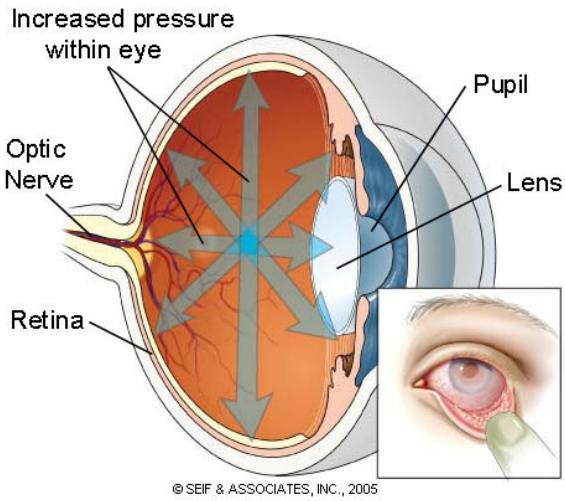
Glaucoma

Glaucoma is a condition of high pressure inside the eyes. There are several forms of glaucoma. The pressure in the eye is raised because fluid (*aqueous*) within the eye can not get out through the normal drainage system. Below are the different forms of glaucoma.



- *Chronic open-angle glaucoma*. This is when the fluid in the eye cannot get through the drainage system. It usually affects both eyes. The best way to understand *chronic open angle glaucoma* is to think of the tires on your car. When they are over-inflated with air, the driver is not aware that there is a problem. However, the rubber on the tires is being worn out faster than normal. Similarly, chronic high pressure in the eyes causes the nerves of the retina and optic nerve to be damaged. When this happens slowly and over time, there are no symptoms.
- *Closed angle glaucoma* or *acute angle closure glaucoma*. This is when the fluid in the eye cannot get to the drainage system. The pressure in the eye rises very high (3 to 4 times normal). This causes extreme pain and vision loss in the affected eye. Attacks are sudden and often happen in one eye at a time. However, they can happen in both at the same time. If there is an attack of *acute angle closure* in one eye, the risk of an attack in the other eye is very high.
- *Primary glaucoma*. This term is used when glaucoma is not caused by another disease.

CAUSES

Chronic Open Angle Glaucoma

This form is not usually related to other diseases (*primary*). However, there are forms of this type of glaucoma that are related to other diseases (*secondary*) including:

- Congenital glaucoma. This means that you are born with the disease.
- Certain diseases of the eye (inflammation, some types of cataracts and lens changes, having too much pigment in the eyes, certain diseases of the cornea and tumors of the eye).
- Certain drugs and eye drops.
- Traumatic injuries.
- Abnormal blood vessels that form as a result of other diseases, especially diabetes.
- Certain other diseases in the body.

Acute Angle Closure Glaucoma

- Far-sightedness (*hyperopia*). The eyes are usually shorter in length and have a narrower anatomic opening to the drainage system inside the eye
- Drugs that cause dilation of the pupils as a side affect. Always check the label of drugs for warnings about the risk of glaucoma with their use.
- Certain eye drops that can enlarge (*dilate*) the pupils. This is true even with drops used in the doctors office to look at your eyes.

SYMPTOMS

Chronic Open Angle Glaucoma

Early in the disease there are no symptoms at all. If left untreated, the disease will get worse. The following symptoms may happen:

- Loss of side vision – usually near the nose. This symptom is rarely noticed by people with chronic open angle glaucoma. By the time this happens, the disease is usually well advanced.

- Steady loss of side vision in all directions progressing to “tunnel vision.” This is like looking through a toilet roll tube and only being able to see what is in the center of whatever you are looking at.
- Eventual total loss of vision in the affected eye(s)

Acute Angle Closure Glaucoma
- Severe pain in the affected eye associated with clouded vision.
- Severe headache in the area around the eye.
- Feeling sick to your stomach (*nausea*) and throwing up (*vomiting*).

DIAGNOSIS

Primary Chronic Open Angle Glaucoma

This form of glaucoma has no symptoms until very late in the disease. Therefore, it is detected only during an eye exam by an eye specialist. It is important to have your eyes looked at by a specialist at least once a year after the age of 40. If the pressure in the eye is high, it does not necessarily mean that there is glaucoma. In such cases, an ophthalmologist may choose to follow the eye pressures carefully over a period of time. They may not begin treatment until other signs of actual damage appear.

Some of the *secondary open angle glaucomas* do cause symptoms. In *congenital glaucoma* for instance, new born babies eyes can be enlarged. The baby may cry all of the time due to the pain of the increased pressure.

Acute Angle Closure Glaucoma

People with this type of glaucoma need to get help right away when the attack comes on because it is so painful. The diagnosis is made by an eye exam by an ophthalmologist. He or she will measure the pressure in the affected eye(s).

TREATMENT

Primary Chronic Open Angle Glaucoma
- Eye drops and medicine by mouth (*oral*), alone or in combination, may be given. This depends on the how bad the disease is and the degree of damage.
- Laser treatments may help in more severe cases.
- Surgery may be needed.

Acute Angle Closure Glaucoma is treated very aggressively. The longer the attack lasts, the greater the chance of permanent vision loss.
- Generally, it is important to get the pressure under control within 24 hours. This is to avoid permanent damage to the affected eye.
- Powerful eye drop medication may be used as often as every 10 minutes.
- Medicine given by mouth, injection or through the vein (*intravenously*). These medicines are used to both open the blockage to the eye's drainage system and to lessen the production of the fluid inside the eye.
- After pressure is controlled and to avoid future attacks in both the same eye and the unaffected eye, surgery is needed to make a permanent small opening in the colored portion of the eye (*iris*). This allows the aqueous fluid to have lasting access to the eye's internal drainage system. This surgery can be done in the hospital, or it can be performed in an outpatient setting using a laser.

SEEK MEDICAL CARE IF:
- You are over 40 years of age and have never had your eye pressure measured.
- You have sudden, severe pain in one eye associated with drop in vision.
- You have a headache, feel sick to your stomach (*nausea*) and throw up (*vomit*).

SEEK IMMEDIATE MEDICAL CARE IF YOU DEVELOP:
- Severe pain in the affected eye.

- Problems with your vision.
- A bad headache in the area around the eye.
- Nausea and vomiting.
- The same or similar symptoms on the other eye.

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