

## **Glaucoma**

Glaucoma is a disease of the optic nerve, the cable of nerve fibers that connects the eye to the brain (so the brain can interpret the image the eye sees). In glaucoma, there is damage to the nerve fibers that make up the optic nerve. The damage is due to a pressure within the eye (intraocular pressure) that is relatively too high, taking into account the anatomy of the optic nerve. Just like any given weight can be good or bad for a person depending on the anatomy (height and build) of a person, so can any given intraocular pressure be good or bad for a person...depending on the anatomy of that particular person's optic nerve. Glaucoma does not set in until at least 70% of the nerve fibers in any one area of the optic nerve have been damaged. Once that critical amount has been reached, the disease progresses at a faster pace.

To summarize, glaucoma is a disease of the optic nerve due to intraocular pressure that is relatively too high for the anatomy of that person's optic nerve, and has damaged at least 70% of the nerve's fibers in at least one area.

Just as we inherit anatomic similarities to our relatives on the outside, we inherit anatomic similarities to our relatives on the inside. Glaucoma is not an inherited disease, but we may inherit anatomy features of our optic nerves that make us more prone to develop glaucoma at any given intraocular pressure. This is why glaucoma can run in families. The health of the optic nerve depends on your blood circulation to the optic nerve in addition to its anatomy. Any diseases that affect blood circulation to the optic nerve, such as high blood pressure or diabetes, can increase risk of glaucoma. Likewise, exercises that improve circulation, such as brisk walking, can decrease risk of glaucoma or improve the glaucoma a person has.

Glaucoma affects our visual field in a slow and insidious fashion. It can cause blindness, but this is extremely unlikely to happen so long as a person has the disease diagnosed early and is compliant with recommended medicines. Eyedrops that decrease the rate of fluid production within the eye or increase the rate at which fluid leaves the eye are the most common forms of treatment. Occasionally, a patient may need laser or filtering surgical procedures to control the glaucoma.

Dr. Hudak will monitor your optic nerve anatomy and intraocular pressures for evidence of glaucoma. Thanks to early detection and some wonderful new medicines, some people even get improvement in their glaucoma status!