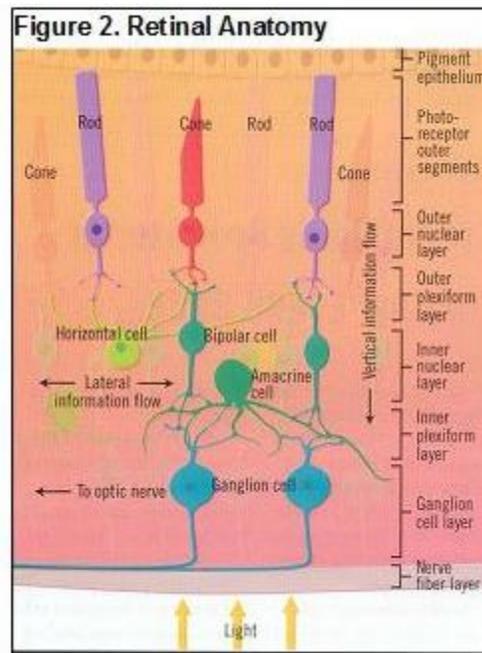
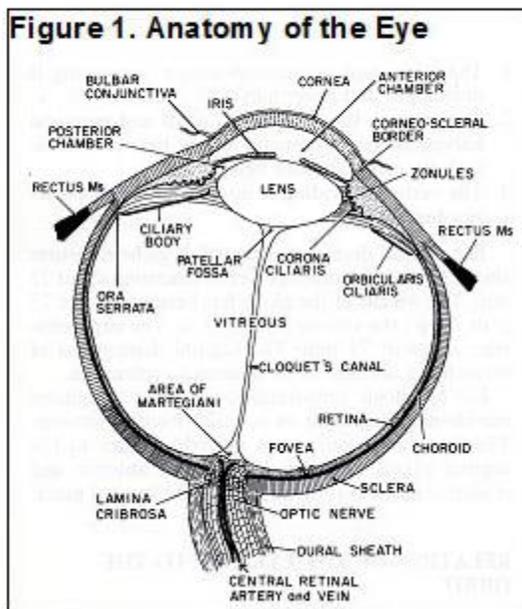


What You Should Know About Retinoschisis

By David J. Browning, MD, PhD

The retina is a multilayered neural lining of the back of the eye. Light strikes the retina, triggering biochemical reactions, which lead to a nerve signal that travels to the brain, via the optic nerve. Figure 1 shows an overall schematic of the anatomy of the eye. Figure 2 shows an expanded view of the retina with the various cellular layers.



Retinoschisis is an abnormality in which the retinal layers are not compact, but rather are split into an inner and an outer layer. The inner and outer layers of the retina bound a cystic area filled with a thick fluid. No one knows why retinoschisis develops. It does not have any tendency to run in families, or to follow trauma. Figure 3 shows the appearance of the normal retina. Figure 4 shows the appearance of a retina affected with retinoschisis.

Figure 3. Normal Retina

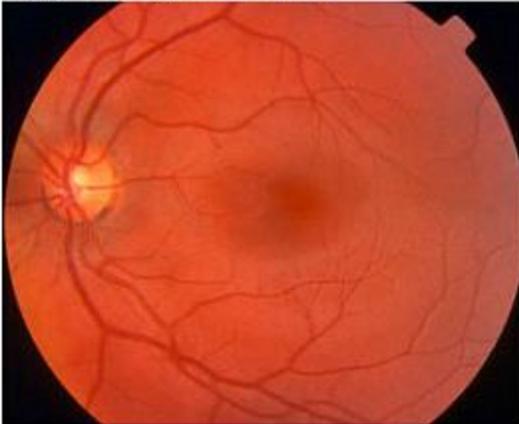
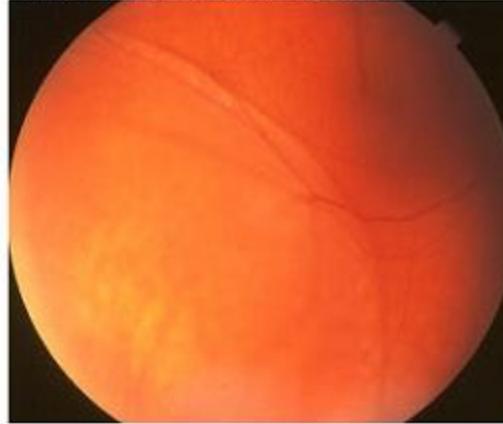


Figure 4. Eye with Retinoschisis



Why is Retinoschisis Important?

The importance of retinoschisis is that it can be misdiagnosed as a retinal detachment. In retinal detachment, a hole develops in the retina and vitreous fluid passes through the hole, collecting under the entire retina. Retinal detachment is usually progressive and threatens sight. Surgery to repair retinal detachment is usually necessary. In contrast, retinoschisis is usually not sight threatening, rarely progresses, and it almost never needs treatment. Despite their very different implications, retinal detachment and retinoschisis are often confused, and a consultation with a retinal specialist is often necessary to make the distinction.

Facts About Degenerative Retinoschisis

There are two types of degenerative retinoschisis, including typical and reticular, which has no implication regarding visual prognosis. Both types are generally benign. The difference between them has to do with where in the retina the splitting occurs. Many eyes with retinoschisis have holes in one or the other layers of the cyst. The presence of either an inner *or* an outer layer hole is usually not important, but the presence of an inner *and* an outer layer hole in the same eye may warrant more frequent examinations. Less than 0.5% of eyes with retinoschisis will develop retinal detachment over a nine-year period of follow-up. Eighty-percent of patients with retinoschisis in one eye will have it in the fellow eye.

Distinctions Between Degenerative Retinoschisis and Juvenile X-Linked Retinoschisis

It is important for patients to know the difference between these two conditions, which both include the name retinoschisis. Degenerative retinoschisis is common and rarely includes any visual symptoms. There is a rare condition called Juvenile X-linked Retinoschisis, which affects males only. This condition does cause loss of reading vision, because the splitting of the retinal layers occurs in the center part of the retina responsible for reading vision, the macula. These two conditions, degenerative and X-linked retinoschisis, are unrelated.

Final Comments

Patients with degenerative retinoschisis need to know that they may have areas of peripheral visual loss, corresponding to the area of the retina where splitting has occurred, but these areas of visual loss are almost always stable. A good home test is to check the peripheral vision of each eye individually. If peripheral visual loss progresses, then the patient needs to be examined, because this change would be uncharacteristic of degenerative retinoschisis and another problem, such as a superimposed retinal detachment, needs to be ruled out.

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