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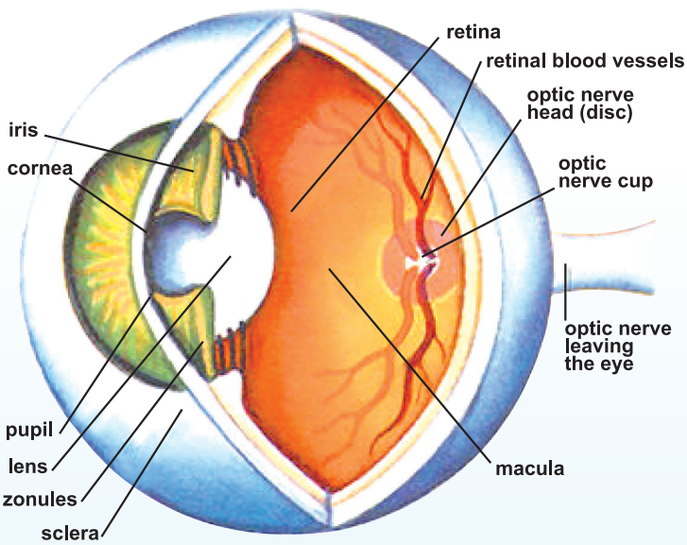
Cataract & Glaucoma Center

GALILEO
VISION INSTITUTE
LASER & REFRACTIVE SURGERY

EYE-NATOMY
The Cornea



The information herein is provided for better understanding of the anatomy of the Eye and the disease processes that cane specially affect the cornea. The explanations have been simplified and the analogies, which facilitate better appreciation for the non-medical person, will not be totally accurate from a medical academician's point of view. If you have any questions, please ask your doctor or the staff.

The Window of the Soul

The Cornea is the most prominent structure of the eye. It is the apparent center of the eye through which light enters and travels to the retina at the back of the eye where it is focused on the macula. The cornea is almost invisible to the naked eye since it is completely transparent when healthy. When viewed from the side, the cornea can be seen to protrude forward like a dome. What we see through the glossy cornea is the iris, which imparts color to the eye, and the pupil, the hole in the center of the iris that is small in bright light and enlarges in the dark or in strong emotional states.

The cornea not only lets light through, it causes the light rays to converge or focus. It is actually the strongest focusing lens of the eye; the other lens is behind the pupil.

The healthy cornea is moist and appears shiny, like a clear glass window. Blinking and the tear layer on its surface keep it moist and clear. Anything that affects the transparent nature of the cornea or its shape will alter the focus of light that goes through it just like your view is obscured by any dirt or damage to your windows. Like any living tissue, the cornea needs nutrition. It derives part of its oxygen requirements from the air it is exposed to. Nutrients diffuse from the blood vessels around since there are no vessels within the cornea, one reason why it is transparent. The fluid inside the eye called the aqueous also nourishes the cornea from inside.

The eyelids protect the cornea. The upward rolling of the eyeballs when we close our eyes is a protective reflex. The cornea has many fine sensory nerves which can cause the eye to blink or produce more tears in the presence of harmful substances or injury to the surface ofthe cornea. Anything touching the cornea is immediately irritating (foreign bodies like dust or lashes) and injury to the surface results in profuse tearing, light sensitivity, and severe pain.

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