

Developing Concerns: Oh, Say Can You See?

June 2026

Myopia, or nearsightedness, is increasingly common among children, apparently related to our modern world transition to spending long periods of time focusing on near objects, like phones, computers and books. In some countries, **nearly 90% of high school students have significant myopia**. Some children are at higher risk, including children with a family history of high myopia, those of Asian descent and children with neurodevelopmental disorders. There are current and emerging strategies for myopia control, including optical, pharmacological, and behavioral approaches. Progression to high myopia is associated with the risk of sight-threatening complications such as retinal detachment and myopic maculopathy.



Myopia is caused by axial elongation of the eyeball, causing distant objects to be focused anterior to the retina and making them appear blurry. Single vision lenses correct refractive errors, but do not prevent myopia progression. A recent review by Maulvi et al (2025) considered the following potential interventions to control myopia progression and perhaps prevent myopia.

1. Low-dose atropine drops - these influence biochemical signaling pathways that govern ocular growth, and offer a 50-60% reduction in myopia progression
2. Multifocal soft contact lenses for daytime wear (30-50% reduction)
3. Spectacle-based options, including DIMS and HALT technology, which have a clear central zone for clear vision surrounded by annular segments that provide constant myopic defocus. (35-60% reduction)
4. Orthokeratology (Ortho-K) involves the overnight wearing of special rigid gas permeable contact lenses (30-60% reduction)
5. Increased outdoor activity, including the 20-20-20 rule - looking at something 20 feet away for 20 seconds every 20 minutes - and children spending 2 hours a day outdoors (20-25% reduction in onset of myopia)

Pediatricians should be familiar with these technologies, especially for their patients with neurodevelopmental disorders associated with vision impairment. For more information, I suggest reading Maulvi et al Eye (2025) 39:2635-2644.



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