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## **EYE DEFECTS**

### **1. MYOPIA**

Near-sightedness, also known as short-sightedness and myopia, is an eye disorder where light focuses in front of, instead of on, the retina. This causes distant objects to be blurry while close objects appear normal. Other symptoms may include headaches and eye strain. Severe near-sightedness is associated with an increased risk of retinal detachment, cataracts, and glaucoma.

The underlying cause is believed to be a combination of genetic and environmental factors. Risk factors include doing work that involves focusing on close objects, greater time spent indoors, and a family history of the condition. It is also associated with a high socioeconomic class. The underlying mechanism involves the length of the eyeball growing too long or less commonly the lens being too strong. It is a type of refractive error. Diagnosis is by eye examination.

Tentative evidence indicates that the risk of near-sightedness can be decreased by having young children spend more time outside. This may be related to natural light exposure. Near-sightedness can be corrected with eyeglasses, contact lenses, or surgery. Eyeglasses are the easiest and safest method of correction. Contact lenses can provide a wider field of vision, but are associated with a risk of infection. Refractive surgery permanently changes the shape of the cornea.

Near-sightedness is the most common eye problem and is estimated to affect 1.5 billion people (22% of the population). Rates vary significantly in different areas of the world. Rates among adults are between 15% to 49%. Rates are similar in females and males. Among children, it affects 1% of rural Nepalese, 4% of South Africans, 12% of Americans, and 37% in some large Chinese cities. Rates have increased since the 1950s. Uncorrected near-sightedness is one of the most common causes of vision impairment globally along with cataracts, macular degeneration, and vitamin A deficiency.

### **2. PRESBYOPIA**

Presbyopia is a condition associated with the aging of the eye that results in progressively worsening ability to focus clearly on close objects. Symptoms include difficulty reading small print, having to hold reading material farther away, headaches, and eyestrain. Different people will have different degrees of problems. Other types of refractive errors may exist at the same time as presbyopia.

Presbyopia is a normal part of the aging process. It occurs due to hardening of the lens of the eye, causing the eye to focus light behind rather than on the retina when looking at close objects. It is a type of refractive error along with nearsightedness, farsightedness, and astigmatism. Diagnosis is by an eye examination.

Treatment is typically with eyeglasses. The eyeglasses used have higher focusing power in the lower portion of the lens. Off the shelf reading glasses may be sufficient for some. Contact lenses may also occasionally be used.

People over 40 are at risk for developing presbyopia and all people become affected to some degree. Around 25% of people (1.8 billion globally) are currently affected. The condition was mentioned as early as the writings of Aristotle in the 4th century BC. Glass lenses first came into use for the problem in the late 13th century.