

CLOSE-POINT VISION

Jeff, a third grader, had been referred because of an alarming degree of difficulty with reading. He had had difficulty with reading from the very beginning of his school experience, but nothing that his teachers did really seemed to help him. He had been placed in a remedial reading class, but his parents were skeptical about its helpfulness. He had been thoroughly evaluated medically, but there were no explanations there. His parents were searching for answers.

Jeff was tested at Restored Hope Remedial Services to try to determine what the root causes were for his reading problem. His vision and his vision perception, his auditory processing abilities, and even his language and communicational skills were thoroughly evaluated. The testing was intense, lasting for more than three hours in the morning, and continuing for another two and one-half hours after lunch. During the entire testing period, Jeff was a dream to work with. He didn't complain. He was not resistant, or sullen, or resentful. Instead, he was cooperative and helpful, pleasant and cheerful. He willingly did everything he was asked to do. He actually seemed to enjoy the testing, commenting several times about how quickly the time seemed to be passing.

When I shared this with Jeff's parents in our post-test conference, his father was amazed. "I was really worried about how he would behave during the testing," his father said. "Ordinarily, if you put a printed page in front of him, he is off the wall within minutes. His personality changes; he gets wild, and fights everything you try to make him do. How did you do it?" The simple answer was, "I didn't put a printed page in front of him. I didn't have him read."

The question we were trying to answer wasn't, "Does Jeff have a reading problem?" We already knew that. The testing done by Jeff's school, and the experience of his teachers and parents, told us that his reading was severely compromised. The question was, "What is the cause of his reading problem?" What was happening that made reading such a distasteful experience for Jeff? The answer that testing revealed was that Jeff had difficulties with close point vision.

What Is Close Point Vision?

Before testing began, Jeff's parents assured me that Jeff's pediatrician had checked his vision only two weeks before, and that his vision was perfect--20/20. Unfortunately, there were two problems with this test, as there are with many vision screens given in doctor's offices and in school settings.

First, the test given to Jeff at his doctor's office was likely a test for distance vision, administered at a distance of 20 feet. Unfortunately, reading does not occur at a distance of 20 feet. It occurs at about 16 inches. Would his visual acuity remain at 20/20 if it was measured at reading distance?

Second, vision is not just about visual acuity. It also involves other elements that enable us not just to see the world around us, but to interpret it clearly and accurately. These additional elements can be divided into three major categories:

1. Eye-teaming abilities, or the ability to use both eyes together
2. Accommodation, or focusing, the ability of the eyes to not only see clearly, but to keep that clear focus over extended periods of time and at varying distances.
3. Eye movements, the ability to accurately control the eyes to accomplish the tasks required at school and at home.

Eye-Teaming Skills

During any visual task, the brain receives two images, one from each eye.

If the images are very close to each other in appearance, the brain can fuse them together into one picture. This is why when we look at an object, we see only one image. This ability to get single vision using both eyes is called binocularity.

In order for the brain to be able to fuse the two images into one, both eyes must be looking at the same point. Otherwise, the images will be so different from each other that the brain cannot bring them together. The eyes must work together as a team; hence, the term "eye-teaming skills."

Some individuals have difficulty with eye teaming. The eyes might not point at the same place, or they might begin a visual task with both eyes working together, but then have one eye begin to "wander." Or, the eyes might be able to point together when looking at something in the distance, but cannot do so when the visual target--a book, perhaps--is up close.

Eye-teaming difficulties can cause many problems. Since binocularity is the means by which depth perception and orientation is judged, children with difficulties in this area may have problems with coordination. They may also have difficulty with blurring or with double vision. If an eye begins to wander while reading is taking place, that eye may pick up information from elsewhere on the page, and then try to fit it with the information the other eye is seeing. If the brain is having difficulty fusing the two images, it may switch off (suppress) the image from one of the eyes; this can cause confusion and a loss of visual information. Students with eye-teaming problems may be seen covering one of the eyes, or tilting the head extremely to try to adapt to the problem. Finally, eye-teaming difficulties can cause severe eyestrain.

Accommodation (Focusing)

As mentioned earlier, the ability to see clearly at 20 feet does not necessarily predict how clearly one will see at reading distance. For example, many people--both children and adults--have problems with farsightedness. Their distance vision is clear and sharp, but as objects get closer, they become blurrier. This obviously could cause major problems with reading, since reading is a close-point task.

However, let us assume that a child's distance vision and close-point vision are both clear and sharp. Does this mean that vision is adequate for reading? Not necessarily!

Reading a vision chart at any distance takes only a short period of time--perhaps as little as thirty seconds. However, reading a story or a book, or reading a homework assignment, takes much longer--sometimes hours. It is important to determine not only whether the letters and words on a page are clear, but also whether a child is able to keep them clear over an extended period of time. If print starts to blur, one would expect to see indications of this in a child's classroom performance--and, in fact, this is what actually happens.

Children with accommodation problems frequently do better on schoolwork toward the beginning of the day, when the eyes are rested. As the day progresses, and the focusing mechanism starts to tire, their reading comprehension starts to suffer. The time required to complete their work increases. They may start to experience eyestrain, or get headaches in the temples or forehead. Because close-point work is becoming more difficult to deal with, their attention begins to wander, they get increasingly frustrated,

and their behavior worsens. They may have difficulty copying material from the chalkboard, because the eyes can not adapt to the changes in focus required when looking back and forth from the chalkboard to the paper.

Eye Movements

For good vision to occur, the eyes must not only be able to see an object, but must also be able to exactly judge where that object is and track its movement. The eyes must also be able to move from point to point quickly and accurately. These tasks are accomplished by small muscles surrounding each eyeball. This ability to control eye movement enables people to obtain the greatest amount of information through the eyes with the least amount of effort.

Most people are completely unaware of how important accurate eye movements are to good vision, yet poor eye movements can cause extremely frustrating vision difficulties. Eye movement problems cause problems with judging the speed and direction of moving objects, thus contributing to coordination problems. Because accurately controlled eyes movements are essential to good eye-hand coordination, tasks involving eye-hand coordination (such as handwriting) may be affected. Because the movements required for accurate reading are perhaps the most precisely controlled muscular movements of the human body, reading can be drastically affected. Poor eye movements contribute to losing one's place while reading, leaving out words, skipping or repeating lines, jerky reading, the need to use a finger or a marker to keep one's place on the page, and excessive head movement while reading.

What Can Be Done About Close-Point Vision Problems?

It is understood that some vision problems can be corrected with glasses. Many vision problems, however, will not respond to lenses. In Jeff's case, there were severe problems in all three of the above-mentioned areas. Jeff was referred to a vision professional who specializes in close-point vision difficulties, also referred to as a developmental vision specialist. These doctors, usually optometrists, are licensed to not only prescribe lenses, but also to prescribe therapy consisting of carefully designed exercises that can train the visual responses of the eyes. By following the recommendations of a close point vision specialist, most vision difficulties that are not related to medical problems can be corrected in a very reasonable length of time.

For close-point vision difficulties, as with many factors that contribute to learning problems, there is ***Hope***.

For additional information, please refer to the websites, www.healthy.net/oep and www.covd.org.