

**AOA Provider to Provider Engagement**

**Children’s Comprehensive Eye Exam Pediatrician Outreach**

**September 2018**

*For more information, please contact***Alison Manson**

**AManson@aoa.org
American Optometric Association**

**Table of Contents**

Introduction Letter from AOA President……………………………………………………………………………………..3

**Doctor of Optometry Letter to Pediatrician…………………………………………………………………….…………….4**

**Optional Content to Supplement Letter………………………………………………………………………………..…………6**

**Evidence-Based Clinical Practice Guideline: Comprehensive Pediatric Eye and Vision Examination Summary for Pediatricians……………………………………………………..………………………..…7**

**Resources and Materials on Pediatric Eye Health…………………………………………………………………………………………11**



Dear Colleague,

I know you’ve seen the *Evidence-Based Clinical Practice Guideline: Comprehensive Pediatric Eye and Vision Examination* that the AOA released last year, and I hope that it’s proved a useful tool for your practice. However, an issue we continue to face is that some of our pediatrician colleagues don’t appreciate the complexity of children’s vision and ocular health. Instead, they favor office-based screenings over comprehensive eye exams that can diagnose and treat vision problems with a potential lifelong impact. This can mean that parents have a false sense of security regarding their child’s ability to see and process visual information and that children aren’t making it into your office for the care they need to succeed in school, sports, and social activities.

In an attempt to reach out to our colleagues across disciplines to improve the care for children and create long-term referral relationships, we have developed a small toolkit for you. It includes a draft letter to your local pediatricians (or family physicians) about the importance of providing the right care at the right time and offering a brief introduction to the pediatric guideline and you, their local doctor of optometry. The toolkit also includes a summary of the pediatric guideline designed specifically for the health professional audience, and links to the guideline itself.

I hope you will use this toolkit, modify and personalize the draft letter, and share it with your local colleagues caring for children. I will also be offering myself as a further resource to those doctors, in the belief that we can provide the best care possible for our patients by working together.

Please feel free to contact me with any questions.

Sincerely,



Samuel D. Pierce, O.D.

President, American Optometric Association

**LETTER TO PEDIATRICIAN (PHYSICIAN ACQUAINTANCE)**

Dear Colleague,

I am writing to share the new and improved clinical guidelines for ocular health in pediatrics. Please find attached the *Evidenced-Based Clinical Practice Guideline: Comprehensive Pediatric Eye and Vision Examination*. I hope the guideline will serve as a valuable resource for your team and practice. I urge you to review it, share with your staff and refer your patients for comprehensive eye care. I would also ask you to call with any questions.

The comprehensive eye examination is vital to diagnosing and treating amblyopia, strabismus, refractive errors such as myopia, which is reaching epidemic levels in the pediatric population, as well as accommodative and binocular vision anomalies, such as convergence insufficiency, that impact a significant number of children and can cause particular reading and visual challenges.1, 2 Screenings may identify some children at risk for vision problems, but an in-person comprehensive eye exam is the only way to make the bridge between an accurate and definitive diagnosis and appropriate treatment.4

I hope, in light of the information I’ve shared, you will consider encouraging all of your patients’ parents to obtain comprehensive eye examinations for their children to facilitate their fullest potential for visual development. I am happy to work with you to examine and treat pediatric patients and I know my optometric colleagues are as well.

I have included a summary of the guideline with this letter for your reference, as well as some background information and links to financial resources. Please don’t hesitate to call or email me with any comments or questions. I can be reached at xxx. I look forward to working with you as we care for the children in our community together.

Sincerely,

1. Cooper J, Jamal N. Convergence insufficiency-a major review. Optometry 2012; 83:137-58.
2. Borsting E, Mitchell GL, Kulp MT, et al. Improvement in academic behaviors after successful treatment of convergence insufficiency. Optom Vis Sci 2012; 89:12-18.
3. [https://www.edweek.org/ew/articles/2018/05/30/a-third-of-students-need-eye-exams.html](http://www.edweek.org/ew/articles/2018/05/30/a-third-of-students-need-eye-exams.html)
4. National Academies of Sciences, Engineering, and Medicine. 2016. Making Eye Health a Population Health Imperative: Vision for Tomorrow. Washington, DC: The National Academies Press. doi: 10.17226/23471.

**LETTER TO PEDIATRICIAN (PHYSICIAN NONACQUAINTED)**

Dear Colleague,

I am writing to introduce myself and share the new and improved clinical guidelines for ocular health in pediatrics. Please find attached the *Evidenced-Based Clinical Practice Guideline: Comprehensive Pediatric Eye and Vision Examination*. I hope the guideline will serve as a valuable resource for your team and practice. I urge you to review it, share with your staff and refer your patients for comprehensive eye care. I would also ask you to call with any questions.

The comprehensive eye examination is vital to diagnosing and treating amblyopia, strabismus, refractive errors such as myopia, which is reaching epidemic levels in the pediatric population, as well as accommodative and binocular vision anomalies, such as convergence insufficiency, that impact a significant number of children and can cause particular reading and visual challenges.1, 2 Screenings may identify some children at risk for vision problems, but an in-person comprehensive eye exam is the only way to make the bridge between an accurate and definitive diagnosis and appropriate treatment.4

I hope, in light of the information I’ve shared, you will consider encouraging all of your patients’ parents to obtain comprehensive eye examinations for their children to facilitate their fullest potential for visual development. I am happy to work with you to examine and treat pediatric patients and I know my optometric colleagues are as well.

I have included a summary of the guideline with this letter for your reference, as well as some background information and links to financial resources. Please don’t hesitate to call or email me with any comments or questions. I can be reached at xxx. I look forward to working with you as we care for the children in our community together.

Sincerely,

Cooper J, Jamal N. Convergence insufficiency-a major review. Optometry 2012; 83:137-58.

1. Borsting E, Mitchell GL, Kulp MT, et al. Improvement in academic behaviors after successful treatment of convergence insufficiency. Optom Vis Sci 2012; 89:12-18.
2. [https://www.edweek.org/ew/articles/2018/05/30/a-third-of-students-need-eye-exams.html](http://www.edweek.org/ew/articles/2018/05/30/a-third-of-students-need-eye-exams.html)
3. National Academies of Sciences, Engineering, and Medicine. 2016. Making Eye Health a Population Health Imperative: Vision for Tomorrow. Washington, DC: The National Academies Press. doi: 10.17226/23471.

**Optional Content to Supplement Letter**

The following language is for a doctor’s incorporation in the pediatrician letter in the event that they would like to emphasize participation in the InfantSEE® program or sports training. Doctors should also incorporate any other professional specialties or information they deem relevant.

**INFANTSEE PROVIDERS**

In addition, I participate in InfantSEE®, a public health program that is designed to ensure that eye and vision care is available to all infants to set them on the course for a lifetime of healthy vision. Under this program, participating optometrists provide a comprehensive infant eye assessment between six and 12 months of age as a no-cost public service and I would be happy to see the youngest patients in your practice through this program.

**SPORTS EMPHASIS**

As a provider with a sub-specialty of sports and performance vision, I would encourage you to send any patients participating in youth sports for a sport-centered eye examination. Besides the traditional skills testing and health evaluations included in a comprehensive examination, there are many concussion baseline tests that can be established in case the athlete sustains a mild TBI. After a head injury, children will often have prolonged return to learn situations due to accommodative and convergence issues that we can address at our office as well.

Guideline Brief 2018

EVIDENCE-BASED CLINICAL PRACTICE GUIDELINE

**COMPREHENSIVE PEDIATRIC EYE AND VISION EXAMINATION RESOURCE FOR PEDIATRICIANS**

**OVERVIEW**

**TOPICS**

The American Optometric Association (AOA) convened an expert panel in 2017 to develop an evidence-based guideline that recommends annual comprehensive eye exams for children. This guideline is intended to help ensure all children’s health care providers have the latest, scientifically based information to provide the best care for their young patients.

This guideline shows which tests and interventions are proven to optimize a child’s eye care and the frequency with which children should receive a comprehensive eye exam to ensure their visual health.

.

**1. AN EPIDEMIC OF UNDIAGNOSED EYE AND VISION PROBLEMS**

**2. SEEING A SOLUTION**

**3. COMPREHENSIVE PEDIATRIC EYE EXAMS ARE ESSENTIAL**

**4. EVIDENCE-BASED STEPS FOR PROTECTING PEDIATRIC PATIENT’S EYES**

**5. CONCLUSION**

[**See Full Guideline Here**](http://aoa.uberflip.com/i/807465-cpg-pediatric-eye-and-vision-examination)

**1. AN EPIDEMIC OF UNDIAGNOSED EYE AND VISION PROBLEMS**

Eyes mature even as a fetus develops, and the rapid changes a child goes through in the first six years of life are critical in the development of good eyesight. This same time frame represents a “vulnerability” period – one in which children are most susceptible to harmful vision changes.

Children play and learn to develop skills needed for a successful life. If their eyes have problems or their vision is limited – as is the case with at least 25 percent of school-age children – their ability to participate in sports, learn in school, and observe the world around them may be significantly impaired and they can easily fall behind their peers.

**1 IN 5 PRESCHOOLERS HAVE VISION PROBLEMS, AND BY THE TIME THEY ENTER SCHOOL, 25% WILL**

**NEED OR WEAR CORRECTIVE LENSES**

Comprehensive annual exams by an eye doctor (doctor of optometry or ophthalmologist) can diagnose and address a spectrum of conditions not captured by routine screening tools, as well as provide a baseline against which to compare future tests.

Eye and vision care needs to be given the same level of importance and attention as other standard medical practices, a viewpoint that is supported by the 2016 Health and Medicine Division of the National Academies of Sciences, Engineering, and [Medicine (NASEM) report "Making Eye Health a Population Health Imperative:](http://www.nationalacademies.org/hmd/Reports/2016/making-eye-health-a-population-health-imperative-vision-for-tomorrow.aspx)  [Vision for Tomorrow."](http://www.nationalacademies.org/hmd/Reports/2016/making-eye-health-a-population-health-imperative-vision-for-tomorrow.aspx)

**2. SEEING A SOLUTION**

In response to a request from Congress, the Agency for Healthcare Research and Quality (AHRQ), issued two reports in March 2011: *Clinical Practice Guidelines We Can Trust* and *Finding What Works in Health Care: Standards for Systematic Reviews*. The AOA followed these standards to develop a new evidence-based guideline with interventions proven to optimize a child’s eye health and vision care, including how frequently children should have a comprehensive eye exam to ensure their visual health.

**THE TOTAL ECONOMIC COST OF VISION LOSS AND EYE DISORDERS AMONG CHILDREN YOUNGER THAN 18 YEARS OF AGE IN 2012 WAS ESTIMATED TO BE**

**$5.9 BILLION**

Among the expert advice in the guideline to ensure optimal eye care for children is the recommendation that children be given comprehensive eye and vision exams at key milestones in their development.

* **Infants** should receive an in-person comprehensive eye and vision assessment between 6 and 12 months of age for the prevention and/or early diagnosis and treatment of sight-threatening eye conditions and to evaluate visual development
* **Preschoolers** should receive at least one in-person, comprehensive eye exam between the ages of 3 and 5 to

prevent or diagnose any condition that may have long-term effects

* **School-aged children (6 to 18 years)** should receive a comprehensive in-person exam prior to entering the first grade and annually thereafter

**3. COMPREHENSIVE PEDIATRIC EYE EXAMS ARE ESSENTIAL**

Children may not be aware they are having vision problems. Research has shown that vision problems are associated with delayed development, poor performance in school and social settings, and low self-esteem. **The bottom line: the sooner eye problems are identified and addressed, the better the outcome in childhood and beyond.**

**TABLE 1: DISORDERS/ABNORMALITIES OF VISION/VISION HEALTH IN PEDIATRIC PATIENTS**

|  |  |
| --- | --- |
| **EYE AND VISION DISORDER TYPES\*** | **SIGNS/SYMPTOMS†** |
| REFRACTIVE ERROR - INABILITY TO CORRECTLY FOCUSMyopia (nearsightedness) Hyperopia (farsightedness)Astigmatism (eyeball has an oval shape) Anisometropia (eyes have different refractive errors) | Blurry vision Eye strain Headaches |
| AMBLYOPIA - DECREASED VISION IN ONE OR BOTH EYES DUE TO A HIGH REFRACTIVE ERROR, STRABISMUS AND/ORFORM DEPRIVATIONUnilateral (one eye is weak) Bilateral (both eyes are weak) | Poor vision in affected eye(s) |
| STRABISMUS - MISALIGNMENT OF THE EYESEsotropia (eye deviates inward [towards each other]) Exotropia (eye deviates outward [away from each other]) Hypertropia (eye deviates upward)Hypotropia (eye deviates downward) | Crossed eyes Squinting or drifting eye Double visionPoor depth perception |
| NON-STRABISMIC BINOCULAR VISION PROBLEMS AND ACCOMMODATIVE DISORDERSBinocular disorders (disorders of convergence and divergence) Oculomotor dysfunction (poor eye tracking)Accommodative disorders (poor eye focusing) Convergence insufficiency (poor eye teaming) | Crossed eyes Squinting or drifting eye Double visionPoor depth perception |
| OCULAR DISEASEOcular conditions due to prematurity (various types of visual disorders associated with premature birth)Cataract (loss of transparency of the lens)Glaucoma (increased pressure inside the eye that can cause vision changes and damage to the optic nerve)Retinitis pigmentosa (damage to retina due to degeneration of retinal cells) Retinoblastoma (intraocular cancer)Diabetic retinopathy (damage to the retina due to diabetes) Optic nerve hypoplasia (incomplete development of the optic nerve)Cortical (cerebral) visual impairment (vision problems due to brain damage) | Poor vision Peripheral vision loss Night blindness |
| CHRONIC VISION IMPAIRMENTSome disorders can result in vision impairment that cannot be corrected through traditional means (glasses, contact lenses, etc.). These children can receive specific care and personalized vision aids by visiting a doc-tor of optometry serving patients with chronic vision impairment. | Poor vision that cannot be corrected through traditional devices, such as glasses or contact lenses |

\* Not intended to be a complete list of pediatric disorders of vision/vision health. Selected subtypes/examples are shown for each disorder.

† Not intended to show signs/symptoms of all disorders/abnormalities in a disorder class. These represent signs/symptoms that may occur with specific disorders/abnormalities within the class. Specific potential signs/symptoms depend on actual disorder/abnormality and particular patient characteristics.

**4. EVIDENCE-BASED STEPS FOR PROTECTING PEDIATRIC PATIENT’S EYES**

**Eye Injuries**

Protective eyewear can effectively shield eyes and thereby preserve vision. Eye injuries to children account for approximately 70,000 emergency room visits each year, mostly involving teens between the ages of 15 and 17 years. Most injuries occur during play, participation in sports, exposure to household chemicals, accidents with tools or desk supplies, or careless use of tobacco, fireworks, or BB or pellet guns. Most of these injuries can be prevented by protective eyewear. However, only an estimated 14.5% of children wear eye protection when participating in activities that can cause eye injuries, although children 12 to 17 years old were 70% more likely to use protective eyewear than children 6 to 8 years old.

**Concussions**

A majority of concussions occur in the pediatric and adolescent population (ages 5 to 17 years), primarily among adolescents

11 to 17 years old. Children are particularly vulnerable to the consequences of concussion, and often have longer recovery times and poorer outcomes than adults. Approximately half of all concussed children experience convergence insufficiency, a condition in which the child’s eyes do not work together when trying to focus on a nearby object. When a concussion is suspected, a comprehensive eye exam should be scheduled with a doctor of optometry to confirm that visual capacity has not been affected.

**Sunlight and Artificial Light**

Excessive exposure to sunlight poses a significant threat to eye health. Ultraviolet (UV) radiation from the sun (especially when reflected off snow) can cause eye damage, particularly in infants and younger children. Conditions linked to childhood UV exposure include photokeratitis, keratoconjunctivitis, retinal damage, and squamous cell carcinoma of the cornea and conjunctiva, as well as age-related conditions such as cataracts and macular degeneration. Blue light from cellphones, TV, videogames, and computer screens may cause retinal damage and may interfere with a good night’s sleep, especially in adolescents. Children can reduce the potential for eye damage from UV radiation and blue light by not looking directly at the sun and wearing sunglasses with proper UV protection levels and/or clear prescription lenses and brimmed hats when outdoors.

**Impact of Near Work and Reduced Time Outdoors**

The prevalence of childhood myopia – difficulty seeing distant objects clearly – is on the rise. The large amount of time children spend on “near work” such as reading and their extensive use of computers, cellphones, and electronic devices that are positioned close to the face may cause this condition. At the same time, less time spent outdoors translates into less exercise for the child’s distance vision.

To delay or slow the progression of myopia, parents and care-givers should plan activities that bring children outdoors, where they can exercise their long-distance vision. Research suggests that extending the amount of outdoor time may help slow the “stretching” of the eyeball (axial elongation) that is caused by near work, and thereby help prevent not only severe myopia, but also such sight-threatening conditions as myopic retinopathy and retinal detachment.

**The Importance of Controlling Early Myopia (Nearsightedness)**

Myopia correction and control measures should begin early in life because early-onset myopia is associated with more rapid progression and eventual development of high myopia, which increases the risk of retinal detachment, cataracts, glaucoma, and other conditions. Effective corrective measures include progressive spectacles, prismatic bifocals, and multiple- or dual-focus contact lenses. In addition, the progression of myopia may be slowed by use of low-dose atropine drops and orthokeratology (contact lenses worn overnight to gently reshape the curvature of the eye).

**5. CONCLUSION**

Children are at risk for a wide range of eye and vision disorders, but regular comprehensive eye examinations conducted by an eye doctor both annually and at key developmental milestones in a child’s life can improve detection, diagnosis, and early prevention or treatment of eye conditions. Failure to address significant eye and vision conditions early may have long-term consequences not only on eye health, but also on educational attainment, professional opportunities, and quality of life.

Physicians can play an essential role in educating parents and caregivers about pediatric eye care, and in encouraging the proactive protection of children’s eye health by adhering to the AOA’s recommended schedule for comprehensive pediatric eye and vision examinations and implementing the practices recommended by the AOA in this evidence-based guideline.

A comprehensive eye exam should be an essential part of a child’s back-to-school preparation.

**Please visit** [**AOA.org**](http://www.aoa.org/) **for more information and to help your pediatric patients find a doctor of optometry.**

4



# AOA Children’s Vision Webpage

[https://www.](http://www.aoa.org/patients-and-public/good-vision-throughout-life/childrens-vision)aoa.o[rg/patients-and-public/good-vision-throughout-life/childrens-vision](http://www.aoa.org/patients-and-public/good-vision-throughout-life/childrens-vision)

This webpage provides an overview of vision care and health for Infants (Birth to 24 Months of Age), Preschoolers (3 to 5 Years of Age), and School-aged children (6 to 18 Years of Age).

# Evidence-Based Clinical Practice Guideline: Comprehensive Pediatric Eye and Vision Examination

<http://aoa.uberflip.com/i/807465-cpg-pediatric-eye-and-vision-examination>

This guideline was developed by the American Optometric Association and accepted by the National Guideline Clearinghouse (NGC). The guideline provides best practices on eye exam procedures and strictly follows the National Academies of Sciences, Engineering, and Medicine (NASEM, previously the Institute of Medicine) standards for producing trustworthy clinical care guidelines.

# InfantSEE®

<http://www.infantsee.org/>

InfantSEE is a public health program that is designed to ensure that eye and vision care is available to all infants to set them on the course for a lifetime of healthy vision. Under this program, participating optometrists provide a comprehensive infant eye assessment between 6 and 12 months of age as a no-cost public service.

# AOA Doctor Locator

[https://www.](http://www.aoa.org/doctor-locator-search)aoa.o[rg/doctor-locator-search](http://www.aoa.org/doctor-locator-search)

This online directory can allow for individuals to search for doctors who treat particular age segments or specialties.

**Sight for Students** <http://www.sightforstudents.org/> Telephone: 1-888-290-4964

Sight for Students is a Vision Service Plan (VSP) program that provides eye exams and glasses to children 18 years and younger whose families cannot afford vision care.

11