

15th May 2015

Eye Dominance and Reading - crossing the midline

**Children who do not develop the
Bilateral Skill:**

**When a child has difficulty crossing
midline, it can affect his/her ability
to read.**



While the child is moving his/her eyes from left to right across the page, the eyes will stop at midline to blink and refocus; however, when this happens, the child will very frequently lose his/her place on the line and become confused as to where they left off. It also affects handwriting, as diagonal lines cross the midline, and the child may need to stop in the middle of the page to switch hands when writing from left to right. Many self care and daily living skills require crossing midline. For example, perfecting the skill of putting socks or shoes on requires one hand to cross over to the other side of the body.

Children who have difficulty crossing midline may appear ambidextrous because they are often observed using both hands, but they actually have a hidden neuroprocessing issue. Both sides of their brains are not communicating, resulting in decreased coordination, decreased motor control of movements and difficulties achieving higher level skills. Often, these children end up with two unskilled hands.

Activities to help develop the ability to Cross the Midline:

To help develop efficient crossing of the midline, provide children with a variety of two-handed (bilateral) activities. Try some of the below activities to help build more pathways in the brain and to develop the ability to cross the midline, improve coordination, and improve overall functional performance on a daily basis.



Right Brain/Left Brain Teasers-

- a. Pop bubbles with only one hand (they will have to reach across their body to pop the bubbles floating on the opposite side).
- b. Reach for bean bags, balls, stuffed animals, or other objects across midline, then throwing at a target.
- c. Draw large figure eights (the infinity sign or an 8 turned on its side) on paper, on the floor with a finger, in the air with a finger, or drive a matchbox car around a figure eight pattern.
- d. Let the child play with sand, scooping sand from one side of the body and putting it into a bucket on the opposite side of the body without switching hands.
- e. Let the child pretend to drive a car with a ball in his/her hands to use as a steering wheel and encourage the crossing of his/her arms as he/she turns the 'steering wheel' Or...In order to make this similar in style to most of the others—Pretend to drive a car with a ball in both hands to use as a steering wheel and cross both arms while turning the "steering wheel".
- f. Play flashlight tag. In a dimmed room, lie on your backs and have the child follow your flashlight beam projected on the wall with his own flashlight.
- g. Touch the opposite elbow and knee.
- h. Cross one foot over the other while walking sideways.
- i. Do "grapevine" walks.
- j. Knee Slap Walk- Walk around raising each knee while touching/slapping it with the opposite hand (or elbow). Change it to a skip while touching the opposite knee as it comes up.
- k. Windmills-Stand with feet spread apart and arms extended out to the sides. Bend over at waist and tap right hand to left foot. Stand back up and then bend and tap left hand to right foot.
- l. Point your left finger out and put your right thumb up. Switch them, and switch, and switch, and switch...
- m. Hold your nose, then cross the other hand over and grab your opposite ear. Slap your thighs and switch your hands...switch, slap, switch, slap...
- n. Write your name in the air while rotating your foot in a circle clockwise.
- o. Wash the car and make sure the arms cross midline while scrubbing.

You've read to your child since he or she was a baby, instilling the love for reading in him or her early. You taught him or her his letter sounds in kindergarten and phonics later on. He or she knows how to read but consistently resists it. You've purchased books that have inviting covers that ooze with excitement. The books sit in the same place everyday, unopened by anyone but you.

You love reading and you want your child to love it. But, you can't make him or her love reading. What do you do now?

Despite the best efforts of many parents and teachers, many children never become recreational readers because they have a visual processing problem that is making reading more work than they want to do even though they love the information that they receive from books.



Symptoms of Stress in the Visual System

1. Reading reversals (such as “was” for “saw” and “on” for “no”).
2. Skipping of words or lines when reading.
3. Rubbing of eyes after reading.
4. Oral reading that is smooth at the beginning of the page but becomes more laborious the longer the child reads.
5. Mispronunciation of simple words like “in,” “of,” and “to.”
6. Preference for large-print books.

If your child exhibits some of these symptoms, it would be worthwhile to do some further investigating to determine the depth of this problem.

Further Investigation

Check your child’s eye dominance. You can give your child an empty tube and ask him or her to sight with it, using it to see a distant object. Or, use a camera and have him or her take a picture. Observe which eye the child sights with. If your child is left eye dominant we have a clue.

In Japan, they read their characters from top to bottom; we read from left to right. To do this efficiently, we use our right eye to lead in reading. When a child is left eye dominant, he or she will begin the reading process by using his or her right, or non-dominant, eye but switch to his or her left, or dominant, eye when he or she reads further and becomes tired. This is when he or she will tend to skip words or lines or even reverse smaller words such as “of” into “to.” We would not consider changing a child’s eye dominance; however we can make the visual process more efficient by using some simple exercises that encourage both eyes to work together without stress.

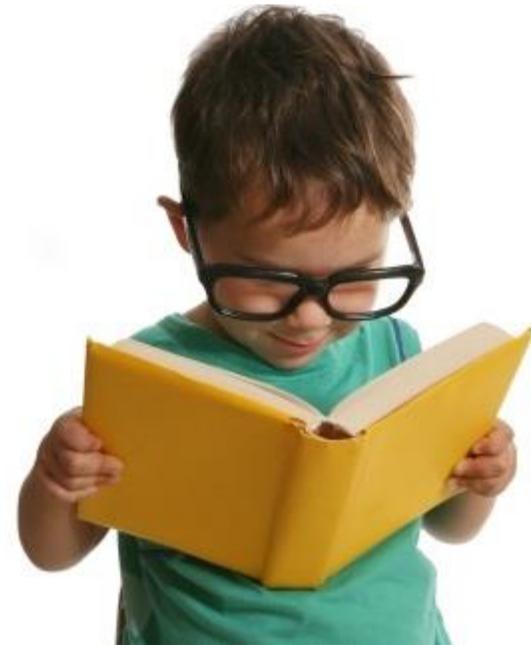
Check to see how your child tracks his eyes from left to right. There are five parts to reading and the most basic part is the mechanics of the eyes tracking smoothly from left to right. Take an interesting target and stand in front of your child with about 1 ½ feet between you. Move the target slowly from left to right about 8 times, having the child follow the target with his or her eyes. This is the same movement that his or her eyes need to make when he or she is reading. Have the child hold his or her head relatively still, without being stiff. Watch to see if your child shows signs of visual stress, such as:

1. His or her eyes shift off of the target.
2. His or her eyes get wider as he or she moves them.
3. His or her eyes water.
4. The child rubs his or her eyes when finished.

There are several things that you can do at home that will help alleviate this stress if you see signs of it in your child’s visual system. You can have your child perform an eye exercise that promotes eye teaming abilities while crossing the midline of the body called the Eye Eight exercise. Have the child hold his or her thumb out in front of his or her body while moving his or her arm in the formation of an eight lying on its side.

The movement starts at the midline—where the buttons of his shirt are—and goes up in the middle, then slowly to the left, then to the right. The eyes follow the motion of the thumb. Do this with the right hand for six full revolutions. Then, switch hands and do six eights with the left hand. To complete this exercise, place both thumbs together—elbow extended—and repeat the exercise, this time also moving the neck and head.

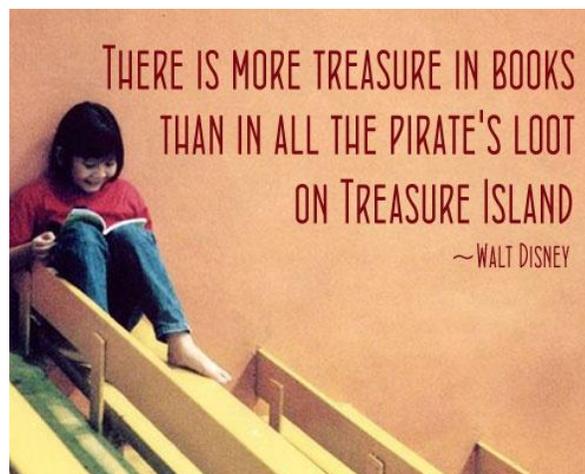
The reason why the child has to work harder at reading is because the process of eye tracking has not become automatic. The right brain hemisphere is responsible for the automatic movement of the eyes while the left brain is responsible for thinking about the contents. To further encourage this eye tracking process, you could have your child perform the Eye Eight exercise and then look upper right while doing the Cross Crawl exercise (touching a hand to the opposite knee). Do this for about a minute. This causes the right, automatic hemisphere, to become activated for the process of eye tracking and greatly increases the effect of the eye exercise.



Check your child for glare sensitivity. Does your child taking his or her reading assignment to a part of the room that has less light than the other areas? Many times, these children avoid bright lights because of the glare that they experience. This is called scotopic sensitivity. These children also squint with bright light outside and are bothered by the glare of headlights when in a car at night. There are two things that are helpful in reducing the impact of this problem.

Colored overlays or transparencies can be very helpful to make reading much more comfortable. Some of the most popular colors are blue or gray. Colored reading transparencies make reading easier for just about everyone, not only those children with glare sensitivity. Another simple home remedy is to add essential fatty acids to a child's diet. The retina of the eye contains rods and cones. The rods, which control light reactions, are made of stacks of fluid-filled membranes. These membranes are made up of oils, particularly the long chain fatty acid found in fish oils. I have received many reports from parents reporting the improvement in their child's vision after they began supplementing with good fish oil.

Don't despair. Your child will become a recreational reader once the reason has been found for his or her avoidance of reading. If we observe our children closely we find that they are always giving us the reason for the problem they are having. There are many ways to eliminate these problems.



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