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TOPIC: SPECIAL SENSE

SHORT NOTE ON ANY TWO EYES DEFECTS

CATARACT:A cataract is a clouding of the lens of the eye which leads to a decrease in vision.Cataracts often develop slowly and can affect one or both eyes.Symptoms may include faded colors, blurry or double vision, halos around light, trouble with bright lights, and trouble seeing at night.This may result in trouble driving, reading, or recognizing faces.Poor vision caused by cataracts may also result in an increased risk of falling and depression.Cataracts cause half of all cases of blindness and 33% of visual impairment worldwide.

Cataracts are most commonly due to aging but may also occur due to trauma or radiation exposure, be present from birth, or occur following eye surgery for other problems.Risk factors include diabetes, smoking tobacco, prolonged exposure to sunlight, and alcohol.The underlying mechanism involves accumulation of clumps of protein or yellow-brown pigment in the lens that reduces transmission of light to the retina at the back of the eye.Diagnosis is by an eye examination.

Prevention includes wearing sunglasses, a wide brimmed hat, eating leafy vegetables and fruits, and avoiding smoking. Early on the symptoms may be improved with glasses.If this does not help, surgery to remove the cloudy lens and replace it with an artificial lens is the only effective treatment. Cataract surgery is not readily available in many countries, and surgery is needed only if the cataracts are causing problems and generally results in an improved quality of life.

About 20 million people are blind due to cataracts. It is the cause of approximately 5% of blindness in the United States and nearly 60% of blindness in parts of Africa and South America. Blindness from cataracts occurs in about 10 to 40 per 100,000 children in the developing world, and 1 to 4 per 100,000 children in the developed world. Cataracts become more common with age. In the United States, cataracts occur in 68% of those over the age of 80 years. Additionally they are more common in women and White people.

COLOR BLINDNESS: Color blindness, also known as color vision deficiency, is the decreased ability to see color or differences in color. Simple tasks such as selecting ripe fruit, choosing clothing, and reading traffic lights can be more challenging. Color blindness may also make some educational activities more difficult. However, problems are generally minor, and most people find that they can adapt. People with total color blindness (achromatopsia) may also have decreased visual acuity and be uncomfortable in bright environments.

The most common cause of color blindness is an inherited problem in the development of one or more of the three sets of color-sensing cones in the eye. Males are more likely to be color blind than females, as the genes responsible for the most common forms of color blindness are on the X chromosome. As females have two X chromosomes, a defect in one is typically compensated for by the other, therefore females can be carriers. Males only have one X chromosome and therefore express the genetic disorder. Color blindness can also result from physical or chemical damage to the eye, optic nerve or parts of the brain. Diagnosis is typically with the Ishihara color test; however, a number of other testing methods, including genetic testing, also exist.

There is no cure for color blindness. Diagnosis may allow a person's teacher to change their method of teaching to accommodate the decreased ability to recognize colors. Special lenses may help people with red–green color blindness when under bright conditions. There are also mobile apps that can help people identify colors.

Red–green color blindness is the most common form, followed by blue–yellow color blindness and total color blindness. Red–green color blindness affects up to 8% of males and 0.5% of females of Northern European descent. The ability to see color also decreases in old age. Being color blind may make people ineligible for certain jobs in certain countries. This may include being a pilot, train driver, crane operator, and working in the armed forces. The effect of color blindness on artistic ability, however, is controversial. The ability to draw appears to be unchanged, and a number of famous artists are believed to have been color blind.