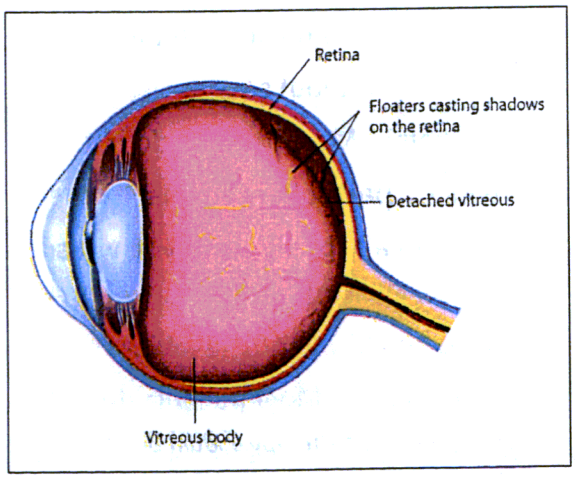
Floaters, Flashes and Posterior Vitreous Detachment

One of the most common reasons that eye care specialists see patients is for new floaters in the vision of the eye. What patients will notice are small specks floating around the vision that many will describe as like seeing "gnats" in the vision. The term "muscae volitantes" which is Italian for "flying gnats" is the old term used for floaters.

What exactly are these little floaters? When you are born your eye is filled with a clear "gel" called vitreous. This gel is not like Jell-O, but is tissue that has collagen strands separated by a clear gel called hyaluronic acid. As you age (like everything else in our bodies) the vitreous gel begins to degenerate and the hyaluronic acid breaks down into liquid and separates from the collagen framework. As this framework of vitreous contracts and the fluid leaks out, it collapses and the fibrils combine together and you begin to see these coalescing fibers as floaters. This liquefaction of the vitreous and the collapse of the vitreous is called a "posterior vitreous detachment".



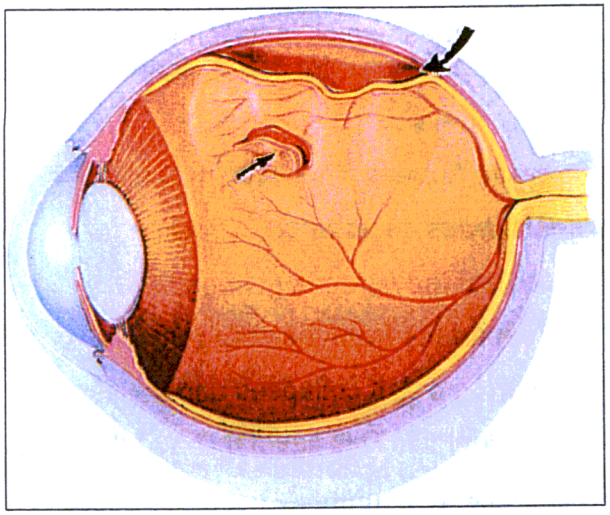
POSTERIOR VITREOUS DETACHMENT (PVD)

PVD in progress with traction on the retina causing light "flashes" and contraction of the vitreous framework causing "floaters". Floaters are most bothersome when looking at a blue sky or when reading.

As the posterior vitreous detachment occurs the vitreous peels away from the posterior portion of the vitreous toward the anterior portion of the eye (it is firmly attached at the front portion of the retina). As the vitreous tugs on the retina the actual mechanical tugging of the vitreous on the retina causes you to perceive flashes of light (the retina doesn't feel pain, but can only sense light). The

strings and circles that you see are the fibrils within the vitreous itself are the floaters. These changes in the vitreous are most commonly caused by simple aging, but can also be caused by trauma, inflammations within the eye, associated with near-sightedness and other problems.

The major difficulty with the development of floaters and flashes and the contraction of the vitreous (posterior vitreous detachment) is if the vitreous is very tightly adherent to the retina at one point. At this point of connection if the vitreous contracts more than the retina can stand, it can cause a tear in the retina that can lead to a retinal detachment and subsequent loss of vision requiring surgery.



RETINAL DETACHMENT (RD)

RD caused by contraction of the vitreous (PVD) on the retina. Instead of peeling off the retina the retina tears in a "horseshoe" tear allowing fluid to detach the retina with vision loss in the area of the RD.

Patients with flashes and floaters should seek an ophthalmologic examination to make sure they are in the vast majority of patients who have simple posterior vitreous detachment without severe complications of this process (tears occur in approximately 10% of patients). Most patients do not, therefore, develop a retinal tear and/or detachment and only see floaters, particularly against a blue sky or when reading. In the absence of tears and detachment these are totally benign and you will soon learn to ignore them.

The information contained in this document is for informational purposes only. Diagnosis and therapy should be based on a thorough examination by and recommendations of a qualified eye care provider.