

Degenerative (Peripheral) Retinoschisis

Degenerative retinoschisis (pronounced *ret in oh SKEE sis*) is an age-related condition in which the layers of the *retina*, the light-sensitive tissue at the back of the eye, begin to separate or split. Degenerative retinoschisis usually has no symptoms, can affect both eyes, and is detected by examination of the retina (*Figure 1*).



Figure 1

Retinoschisis with outer layer holes: The retinal separation can be difficult to see in this photograph. The lighter areas surrounding the small, long-standing holes help show the edge of the affected retina.

Causes and Risk Factors: As we age, tiny fluid-filled spaces can develop within the retina. This age-related change, called *microcystoid degeneration*, can cause some of the layers of the retina to separate or split.

Reticular retinoschisis is a less-common form of degenerative retinoschisis in which the separation occurs in the nerve layer of the retina and can be more pronounced. In some cases, reticular retinoschisis can progress to a full-thickness **retinal tear**, which may lead to a **retinal detachment**.

Studies suggest that degenerative retinoschisis occurs in approximately 4% of the population over the age of 40.

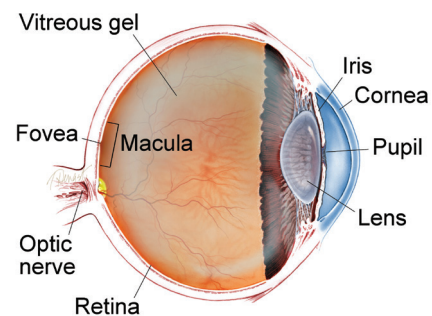
Diagnostic Testing: Your retina specialist may use several tests to distinguish retinoschisis from a retinal detachment and to better understand the condition:

SYMPTOMS

Degenerative retinoschisis often does not cause noticeable symptoms and is usually discovered during a routine dilated eye exam. Your retina specialist may notice these signs:

- A smooth, clear area where the inner layers of the retina are raised or separated, without the wrinkles or folds typically seen with a retinal detachment.
- Lack of movement in the raised area when the eye moves.
- No full-thickness retinal tear, pigment cells or other signs associated with a retinal detachment. ●

WHAT IS THE RETINA?



THE RETINA is a thin layer of light-sensitive nerve tissue that lines the back of the eye (or vitreous) cavity. When light enters the eye, it passes through the iris to the retina where images are focused and converted to electrical impulses that are carried by the optic nerve to the brain resulting in sight.

continued next page

Degenerative (Peripheral) Retinoschisis continued from previous page

- **Optical coherence tomography (OCT):** This noninvasive imaging test creates detailed pictures of the retina. In retinoschisis, an OCT scan can show where the layers of the retina have separated, without fluid collecting underneath the retina (*Figure 2*).

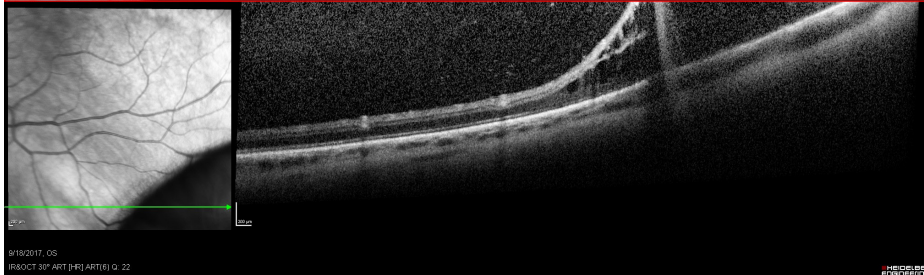


Figure 2

OCT of retinoschisis showing a splitting of the retina in the area of retinoschisis to the right. The green line to the left shows the position of the scan on the retina and this infrared image shows an area of black corresponding to the retinoschisis.

- **Laser testing:** In some cases, a retina specialist may use a laser to help distinguish retinoschisis from a retinal detachment. Laser treatment normally produces a visible response in an area of retinoschisis. If there is fluid underneath the retina, as occurs with a retinal detachment, the laser may not produce the expected response.
- **Visual field testing:** This test measures areas of vision that may be reduced or missing. Retinoschisis typically causes a complete area of missing vision (an *absolute scotoma*), while a retinal detachment may cause a partial reduction in vision (a *relative scotoma*).

Treatment and Prognosis:

- Retinoschisis rarely causes loss of vision and should be closely monitored by your retina specialist with observation and retinal examination since the majority remain stable.
- If the retinoschisis progresses to a full-thickness **rhgmatogenous retinal detachment**, surgery is needed. Surgical options include pars plana **vitrectomy** with or without **scleral buckle**, or scleral buckle alone. Sometimes laser is placed as a barrier to try to prevent the retinoschisis from progressing but this treatment is not always successful. The surgical approach should be tailored to the ocular anatomy and location of the detached retina. ●

Clinical Terms (appearing green within fact sheet text)

Retinal detachment: A condition where the retina separates from the back of the eye cavity. This may be caused by vitreous gel or fluid leaking through a retinal tear or hole and collecting under the retina, causing it to separate from the tissue around it. The most common type of retinal detachment is called a **Rhagmatogenous retinal detachment**.

Retinal tear: A rip or discontinuity in the *retina*, the thin layer of light-sensitive nerve tissue that lines the back of the eye and is responsible for sight.

Scleral buckle: A piece of silicone rubber placed around the outside of the eye to gently push the eye wall inward. This helps support the retina and keep it in place after a retinal detachment.

Vitrectomy: A surgical procedure undertaken by a specialist in which the vitreous gel that fills the eye cavity is removed to provide better access to the retina. This allows for a variety of repairs, including removal of scar tissue, laser repair of retinal detachments, and treatment of macular holes. Once surgery is complete, saline, a gas bubble, or silicone oil may be injected into the vitreous cavity to help hold the retina in position while the eye heals.

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