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PHARMACOLOGY

1. Myopia (Nearsightedness): Myopia (near-sightedness) is the most common refractive vision disorder in children. It is characterized by blurring of objects viewed at a distance, and is commonly the result of abnormal elongation of the eyeball – which causes the refractive image formed by the cornea and the lens to fall in front of the photoreceptors of the retina.

The underlying biological cause of myopia is unknown, and there is no widely accepted means of prevention or cure. The optical error of myopia can be corrected only by using spectacle or contact lenses or corneal surgery. If left untreated, moderate myopia is one of the leading causes of visual impairment worldwide. The greater the degree of myopia, the greater the risk of complications such as macular degeneration, retinal detachment, cataracts, and glaucoma; the risk is especially great when the negative refractive error is more negative than -6.00 D (diopters), a condition called ‘high myopia’. The prevalence of myopia varies greatly, depending on ethnicity, geographical location, and socioeconomic status, but is rising rapidly in most populations studied. Myopia is a centuries-old problem, and although we have made great progress in scientific investigation of its underlying cause, we have been unsuccessful in preventing it from becoming named by the World Health Organization as an ever-increasing global health concern.

2. Hyperopia (Farshightedness): Far-sightedness, also known as hypermetropia, is a condition of the [eye](https://en.wikipedia.org/wiki/Human_eye" \o "Human eye) in which light is focused behind, instead of on, the [retina](https://en.wikipedia.org/wiki/Retina" \o "Retina). This results in close objects appearing [blurry](https://en.wikipedia.org/wiki/Blurred_vision" \o "Blurred vision), while far objects may appear normal. As the condition worsens, objects at all distances may be blurry. Other symptoms may include [headaches](https://en.wikipedia.org/wiki/Headache" \o "Headache) and [eye strain](https://en.wikipedia.org/wiki/Eye_strain" \o "Eye strain). People may also experience [accommodative dysfunction](https://en.wikipedia.org/wiki/Accommodation_(eye)" \l "Accommodative_dysfunction" \o "Accommodation (eye)), [binocular dysfunction](https://en.wikipedia.org/wiki/Binocular_vision" \o "Binocular vision), [amblyopia](https://en.wikipedia.org/wiki/Amblyopia" \o "Amblyopia), and [strabismus](https://en.wikipedia.org/wiki/Strabismus" \o "Strabismus).

The cause is an imperfection of the eyes. Often it occurs when the eyeball is too short, or the [lens](https://en.wikipedia.org/wiki/Lens_(anatomy)" \o "Lens (anatomy)) or [cornea](https://en.wikipedia.org/wiki/Cornea" \o "Cornea) is misshapen. Risk factors include a family history of the condition, [diabetes](https://en.wikipedia.org/wiki/Diabetes" \o "Diabetes), certain medications, and [tumors](https://en.wikipedia.org/wiki/Tumors" \o "Tumors) around the eye.It is a type of [refractive error](https://en.wikipedia.org/wiki/Refractive_error" \o "Refractive error).Diagnosis is based on an [eye exam](https://en.wikipedia.org/wiki/Eye_exam" \o "Eye exam).

Management can occur with [eyeglasses](https://en.wikipedia.org/wiki/Eyeglasses" \o "Eyeglasses), [contact lenses](https://en.wikipedia.org/wiki/Contact_lenses" \o "Contact lenses), or surgery.Glasses are easiest while contact lenses can provide a wider [field of vision](https://en.wikipedia.org/wiki/Field_of_vision" \o "Field of vision). Surgery works by changing the shape of the cornea. Far-sightedness primarily affects young children, with rates of 8% at 6 years and 1% at 15 years. It then becomes more common again after the age of 40, affecting about half of people.