



Common Eye Diseases

Open Angle Glaucoma

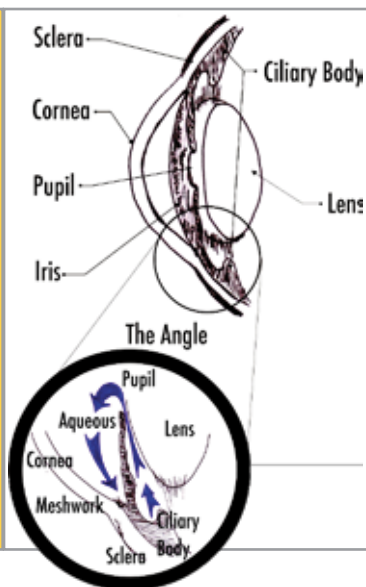
Glaucoma

Glaucoma is characterized by progressive loss of optic nerve fibers leading to gradual constriction of the field of vision until total blindness. It is commonly associated with increased eye pressure.

The Angle

Internally, the iris and the cornea meet at the periphery forming a triangular space with a gutter at the apex covered by a sieve-like tissue called the Trabecular Meshwork. The gutter forms a 360 degree ring around the iris and is known as Schlem's canal. The outer portion of the canal has channels that lead to the veins that drain the eye.

Aqueous, the nourishing fluid that is produced constantly by the ciliary body behind the iris, flows over the lens, across the pupil, into the Schlem's canal, and out the venous system. The balance between aqueous production and outflow maintains the eye pressure somewhere between 10 to 20 mm Hg, which can be measured clinically by several methods. Elevation of eye pressure is associated with progressive damage of the optic nerve and eventual loss of vision (see *Glaucoma is a Blinding Disease*).



Open Angle Glaucoma

In eyes with open angle glaucoma, as the name implies, the angle is wide open and accessible. (The angle can be seen during by your ophthalmologist when a mirrored lens is placed on the cornea during slit lamp examination, a procedure called gonioscopy.) The iris does not obstruct the flow of aqueous as in Angle Closure Glaucoma. However, eye pressure rises because the drainage of aqueous fluid is inefficient.

In Primary Open Angle Glaucoma (POAG), the trabecular meshwork is not fully functional for reasons still unclear. The slow damming of aqueous within the eye causes eye pressure to rise steadily. Eventually, the pressure reaches a point wherein which the optic nerve fibers start dying and gradually disappearing. Statistically, the "normal" eye pressure averages at around 16 mmHg with a range of 12 to 20 mmHg. Since there are millions of nerve fibers in the optic nerve and the ones that are first affected are those that serve peripheral vision, visual symptoms are not immediately evident to the patient. Central vision, which we are acutely aware of, is not affected until the very last. Both eyes are usually involved with one eye more severely so at the time of diagnosis.

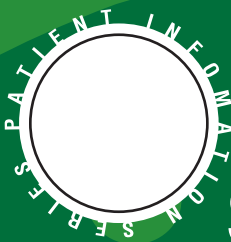
Eye pain from the increased eye pressure is usually not perceptible unless pressure nears 40 mmHg. The absence of symptoms is the reason why most cases of open angle glaucoma are discovered incidentally during a routine eye examination or diagnosed late with one eye already blind or severely damaged.

In a few cases of open angle glaucoma, pigments from the back of the iris or protein material can lodge within the meshwork clogging the angle. These special types of open angle glaucoma are called pigmentary and pseudoexfoliation glaucoma, respectively.

Ocular Hypertension

Elevated eye pressure (>20 mmHg) does not necessarily mean glaucoma. Studies have shown that many optic nerves can withstand these pressures without losing any nerve fibers for several years. Patients with high eye pressures without any demonstrable effect on their optic nerves are labeled Ocular Hypertensives. They do not usually require treatment but should be evaluated periodically. Corollary to that, if the risk of optic nerve damage is judged to be likely, treatment is indicated.





SIMPLY

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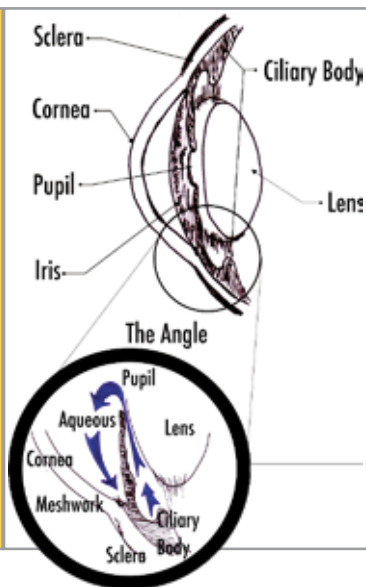
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