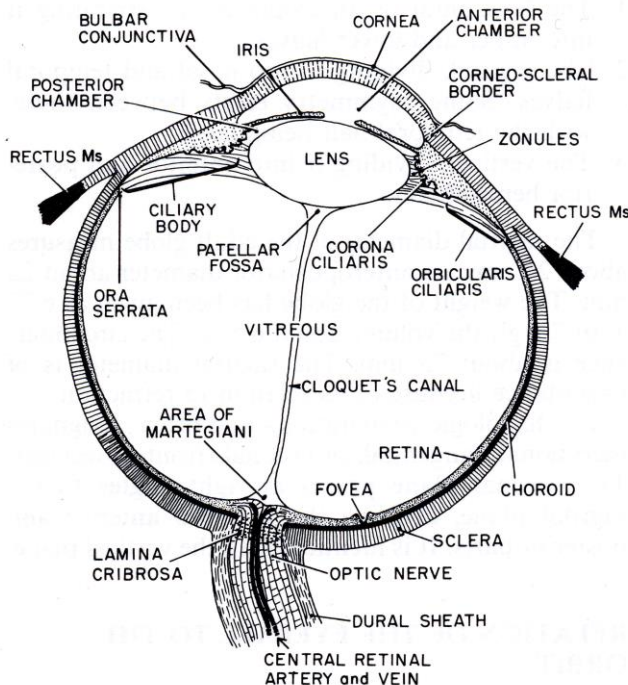


# What You Should Know About Choroidal Rupture

*David J. Browning, MD, PhD*

Blunt injury to the eye can cause a number of adverse effects including inflammation (termed iritis), damage to the fluid outflow path (causing eye pressure to increase), bleeding inside the eye (termed hyphema), cataract, lens dislocation, retinal tears and detachment, and sometimes several of these conditions in the same eye. Figure 1 shows the various structures cited so far. In addition to all the preceding problems, the injury can cause a stretching and rupture of the layer of blood vessels (the choroid) located under the retina and just inside the tough white outer coating of the eye (the sclera). This injury, called a choroidal rupture, produces a crescentic area of tissue disruption usually concentric with the optic disk, the place the optic nerve and retina join each other. Figure 2 shows the normal appearance of the back of the eye as the ophthalmologist examines the patient. Figure 3 shows the appearance of a fresh choroidal rupture.

**Figure 1. Structures of the Eye**



## How Do Choroidal Ruptures Lead to Visual Loss?

Unfortunately, many choroidal ruptures involve the center of the retina, called the macula. It is here that the highest density of cones is found, and reading vision arises from this area. The blunt injury leads to death of these photoreceptors and loss of central vision. A blurred spot is seen in the middle, although peripheral vision is usually intact. Although with time the size of the blur spot may shrink, it never goes completely away.

Later, the eye may grow scar tissue on the retinal surface. This scar, called a macular pucker, causes the retina to bunch up in wrinkles. Surgery to remove the macular pucker can help restore some vision, but will not correct the blurring caused by the choroidal rupture itself.

The most common late side effect of a choroidal rupture is the growth of abnormal blood vessels under the retina. These vessels are more fragile than normal vessels and can rupture or leak. Injections of drugs, such as Avastin, to retard these abnormal vessels can be used, or alternatively various types of laser treatment depending on the location and severity of the subretinal neovascular membrane. Because an affected patient does not know when such a problem might arise, we recommend daily checking of the Amsler Grid with the affected eye by itself (not having the two eyes open). There will be distortion of the grid pattern from the choroidal rupture itself. The important point is to see if additional areas of distortion or worsening develop. If they do, prompt evaluation by the retina specialist is in order.

**Figure 2. Normal Fundus**



**Figure 3. Choroidal Rupture**



### **Don't Forget the Checklist of Other Possible Late Problems**

Eyes with choroidal ruptures by definition have been injured and therefore serial monitoring is needed for glaucoma, cataract, and retinal breaks. Such an eye should be examined yearly. Safety glasses should be worn for sports and yard work.

After reading this brochure, if you have any questions, you are welcome to call me at (704) 295-3182. If you would like to seek further information on your own, an excellent resource is Pubmed, on the National Library of Medicine website, accessible at [www.pubmed.com](http://www.pubmed.com). Also, we have developed a website dedicated to educating patients about retinal disease, called *The Retina Reference*. We encourage you to browse this new site at [www.retinareference.com](http://www.retinareference.com) and take advantage of our educational materials and our interactive Forums, where patients may share their experiences with one another.

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