

MYOPIA MOMENT

LIFESTYLE RELATED ADVICE

This Myopia Moment provides a brief overview of three lifestyle factors to include in conversations with children and their parents about myopia management. Please refer to the source references for more details.

1

TWO HOURS OUTSIDE PER DAY

WHAT WE KNOW:

Studies have found that time spent outdoors can help prevent or delay the onset of myopia or halt or slow its progression.

WHY?

While more research is ongoing, factors such as the 3D nature and bright light that come with time spent outdoors have a positive effect on the development and progression of myopia.

WHAT TO RECOMMEND?

Mention that the more time spent outside the better the effect. Suggest a minimum 2 hours per day of outdoor activity at any point during the day, including school time.

- Filtrcroft DJ. The complex interactions of retinal, optical and environmental factors in myopia aetiology. *Prog Retin Eye Res* 2012;31:622-660.
- Ngo C. Does sunlight (bright lights) explain the protective effects of outdoor activity against myopia? *Ophthalmic Physiol Opt* 2013;33:368-372.
- Ramamurthy D et al. A review of environmental risk factors for myopia during early life, childhood and adolescence. *Clin Exp Optom* 2015;98:497-506.
- Wolffsohn JS et al. IMI - Myopia Control Reports Overview and Introduction. *Invest Ophthalmol Vis Sci*. 2019; 60(2):M1-M19.
- Wu PC et al. Increased Time Outdoors Is Followed by Reversal of the Long-Term Trend to Reduced Visual Acuity in Taiwan Primary School Students. *Ophthalmology* 2020; 127(11):1462-1469.



2

TWO EXAMS PER YEAR

WHAT WE KNOW:

It is important to provide comprehensive eye exams to children early to delay the onset or slow the progression of myopia. The signs of a child becoming myopic may already be evident in 4 year-olds.

WHY?

Behavioral changes and optical interventions have the most impact when initiated as early as possible.

WHAT TO RECOMMEND?

- Encourage pre-school age children to come in for a comprehensive eye exam.
- Follow-up: Yearly examinations or twice a year for children at particular risk.

- Breslin, KMM. A Prospective Study of Spherical Refractive Error and Ocular Components Among Northern Irish Schoolchildren (The NICER Study). *IOVS* July 2013, Vol.54, 4843-4850.
- Gifford KL et al. IMI - Clinical Management Guidelines Report. *Invest Ophthalmol Vis Sci*. 2019;60(3):M184-M203.



3

TWO HOURS MAXIMUM OF SCREEN TIME

WHAT WE KNOW:

Some studies have found a correlation between screen time and near work with the onset of myopia.

WHY?

Further research is needed to understand why excess viewing on devices and near work may influence myopia, but eye care professionals have reported higher rates of myopia during the COVID-19 pandemic as more children have increased near work or near viewing of either paper based materials or devices.

WHAT TO RECOMMEND?

Encourage patients to follow the 20-20-20 rule: for every 20 minutes spent looking at a screen, take a break by looking at least 20 feet (or 6 meters) away for 20 seconds.

- Wildsoet CF et al. IMI - Interventions Myopia Institute: Interventions for Controlling Myopia Onset and Progression Report. *Invest Ophthalmol Vis Sci*. 2019;60(3):M106-M31
- Wolffsohn JS et al (2019). Myopia Control Overview and Introduction. *International Myopia Institute*.
- Xiong S et al. Time spent in outdoor activities in relation to myopia prevention and control: a meta-analysis and systematic review. *Acta Ophthalmol* 2017;95:551-566.
- Ma M et al. COVID-19 Home Quarantine Accelerated the Progression of Myopia in Children Aged 7 to 12 Years in China. *Invest Ophthalmol Vis Sci*. 2021 Aug 2;62(10):37.
- Yang Z et al. Pediatric Myopia Progression During the COVID-19 Pandemic: Home Quarantine and the Risk Factors: A Systematic Review and Meta-Analysis. *Front Public Health*. 2022 Jul 22;10:836449.
- Li C et al. Prevalence, correlates, and trajectory of screen viewing among Chinese children in Changsha: a birth cohort study. *BMC Public Health*. 2022 Jun 11;22(1):1170.

