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## The Importance of Eye Coordination for Schoolwork and Play

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### What is eye coordination?



Eye coordination is the ability for both eyes to work together as a team. Each of your eyes sees an ever so slightly different image and your brain, by a process called *fusion*, blends these two images into one, three-dimensional picture. Good eye coordination keeps the eyes in proper alignment.

### How does poor eye coordination affect vision?



Because the images seen by each eye must be virtually the same, a person with poor eye muscle control subconsciously must make an extra effort to maintain proper alignment of the eyes. In more severe cases, the muscles cannot adjust the eyes to see the same image; therefore, *double vision* occurs. Since the brain tries to avoid seeing double, it eventually learns to ignore the image sent by one eye. This can result in a serious vision condition commonly known as *lazy eye*, or *amblyopia*.

### What causes poor eye coordination?



Poor eye coordination results from a lack of adequate vision development or improperly developed eye muscle control.

Eye coordination is a developed skill. Although rare, an injury or even disease can cause poor eye coordination.

### How does a doctor diagnose poor eye coordination?



A comprehensive examination by a doctor of optometry can determine the extent, if any, of poor eye coordination or any other eye-related problems.

### How does the optometrist treat poor eye coordination?



Optometrists usually treat poor eye coordination by prescribing eyeglasses or vision therapy. The success rate for achieving proper eye coordination is quite high. Sometimes eye coordination will improve when the optometrist treats other vision conditions like nearsightedness (better vision up close than far away) or farsightedness (better vision far away than up close). In some cases, surgery may be necessary.

### What are some signs and symptoms of poor eye coordination?



In adults, signs and symptoms indicating poor eye coordination include double vision, headaches, eye and body fatigue, irritability, dizziness, and difficulty reading and concentrating. Young children may not be able to verbalize or explain if they're experiencing these same symptoms; therefore, teachers and parents should watch for children who cover one eye, skip lines or lose their place while reading or writing, hold reading materials close to the face, exhibit poor sports performance, avoid tasks that require close work, or tire easily after performing simple tasks.

### How does poor eye coordination affect reading and sports performance?



Some 10% of school-age children have problems coordinating their eyes or "eye teaming." Reading requires the eyes to point to the same spot on the printed page as well as the ability to maintain that coordination as the eyes scan across the page. The eyes of children with coordination problems have their eyes converge at a point beyond the page. In some cases, the eyes



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even have different focal length. When this condition remains undiscovered, the child has to fight with his or her eyes to get them to focus on the page. This lead to eyestrain as well as difficulties concentrating and staying on task. Some of these children may even be misdiagnosed as having *Attention Deficit Disorder* because some of the symptoms are similar.

Eye coordination problems can also be a factor in children diagnosed with *dyslexia*. When children attempt to make their eyes move across a printed line in a book, sometimes one eye loses the coordination and either moves ahead or moves back a letter or two. This can be one of the reasons the child reverses letters or words. Eye coordination is often the actual cause of some symptoms and may be confused with ADD and Dyslexia. As a first step, have the child's eyes examined to eliminate physical barriers to normal seeing.

Outdoor games and sports are another enjoyable and important part of children's lives. Whether playing catch in the backyard or participating in team sports at school, vision plays an important role in performance. A child who consistently underperforms a certain skill in a sport, such as always hitting the front of the rim in basketball or swinging late at a pitched ball in baseball, may have a vision problem. If visual skills are not adequate, the child may continue to perform poorly.

### Specific visual skills needed for sports include:



- Clear distance vision.
- Good depth perception.
- Wide field of vision.
- Effective eye-hand coordination.

### When should parents have a child's vision checked?

Unfortunately, parents and teachers often assume that if a child passes a vision screening at school, then there is no vision problem. However, school vision screenings usually test only visual acuity (sharpness or keenness)

for distance. A child seeing 20/20 can still have a vision problem because the vision skills needed for successful reading and learning are much more complex.

Vision changes can occur quickly without your child (or you) noticing them. Even if a child passes a school vision screening, optometrists (eye doctors) recommend a comprehensive examination beginning as early as six months, again at age three years, and afterward every two years or more frequently if the child:



- Shows **any** signs or symptoms of a vision problem previously listed, or if other risk factors exist.
- Is not performing up to his/her potential with school work or sports, even though they are quite capable.
- Is able to achieve (even minimally), but uses excessive time and exerts extra effort in doing so.

The earlier an optometrist can detect and treat vision problems, the more likely treatment will be successful. If needed, the optometrist can prescribe eyeglasses, contact lenses, or vision therapy to correct vision problems and improve vision for school or sports performance.



#### Resources:

- American Optometric Association – retrieved June 2015 from <http://www.aoa.org/patients-and-public/eye-and-vision-problems/glossary-of-eye-and-vision-conditions/eye-coordination?sso=y>  
 College of Optometry in Vision Development – *Signs & Symptoms of Learning-Related Vision Problems* retrieved July 2015 from <http://www.covd.org/?page=Symptoms>  
 Doctors of Optometry – Canada retrieved July 2015 from <http://doctorsofoptometry.ca/eye-coordination-difficulties/>

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