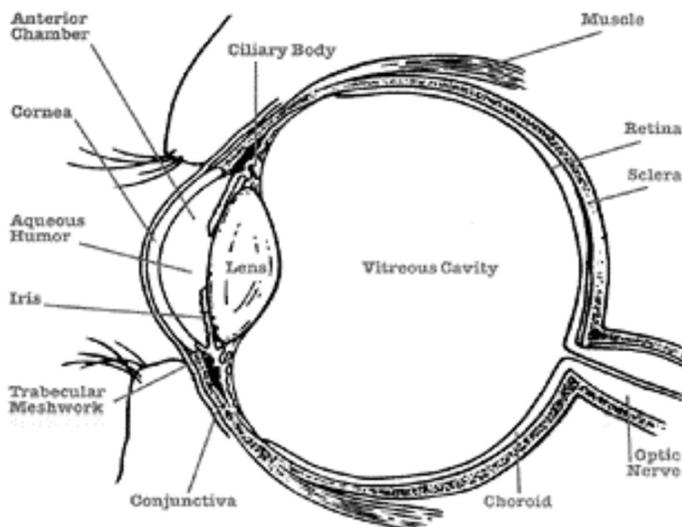


## The Eye and How It Works

*The first step in understanding glaucoma is to know a few basic facts about the eye and how it works. Once you have this information, you will be better able to discuss your condition and treatment with your eye doctor. Working together, you and your doctor will be able to act as a team to protect your vision.*



### **Think of Your Eye as a Camera**

Like a camera, the eye captures information about shape, color, and movement, and relays it in the form of impulses to the brain. The brain then processes this information into the "pictures" we see. Let us look at the various parts of our camera -- the eye.

The outer layer of the eyeball is called the sclera. The sclera is a thin, yet tough, leathery protective shell which is the "white of the eye." The front portion of the shell is called the cornea. The cornea is a clear tissue through which light rays enter the eye. The cornea is much like the lens of a camera, providing the eye with much of its light-focusing power.

The colored portion of the eye is called the iris. The iris not only determines whether your eyes appear blue or brown, but functions like the diaphragm of a camera. The iris contains muscles which control the size of the pupil, regulating the amount of light allowed to enter the eye.

The pupil, which is the dark-colored area in the center of the iris, opens and closes depending upon how much light is present. When there is a great deal of light, like a bright, sunny day outdoors, the iris constricts the pupil, or makes it smaller. This limits the amount of light which passes through the pupil to the retina at the back of the eye. The retina may be thought of as the camera's film. When there is little or no light, the iris dilates the pupil, widening it so that more light can enter the eye.

The lens, which is behind the iris, adjusts its shape and thickness to focus the image onto the retina. The retina then delivers the image to the brain via nerve signals sent through the optic nerve to the brain, which processes these signals into a "picture," or visual image.

The interior of the eye is filled with fluid. A gel-like substance called vitreous fills the center region of the eye. This region is called the vitreous cavity.

The anterior chamber, or front compartment of the eye, is bounded by the cornea, iris, pupil, and lens. It is filled with a watery fluid called the aqueous humor. This fluid nourishes the cornea and the lens, providing them with oxygen and vital nutrients. The aqueous humor also provides the necessary pressure to help maintain the shape of the eye. We call this pressure the intraocular pressure (IOP). As explained on the next page, maintaining the right amount of pressure within the eye is very important to protecting your vision. Measuring the IOP is one of the ways in which your eye doctor tests for glaucoma.