**Massachusetts Department of Elementary and Secondary Education
Creating Developmentally Appropriate Learning Environments for**

**Young Children, Preschool to Grade 3**

September 2021

# Brief 6: Early Childhood Vision Health

The following early childhood brief was created as a companion document for the [Elements of High Quality Kindergarten](https://www.doe.mass.edu/sfs/earlylearning/resources/hq-kindergarten.docx), [Elements of High Quality Elementary Classrooms](https://www.doe.mass.edu/sfs/earlylearning/resources/hq-elementary.docx) and the [joint position statement on play as an instructional strategy](https://www.doe.mass.edu/sfs/earlylearning/resources/play-statement.docx). The brief contains a summary of this topic along with strategies and approaches that reflect high quality early childhood practices. Each brief is typically followed by a list of related resources and references that were used to develop the brief.

The full set of briefs can be found on the [Department’s Early Learning webpage](http://www.doe.mass.edu/sfs/earlylearning/resources/).

* **Brief 1: Collaboration with Community Based Partners**
* **Brief 2: Culturally Responsive Family Engagement**
* **Brief 3: Supporting Social-Emotional Learning and Well-Being in Culturally Responsive Ways**
* **Brief 4: Creating Antiracist Environments for Young Children**
* **Brief 5: Planning for Developmentally Appropriate Practices**
* **Brief 6: Early Childhood Vision Health**
* **Brief 7: Kindergarten Screening**

While the topics of these briefs are relevant to all grades, Preschool to 12th Grade, they are written with a particular focus on our youngest students, Preschool to 3rd grade.

 **Early Childhood Vision**

Healthy vision is an important part of development and learning Vision problems in children are common, and vision can change throughout childhood. According to the [National Center for Children's Vision and Eye Health](https://nationalcenter.preventblindness.org/), one in five Head Start children have a vision disorder that requires treatment from an eye doctor. [Signs of a vision problem](https://childrensvision.preventblindness.org/signs-and-sympltoms-of-a-vision-disorder-in-preschoolers/) are not always obvious, especially in young children. Early intervention when vision problems are identified is crucial.

Hyperopia (farsightedness) is a vision condition in which distant objects are usually seen more clearly than close ones ([American Optometric Association](https://www.aoa.org/healthy-eyes/eye-and-vision-conditions/hyperopia?sso=y)). Uncorrected moderate to high hyperopia has been shown to interfere with a young student’s ability to acquire early learning skills such as letter recognition and reading *(Ophthalmology 2016; 123: 681–9)*, and may cause a child difficulty staying on task during long periods of up-close work.

Myopia (nearsightedness), is a condition in which close objects look clear but distant objects appear blurred. While myopia is related to genetics, eye care practitioners and researchers have also determined that hours of close work such as reading or screen time without visual breaks, and especially with limited access to sunlight, can increase the likelihood of the development of myopia.  Myopia can worsen throughout childhood particularly during growth spurts. ([American Academy of Ophthalmology](https://urldefense.com/v3/__https%3A/www.aao.org/eye-health/diseases/myopia-nearsightedness__;!!CUhgQOZqV7M!wR3stTz4LZ_hboHupwoopjNv3d6KYtXa02kWlHkIJWotvxngR3K371uA8XMpFa-MKLy9Tk8$)) Having high Myopia, which is defined as nearsightedness of -6.00 diopters or greater ([American Association for Pediatric Ophthalmology and Strabismus](https://aapos.org/glossary/progressive-high-myopia)), raises the risk of developing more serious eye problems in adulthood, such as retinal detachment or glaucoma.

Common visual symptoms students may experience with either hyperopia or myopia include blurry distance and/or near vision, burning eyes, eyestrain, and headaches especially with prolonged reading or screen time. Some of these symptoms can be alleviated by giving the eyes visual breaks from prolonged near work. Without treatment, some symptoms can worsen, especially for students with underlying vision difficulties that have not been addressed, such as uncorrected refractive error (when the eye cannot clearly focus an image), alignment or accommodation (focusing) issues.

All children need to receive mandated vision screenings to help detect vision problems early. Children who do not pass their screening need to be referred for a comprehensive eye examination by an eye care provider and receive follow up care and treatment (e.g., glasses, contacts, surgery, etc.) as recommended. When children do not have regular touch points with pediatricians for well child visits, or do not receive mandated vision screenings performed by school nurses, unidentified and untreated vision problems may cause difficulty with learning, social-emotional interactions, or behavior.

There are a number of practices that can help to slow the development of myopia, as well as mitigate other vision symptoms a student may experience:

* Ensure that school nurses are provided with adequate resources, staff, and space to perform ALL mandated health screenings [(vision, hearing, height/weight/Body Mass Index (BMI)] with an emphasis on vision screenings;
* Collaborate and communicate with school nurses and social workers - to ensure that families who receive a school-based vision screening referral are supported with access to adequate resources to follow up with a comprehensive eye exam and future treatment of their vision;
	+ This may include co-creating a vision-related treatment plan for the child in the school setting;
	+ When appropriate, inform families of different options for paying for prescription glasses, including free ones from MassHealth.
* Understand the signs and symptoms of untreated vision disorders in [preschoolers](https://childrensvision.preventblindness.org/signs-and-sympltoms-of-a-vision-disorder-in-preschoolers/) and [grade school students](https://childrensvision.preventblindness.org/signs-and-sympltoms-of-a-vision-disorder-in-grade-school-children/) which may include behaviors such as avoidance of school work, “dislike” of close activities such as reading, or repeated complaints such as fatigue and headaches;
* Know which students in each classroom [need vision treatment](https://childrensvision.preventblindness.org/information-for-educators/) (e.g. prescription eyeglasses, or patching) and how the recommended treatment should be used during class time;
* Model and provide periodic visual breaks per hour (looking up and out for 30 seconds) during screen time and other close work (e.g., reading);
* Provide outside time for students whenever possible (e.g., outdoor learning, recess, physical education, class work, etc.); and
* For students who have difficulties paying attention for long periods of time or who have *any* academic difficulty, a comprehensive eye examination should be encouraged, as the difficulty could be related to an unaddressed and treatable vision problem.

A student’s ability to see clearly has far reaching implications on their cognitive, social-emotional developmental, and physical health.  We encourage administrators and educators to work with school nurses and other medical professionals to ensure that strategies are developed to address all areas of child development. Supporting early detection through screening, and timely follow up and treatment of vision disorders as they occur, will set the fundamental groundwork for the student’s learning.

**Resources for Early Childhood Vision Health**

* [National Center for Children's Vision and Eye Health](https://nationalcenter.preventblindness.org/)
* For more information and downloadable parent/caregiver and educator resources visit: [www.childrensvisionmassachusetts.org](http://www.childrensvisionmassachusetts.org) or [www.preventblindness.org](http://www.preventblindness.org)
* [Resources for Practitioners and Programs for Educators: Signs and Symptoms of a Vision Disorder in Preschoolers](https://childrensvision.preventblindness.org/signs-and-sympltoms-of-a-vision-disorder-in-preschoolers/)

**References for Early Childhood Vision Health**

* [American Academy of Ophthalmology](https://urldefense.com/v3/__https%3A/www.aao.org/eye-health/diseases/myopia-nearsightedness__;!!CUhgQOZqV7M!wR3stTz4LZ_hboHupwoopjNv3d6KYtXa02kWlHkIJWotvxngR3K371uA8XMpFa-MKLy9Tk8$)
* [American Optometric Association](https://www.aoa.org/healthy-eyes/eye-and-vision-conditions/hyperopia?sso=y)
* *Uncorrected hyperopia and preschool early literacy: results of the Vision in Preschoolers-Hyperopia in Preschoolers* [*(VIP-HIP) Study*](https://pubmed.ncbi.nlm.nih.gov/26826748/)*. Ophthalmology 2016; 123:681–9*.