Gary S. Hirshfield, M.D., F.A.C.S.
Hirshfield Eye Associates
176-60 Union Turnpike
Fresh Meadows, NY 11366
Phone: 718-460-1200
Web site: www.newyorkcataract.com

Glaucoma Evaluation

Because it has no noticeable symptoms, glaucoma is a difficult disease to detect without regular, complete eye exams.

During a glaucoma evaluation, your ophthalmologist (Eye M.D.) will perform the following tests:

- **Tonometry**. Your ophthalmologist measures the pressure in your eyes (intraocular pressure, or IOP) using a technique called tonometry. Tonometry measures your IOP by determining how your cornea responds when an instrument (or sometimes a puff of air) presses on the surface of your eye. Eyedrops are usually used to numb the surface of your eye for this test.

- **Gonioscopy**. For this test, your ophthalmologist inspects your eye's drainage angle—the area where fluid drains out of your eye. During gonioscopy, you sit in a chair facing the microscope used to look inside your eye. You will place your chin on a chin rest and your forehead against a support bar while looking straight ahead. The goniolens is placed lightly on the front of your eye, and a narrow beam of light is directed into your eye while your doctor looks through the slit lamp at the drainage angle. Drops will be used to numb the eye before the test.

- **Ophthalmoscopy**. With this test, your ophthalmologist can evaluate whether or not there is any optic nerve damage by looking at the back of the eye (called the fundus). There are two types of ophthalmoscopy: direct and indirect. With **direct ophthalmoscopy,** your ophthalmologist uses a small flashlight-like instrument with several lenses that magnifies up to about 15 times. This type of ophthalmoscopy is most commonly done during a routine physical examination. With **indirect ophthalmoscopy,** the ophthalmologist wears a headband with a light attached and uses a small handheld lens to look inside your eye. Indirect ophthalmoscopy allows a better view of the fundus, even if your natural lens is clouded by cataracts.

- **Visual field test**. The peripheral (side) vision of each eye is tested with visual field testing, or **perimetry.** For this test, you sit at a bowl-shaped instrument called a perimeter. While you stare at the center of the bowl, lights flash. Each time you see a flash, you press a button. A computer records your response to each flash. This test shows if you have any areas of vision loss. Loss of peripheral vision is often an early sign of glaucoma.

- **Photography**. Sometimes photographs or other computerized images are taken of the optic nerve to inspect the nerve more closely for damage from elevated pressure in the eye.

- **Special imaging**. Different scanners may be used to better determine the configuration of the optic nerve head or retinal nerve fiber layer. We use high resolution ocular coherence tomography to

evaluate your nerve fiber layer thickness.

Each of these evaluation tools is an important way to monitor your vision to help ensure that glaucoma does not rob you of your sight. Some of these tests will not be necessary for everyone. Your ophthalmologist will discuss which tests are best for you. Some tests may need to be repeated on a regular basis to monitor any changes in your vision caused by glaucoma.