

This Myopia Moment gives you a brief overview of the measurements to include in an eye examination of a child with myopia or at risk of developing myopia. Please refer to the source references for more details.

PATIENT HISTORY

A DETAILED PATIENT HISTORY SHOULD INCLUDE THE FOLLOWING:

- Family history of refractive error. (parents and siblings)
- Time spent on near work and using digital devices.
- Date of myopia onset if present.
- · Any previous treatment for myopia.

STANDARD PROCEDURE

DISTANCE AND NEAR VISUAL ACUITY Uncorrected and best corrected

- Use age-appropriate chart.
- · Record findings for monitoring and follow-up.

OCULAR HEALTH CHECK

- Internal.
- External.
- Intraocular pressure.

REFRACTION

(subjective and/or objective)

· Children at risk for developing myopia may be identified by comparing their refractive status to the normal refraction for their peer group.

ACCOMMODATIVE AND BINOCULAR VISION (BV) TESTING

- Even before myopia develops, children may show BV disorders.
- Watch out for reduced accommodative response, increased accommodative lag and higher AC/A ratios.

MYOPIA RELATED MEASUREMENTS

CYCLOPLEGIC REFRACTION INCLUDING DROPS (BEST PRACTICE)

WHY?

For added precision assessing young children who may not be able to verbalize their vision issues.

HOW?

2 drops of 1% tropicamide or cyclopentolate, 5 minutes apart. Refraction 30 to 45 minutes after first drop.

ALTERNATIVE METHOD

Retinoscopy with accommodation well controlled.

FUNDUS CHECK

WHY?

To document if there are early features of myopiarelated pathology.

HOW?

Thoroughly examine central and peripheral retina under dilation, and where possible, record observations using OCT and/or fundus photography.

AXIAL LENGTH MEASUREMENT (AL)

WHY?

To assess risk of developing myopia and to monitor progression.

- Preferably use a non-contact optical biometer.
- Risk scenario: AL is >25 mm with growth of 0.2 to 0.3 mm/year.

TEAR FILM EVALUATION

To guide clinical decision making on optical interventions, particularly contact lenses, so that they can be worn comfortably and compliantly.

HOW?

Ask probing questions and use a slit lamp biomicroscopy to examine the anterior eye.



- Faghihi H et al. Optical coherence tomographic findings in highly myopic eyes. J Ophthalmic Vis Res. 2010;5:110-121.
 Flitcroft DI et al. IMI Defining and Classifying Myopia: A Proposed Set of Standards for Clinical and Epidemiologic Studies. Invest Ophthalmol Vis Sci 2019; 60(3): M20-M30.
- Gifford KL et al. IMI Clinical Management Guidelines Report, Invest Ophthalmol Vis Sci. 2019:60(3):M184-M203.
- Lam C. Diagnostic drugs. In: Rosenfield ML, Logan NS, eds. Optometry: Science, Techniques and Clinical Management. Edinburgh: Butterworth-Heinemann; 2009:105-120.
 Morgan et al: Estimation of ocular axial length from conventional optometric measures. CLAE 43 (2020).