

Tracking

Tracking skills, or the ability to control the fine eye movements required to follow a line of print, are especially important in reading. Children with tracking problems will often lose their place, skip or transpose words, and have difficulty understanding because of their difficulty moving their eyes accurately. Many are forced to use their fingers to follow the line because their eyes can't.



When we read, our eyes don't move smoothly across the line. Instead, our eyes make a series of jumps and pauses as we read. The small jumps between words or groups of words are called saccades. The brief pause we make while looking at the words is called a fixation. After a fixation, we move our eyes to the next word or group of words—another saccade.

Focusing



Having 20/20 vision may not be enough to see the board. Our focusing system, technically called accommodation, allows us to see clearly, especially up close. Our eyes are designed for distance vision, so when we look at something nearby, the natural lens in our eye has to change shape to redirect light rays on the retina for near objects. It

also includes the ability to quickly shift focus when looking from near to far, such as when looking from our desk to the board. For children with accommodation problems, print will become progressively blurry as they read for longer periods of time, and their eyes will fatigue from the strain of trying to keep the print clear, giving them fluctuation of vision for near and far.

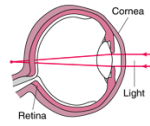
Children with focusing problems may hold their books very closely or lay their heads down. Headaches are very common. Reading glasses are often prescribed for the eyes to be more relaxed and to maintain focus especially for prolonged near work. Reading will be more fun, easy, interesting and comfortable.



Will my child need glasses?

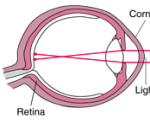
If your child is found to have a refractive error, glasses will be given to allow vision to develop properly. Some squints, particularly those which are caused by long sight, respond well to wearing appropriate glasses. Wearing glasses will not make the eyes weaker. It is possible that a mild degree of long sight in a child may be overcome with time and glasses may be discontinued when older. Short sight usually increases with age and so glasses will always be needed. A child with astigmatism usually has to continue to wear glasses in order to maintain clear vision.

Refractive errors



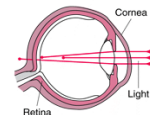
What is long sight?

Long sight is also known as farsightedness, hypermetropia or hyperopia. It occurs when the eye is too short and images focus behind the retina (the retina is the light sensitive layer of the inner eye which sends images to the brain). People with long sight can often see in the distance but have blurred vision close to them. If they have a high degree of long sight they may not see properly for near or distance. Long sight is usually hereditary and can be present from early childhood.



What is short sight?

Short sight is also known as myopia or near sightedness. It occurs when the eye is too long and images focus in front of the retina (the retina is the light sensitive layer of the inner eye which sends the images to the brain). People with short sight have difficulty seeing in the distance. Some small children have short sight; however, it more commonly develops in the teenage years. Short-sightedness is also hereditary.



What is astigmatism?

Astigmatism is caused by an unequal curvature of the front of the eye and these results in blurring of vision.

Learning-Related Vision Problems in Children



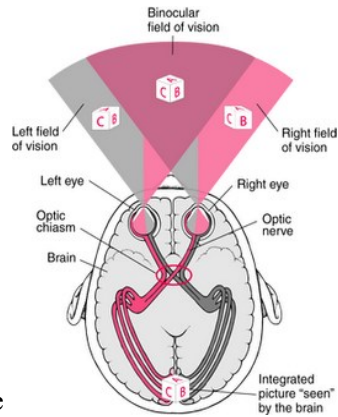
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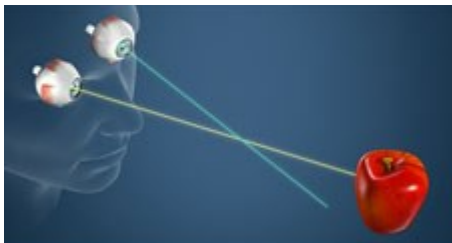
Understanding Learning-Related Vision Problems

Eye Teaming Problems

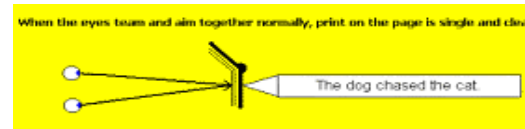
Our eyes are designed to work as a team, but each eye functions independently. When we look at something, each eye records an image. The two separate images are transmitted via the optic nerves to the brain, to be combined into a single picture.



For the system to work correctly, each eye must aim at the exact same point in space so that the images recorded are identical. The brain combines, or "fuses", the two incoming images for clear, comfortable single vision. Now, if the eyes aren't aiming together, the images recorded are slightly different. If the difference is big enough, the brain can't combine the two pictures. The result is double vision.

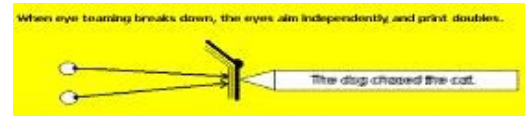


About ten percent of school-aged children have eye teaming problems, technically called: convergence insufficiency or convergence excess. At the close up distances required for reading, children with eye teaming problems are only able to aim their eyes together correctly for short periods of time. As their ability to accurately aim their eyes breaks down, their eyes end up pointing at slightly different places on the page.



When the eyes team and aim together normally, print on the page is single and clear.

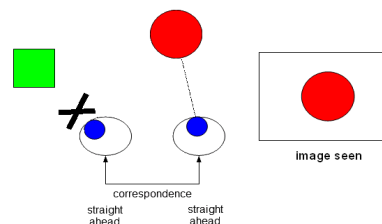
The result is visual strain and eventually blurred, scrambled, or "double print" and headaches.



When eye teaming breaks down, the eyes aim independently and print doubles.

Therefore, reading and comprehension become increasingly difficult as the child strains to aim both eyes at the same place to keep the print from blurring, jumping, or splitting.

To avoid seeing double, many children with eye teaming problems may suppress an eye. In other words, their brain "turns off" input. This allows them to maintain single vision because they're just using one eye.



While suppression helps the child cope, it's extremely tiring and robs the child of concentration.



Because these children have always seen this way, their vision seems normal to them. They don't recognize that they're fighting their eyes harder than anyone else just to maintain a clear, single picture. Very rarely do children realize something is wrong and report impermanent double vision or the eye strain and fatigue which usually accompanies suppression.



Left undiagnosed and untreated, eye teaming problems can appear to be a learning disability or dyslexia. They are not. Eye teaming disorders are visual problems, not language-based reading dysfunctions. The symptoms, however, are similar and only a complete eye exam by an optometrist/ophthalmologist trained to diagnose and treat eye teaming problems can determine for certain if vision is the basis of the child's struggle to read.

The GOOD NEWS, is that eye teaming problems can be treated successfully. CONVERGENCE excess is often correctable with reading glasses. CONVERGENCE insufficiency is usually corrected through glasses and vision therapy. A home-based therapy, called pencil push-ups, will be demonstrated by your Optometrist. During therapy, the child learns to gain control of his or her eye muscle coordination and builds the eye teaming skills necessary for success in school.

