel is pulling on the retina. This process usually resolves spontaneously within days or weeks but in some cases will last much longer. The continuation of intermittent flashes after treatment is usually not concerning unless the flashes increase in frequency or are associated with new floaters or other vision changes.

Floaters in the setting of a retinal tear may occur for two reasons. When the vitreous gel pulls away from the back of the eye (a normal, age-related process), small condensations in the gel will appear as floaters. While these floaters are annoying, they do not cause problems on their own. These floaters will be more noticeable when looking at a clear blue sky or a white wall. In some cases, the floaters are due to blood that was released when the retina tore. This blood eventually breaks down and disappears, but the rate of disappearance is unpredictable and may vary from days to months.

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*Bay Area Retina Associates* is a group practice of retinal surgeons. All members of the group are board certified by the American Academy of Ophthalmology and have completed fellowship training in vitreoretinal surgery. BARA surgeons have expertise in the treatment of retinal detachment, diabetic retinopathy, age-related macular degeneration, macular hole, epiretinal membrane, and retinal vascular disease. BARA physicians see patients in seven offices and perform surgery at several hospitals and surgery centers around the East Bay.