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TWO EYE DEFECTS INCLUDE:

 (A) Glaucoma is a group of eye conditions that damage the optic nerve, the health of which is vital for good vision. This damage is often caused by an abnormally high pressure in your eye. Glaucoma is one of the leading causes of blindness for people over the age of 60. It can occur at any age but is more common in older adults. Many forms of glaucoma have no warning signs. The effect is so gradual that you may not notice a change in vision until the condition is at an advanced stage. Because vision loss due to glaucoma can't be recovered, it's important to have regular eye exams that include measurements of your eye pressure so a diagnosis can be made in its early stages and treated appropriately. If glaucoma is recognized early, vision loss can be slowed or prevented. If you have the condition, you'll generally need treatment for the rest of your life.

**Symptoms**

The signs and symptoms of glaucoma vary depending on the type and stage of your condition. For example:

1. Open-angle glaucoma

* Patchy blind spots in your side (peripheral) or central vision, frequently in both eyes
* Tunnel vision in the advanced stages

2. Acute angle-closure glaucoma

* Severe headache
* Eye pain
* Nausea and vomiting
* Blurred vision
* Halos around lights
* Eye redness
* If left untreated, glaucoma will eventually cause blindness. Even with treatment, about 15 percent of people with glaucoma become blind in at least one eye within 20 years.
* When to see a doctor
* Promptly go to an emergency room or an eye doctor's (ophthalmologist's) office if you experience some of the symptoms of acute angle-closure glaucoma, such as severe headache, eye pain and blurred vision.

**Causes**

Glaucoma is the result of damage to the optic nerve. As this nerve gradually deteriorates, blind spots develop in your visual field. For reasons that doctors don't fully understand, this nerve damage is usually related to increased pressure in the eye. Elevated eye pressure is due to a buildup of a fluid (aqueous humor) that flows throughout the inside of your eye. This internal fluid normally drains out through a tissue called the trabecular meshwork at the angle where the iris and cornea meet. When fluid is overproduced or the drainage system doesn't work properly, the fluid can't flow out at its normal rate and eye pressure increases. Glaucoma tends to run in families. In some people, scientists have identified genes related to high eye pressure and optic nerve damage.

**Types of glaucoma include:**

1. Open-angle glaucoma: Open-angle glaucoma is the most common form of the disease. The drainage angle formed by the cornea and iris remains open, but the trabecular meshwork is partially blocked. This causes pressure in the eye to gradually increase. This pressure damages the optic nerve. It happens so slowly that you may lose vision before you're even aware of a problem.

2. Angle-closure glaucoma: Angle-closure glaucoma, also called closed-angle glaucoma, occurs when the iris bulges forward to narrow or block the drainage angle formed by the cornea and iris. As a result, fluid can't circulate through the eye and pressure increases. Some people have narrow drainage angles, putting them at increased risk of angle-closure glaucoma. Angle-closure glaucoma may occur suddenly (acute angle-closure glaucoma) or gradually (chronic angle-closure glaucoma). Acute angle-closure glaucoma is a medical emergency.

3. Normal-tension glaucoma: In normal-tension glaucoma, your optic nerve becomes damaged even though your eye pressure is within the normal range. No one knows the exact reason for this. You may have a sensitive optic nerve, or you may have less blood being supplied to your optic nerve. This limited blood flow could be caused by atherosclerosis the buildup of fatty deposits (plaque) in the arteries or other conditions that impair circulation.

4. Glaucoma in children: It's possible for infants and children to have glaucoma. It may be present from birth or develop in the first few years of life. The optic nerve damage may be caused by drainage blockages or an underlying medical condition.

5. Pigmentary glaucoma: In pigmentary glaucoma, pigment granules from your iris build up in the drainage channels, slowing or blocking fluid exiting your eye. Activities such as jogging sometimes stir up the pigment granules, depositing them on the trabecular meshwork and causing intermittent pressure elevations.

**Risk factors**

Because chronic forms of glaucoma can destroy vision before any signs or symptoms are apparent, be aware of these risk factors:

* Having high internal eye pressure (intraocular pressure)
* Being over age 60
* Being black, Asian or Hispanic
* Having a family history of glaucoma
* Having certain medical conditions, such as diabetes, heart disease, high blood pressure and sickle cell anaemia
* Having corneas that are thin in the centre
* Being extremely near sighted or farsighted
* Having had an eye injury or certain types of eye surgery
* Taking corticosteroid medications, especially eyedrops, for a long time

**Prevention**

1. These self-care steps can help you detect glaucoma in its early stages, which is important in preventing vision loss or slowing its progress.
2. Get regular dilated eye examinations. Regular comprehensive eye exams can help detect glaucoma in its early stages, before significant damage occurs. As a general rule, the American Academy of Ophthalmology recommends having a comprehensive eye exam every five to 10 years if you're under 40 years old; every two to four years if you're 40 to 54 years old; every one to three years if you're 55 to 64 years old; and every one to two years if you're older than 65. If you're at risk of glaucoma, you'll need more frequent screening. Ask your doctor to recommend the right screening schedule for you.
3. Know your family's eye health history. Glaucoma tends to run in families. If you're at increased risk, you may need more frequent screening.
4. Exercise safely. Regular, moderate exercise may help prevent glaucoma by reducing eye pressure. Talk with your doctor about an appropriate exercise program.
5. Take prescribed eyedrops regularly. Glaucoma eyedrops can significantly reduce the risk that high eye pressure will progress to glaucoma. To be effective, eyedrops prescribed by your doctor need to be used regularly even if you have no symptoms.
6. Wear eye protection. Serious eye injuries can lead to glaucoma. Wear eye protection when using power tools or playing high-speed racket sports in enclosed courts.

(B) A cataract is a clouding of the normally clear lens of your eye. For people who have cataracts, seeing through cloudy lenses is a bit like looking through a frosty or fogged-up window. Clouded vision caused by cataracts can make it more difficult to read, drive a car (especially at night) or see the expression on a friend's face. Most cataracts develop slowly and don't disturb your eyesight early on. But with time, cataracts will eventually interfere with your vision. At first, stronger lighting and eyeglasses can help you deal with cataracts. But if impaired vision interferes with your usual activities, you might need cataract surgery. Fortunately, cataract surgery is generally a safe, effective procedure.

**Symptoms**

Signs and symptoms of cataracts include:

* Clouded, blurred or dim vision
* Increasing difficulty with vision at night
* Sensitivity to light and glare
* Need for brighter light for reading and other activities
* Seeing "halos" around lights
* Frequent changes in eyeglass or contact lens prescription
* Fading or yellowing of colors
* Double vision in a single eye
* At first, the cloudiness in your vision caused by a cataract may affect only a small part of the eye's lens and you may be unaware of any vision loss. As the cataract grows larger, it clouds more of your lens and distorts the light passing through the lens. This may lead to more noticeable symptoms.

**Causes**

Most cataracts develop when aging or injury changes the tissue that makes up your eye's lens. Some inherited genetic disorders that cause other health problems can increase your risk of cataracts. Cataracts can also be caused by other eye conditions, past eye surgery or medical conditions such as diabetes. Long-term use of steroid medications, too, can cause cataracts to develop.

**How a cataract forms**

The lens, where cataracts form, is positioned behind the colored part of your eye (iris). The lens focuses light that passes into your eye, producing clear, sharp images on the retina the light-sensitive membrane in the eye that functions like the film in a camera. As you age, the lenses in your eyes become less flexible, less transparent and thicker. Age-related and other medical conditions cause tissues within the lens to break down and clump together, clouding small areas within the lens. As the cataract continues to develop, the clouding becomes denser and involves a bigger part of the lens. A cataract scatters and blocks the light as it passes through the lens, preventing a sharply defined image from reaching your retina. As a result, your vision becomes blurred. Cataracts generally develop in both eyes, but not evenly. The cataract in one eye may be more advanced than the other, causing a difference in vision between eyes.

**Types of cataracts**

Cataract types include:

1. Cataracts affecting the center of the lens (nuclear cataracts). A nuclear cataract may at first cause more nearsightedness or even a temporary improvement in your reading vision. But with time, the lens gradually turns more densely yellow and further clouds your vision. As the cataract slowly progresses, the lens may even turn brown. Advanced yellowing or browning of the lens can lead to difficulty distinguishing between shades of color.

2. 3Cataracts that affect the edges of the lens (cortical cataracts). A cortical cataract begins as whitish, wedge-shaped opacities or streaks on the outer edge of the lens cortex. As it slowly progresses, the streaks extend to the center and interfere with light passing through the center of the lens.

3. Cataracts that affect the back of the lens (posterior subcapsular cataracts). A posterior subcapsular cataract starts as a small, opaque area that usually forms near the back of the lens, right in the path of light. A posterior subcapsular cataract often interferes with your reading vision, reduces your vision in bright light, and causes glare or halos around lights at night. These types of cataracts tend to progress faster than other types do.

4. Cataracts you're born with (congenital cataracts). Some people are born with cataracts or develop them during childhood. These cataracts may be genetic, or associated with an intrauterine infection or trauma. These cataracts also may be due to certain conditions, such as myotonic dystrophy, galactosemia, neurofibromatosis type 2 or rubella. Congenital cataracts don't always affect vision, but if they do, they're usually removed soon after detection.

**Risk factors**

Factors that increase your risk of cataracts include:

* Increasing age
* Diabetes
* Excessive exposure to sunlight
* Smoking
* Obesity
* High blood pressure
* Previous eye injury or inflammation
* Previous eye surgery
* Prolonged use of corticosteroid medications1
* Drinking excessive amounts of alcohol

**Prevention**

1. No studies have proved how to prevent cataracts or slow the progression of cataracts. But doctors think several strategies may be helpful, including:

2. 3Have regular eye examinations. Eye examinations can help detect cataracts and other eye problems at their earliest stages. Ask your doctor how often you should have an eye examination.

3. Quit smoking. Ask your doctor for suggestions about how to stop smoking. Medications, counseling and other strategies are available to help you.

4. Manage other health problems. Follow your treatment plan if you have diabetes or other medical conditions that can increase your risk of cataracts.

5. Choose a healthy diet that includes plenty of fruits and vegetables. Adding a variety of colorful fruits and vegetables to your diet ensures that you're getting many vitamins and nutrients. Fruits and vegetables have many antioxidants, which help maintain the health of your eyes.

6. Studies haven't proved that antioxidants in pill form can prevent cataracts. But, a large population study recently showed that a healthy diet rich in vitamins and minerals was associated with a reduced risk of developing cataracts. Fruits and vegetables have many proven health benefits and are a safe way to increase the amount of minerals and vitamins in your diet.

7. Wear sunglasses. Ultraviolet light from the sun may contribute to the development of cataracts. Wear sunglasses that block ultraviolet B (UVB) rays when you're outdoors.

8. Reduce alcohol use. Excessive alcohol use can increase the risk of cataracts.