

Could Vision Issues Be Contributing to Your Child's Difficulty With Learning?

By Debbie Walhof, MD and Leonard Press, OD



Parents and educators often ask us questions about [vision therapy](#) and if it can be helpful for children with LD. While vision problems are not the cause of dyslexia or other learning disabilities, vision issues such as convergence insufficiency can certainly interfere with learning and contribute to difficulties with attention and behavior. And some practitioners report that convergence insufficiency may be more common in individuals with LD and ADHD.

We turned to a pediatrician, Debbie Walhof, MD, and an optometrist, Leonard Press, OD, to answer questions about vision therapy, convergence insufficiency, and what parents should know if they are considering vision therapy for their child.

What is Convergence Insufficiency (CI)? Is it related to dyslexia?

Our eyes are designed to work together to give us single, clear vision. Convergence Insufficiency (CI) is an eye coordination disorder, where the two eyes do not work together the way they are supposed to. As with any disorder, you can have a mild to severe case. The more severe the disorder, the more difficult it is for the eyes to work in ways that support effective reading. Some of the more common symptoms of CI are similar to those symptoms described by individuals with dyslexia or another reading disability when they describe what they “see” while reading, so it could be easy to confuse the two.

For example, CI can cause double vision or “ghosting” of print. Since children do not know how they are supposed to see, they rarely complain when they see double. Instead they struggle with reading, often avoiding it at every opportunity. They may be able to read aloud in a very broken, non-fluid manner, yet they don't remember what they read.

Does CI occur more frequently in those with dyslexia than in the general population? What about in individuals who have ADHD and other disorders that impact learning, attention and behavior?

CI is estimated to occur at least three times more frequently in children diagnosed with ADHD as compared to the general population. Recent studies have established a link between CI and dyslexia,

particularly regarding the negative impact of CI on the type of eye movements used when reading, called “saccades” in the professional literature.

Can CI be treated? Will curing CI cure (or help treat features of) dyslexia?

According to research funded by the National Eye Institute, part of the National Institutes of Health, not only is it possible to treat CI, but the treatment of choice is in-office optometric vision therapy combined with home reinforcement activities. While vision therapy is an optometric specialty service, the research was conducted as a multicenter study involving ophthalmologists and optometrists in a variety of academic settings across the United States.

First, it is important to understand that optometric vision therapy treats vision problems, not learning disorders. Having said that, when a vision disorder is at the root of a child’s difficulties with reading, we often see children excel once the vision problem is corrected. For children who have severe learning difficulties, vision therapy resolves the visual component to their challenges. Tutoring and other services often become more successful once the vision problem has been treated.

I’ve heard people say that vision therapy is a waste of time. Why would they say that, and what should I believe?

There are a variety of possible reasons why someone would say vision therapy is a waste of time. Typically it is because they are not up to date on the scientific literature supporting vision therapy. Or perhaps they know of a child who was engaged in vision therapy for many months and for whom there seemed to be little or no apparent benefit in terms of improved performance in school. Here are some important rules of thumb:

Vision therapy provides a highly specialized type of treatment for a very specific set of vision-related problems. Not every child is a candidate, and vision therapy alone may not result in better school success.

As with any therapeutic intervention, it must be implemented with fidelity. Professionals must use the right strategies over the proper period of time with clear goals and ongoing monitoring of progress, with adjustments made as needed.

Effective treatment for CI is clearly dependent not only on office-based treatment with a trained provider but also on the child’s commitment to regularly doing exercises at home.

If possible symptoms of CI emerge during my child’s pediatric office visit, what should the pediatrician do?

The best thing your child’s pediatrician can do is review the [symptom checklist](#) that was used in CI studies funded by the National Eye Institute. If your child has many of these symptoms, it indicates that your child probably has an eye coordination problem and needs to have a binocular vision evaluation by a developmental optometrist or an optometrist who provides an in-office vision therapy program. Although optometrists and ophthalmologists can diagnose CI, you may want to choose a developmental optometrist for diagnosis who is also skilled in the therapeutic treatment for CI through vision therapy.

These studies found that children with CI reported that the following symptoms occurred “fairly often” or “always” while reading or doing close work:

- Loss of place: 50% of children with CI reported this symptom
- Loss of concentration: 45%
- Re-reading the same line: 45%
- Reading slowly: 40.27%
- Trouble remembering what was read: 38%
- Feeling sleepy: 37%
- Words blurring: 36%
- Headache: 32%
- Double vision: 32%
- Eyes hurt: 31%
- Eyes feel tired: 30%
- Eyes feel uncomfortable: 29%
- Eyes feel sore: 21%
- Words move/jump/swim: 20%
- Pulling feeling: 11%

Other than “pencil push-ups,” what are some strategies used to treat CI?

“Pencil Push-ups” is an activity where a person holds a pencil at arms length in front of his or her face and keeps their eyes fixed on the tip as it is moved closer and closer to the face. Despite popularity of this activity, the study funded by the National Eye Institute found that doing “pencil push-ups” was no more effective than placebo therapy.

When working with children it is important that activities are designed to be engaging while teaching them how to use their eyes correctly. For example, tossing a bean bag back and forth might initially appear very simple, but if you put special lenses on the child to help the two eyes work together correctly, this simple game now becomes a therapeutic activity. There are also some very sophisticated computer programs specifically designed to be used with therapeutic lenses.

In addition, some parents are concerned as to whether or not their child can actually do what is needed to get through the therapy program. The activities are individualized for each child’s abilities. They start out very simple and become more demanding as the visual skills improve.

More clinically speaking, the procedures used in the landmark CI study included activities to help the eyes focus accurately through a variety of lens powers, and to team (work together) more accurately. Better integration of tracking, focusing, and eye teaming can be accomplished with something as simple as a Brock String (a 10 foot chord with three beads on it), or as complex as interactive computer activities with special binocular glasses. The optometrist selects the strategies best suited to the individual child.

Who does the treatment, and how long does it take?

While some doctors will provide vision therapy sessions personally and directly with their patients, many optometrists have vision therapists working with their patients under supervision of the doctor. The length of treatment can be as short as three to six months in uncomplicated cases, to much longer when other

problems coexist with CI such as Cerebral Palsy or Traumatic Brain Injury.

How can I find the right professional to treat CI? Will most Optometrists know what to do?

While all optometrists learn about vision therapy in optometry school, you want to find an optometrist who provides an in-office program of vision therapy. Most optometrists know how to diagnose CI, but it is important that you let them know the symptoms your child is reporting or the signs you are observing. If your child's eye doctor says "everything is fine" yet your child continues to struggle with reading despite all best efforts to help, find your closest doctor certified in vision therapy at [COVD.org](https://www.covd.org) and schedule an appointment.

As with any profession, you will find some practitioners who are more knowledgeable than others. Therefore it is vital that you ask how much experience the doctor has had with patients similar to your child. You can also ask to speak with some parents of children who have also had CI and reading difficulties, who went through their vision therapy program.

Vision therapy is expensive, and maybe not be (fully) covered by insurance. How can I decide which treatment approach is going to be both affordable and effective?

If your child has an eye coordination problem such as CI contributing to his or her challenges with reading, then it is important to fix the vision problem first. Over the years the majority of patients I have helped struggled for years trying all other treatment options before finding out their children had vision problems that were easily corrected.

Many of my patients have shared that they spent thousands, if not tens of thousands, trying to help their children with forms of treatment that proved inadequate prior to consulting me about optometric vision therapy.

To determine which treatment approach will be both affordable and effective, you can:

Make sure you understand the exact nature of your child's vision problem.

Ask the doctor how much continuing education they have attended and continue to attend on vision therapy. You want your child to see someone who is up to date on the latest research and technology.

Ask to see the vision therapy room. While a tremendous amount of equipment is not needed to treat CI, ask to be present during your child's first therapy session to gain a sense of how treatment is conducted. If, after two- months, you do not see any incremental improvement despite attending weekly and getting home therapy done as instructed, you should reevaluate whether this is an appropriate therapy for your child and discuss this with the doctor.

Ask the doctor to download and share the Fact Sheets from the College of Optometrists in Vision Development that correspond to your child's specific diagnosis. (They can be accessed through the member's only section of the [COVD.org](https://www.covd.org) website). These Fact Sheets explain the appropriate length of treatment.

Getting a second opinion is always beneficial, as long as you see a doctor who also provides an in-office program of optometric vision therapy. Ideally the doctor would also be a Fellow of the College of Optometrists in Vision Development, and therefore board certified in this field.

Why do some doctors say vision therapy is controversial or that it lacks research?

Even though there is a wealth of optometric research which proves that vision therapy works, there are some in the medical (ophthalmology and pediatric) community who have the misimpression that there is insufficient evidence. The fact is that vision therapy is an optometric specialty and therefore the bulk of the research is in the optometric journals, not the medical journals. Vision therapy is not new; it has been around for 85 years!

In Summary

The bottom line is that NIH studies demonstrated that vision therapy is a valid treatment for CI. We know that many children, including those with learning disabilities, have CI so screening for CI in this population makes sense.

Healthy eyes and proper vision are essential ingredients for effective learning; reading, writing, spelling and math are all areas that could be affected by uncorrected problems with vision.

If your child is having trouble seeing, reading or writing, think about CI as a possible factor.

Parents should seek needed services from qualified professionals to discover and treat problems related to vision. The most qualified professionals to whom you should turn for expert guidance, evaluation or treatment are developmental optometrists who have completed fellowship training in this area.

Parents should be sure to include school personnel in their efforts to provide needed treatment and support for their children (for example, by identifying ways to support therapeutic progress during school activities) and should be sure that children are receiving the best quality academic instruction (in reading and in other areas) to maximize their opportunities for success.

If treatment is begun and no discernible improvement is seen within a few months despite doing everything as instructed, ask your child's primary care physician to consult with the developmental optometrist.

For more information about [healthy vision and dyslexia](#), see [this informational sheet](#) from the College of Optometrists in Vision Development:

https://c.ymcdn.com/sites/www.covd.org/resource/resmgr/white_papers/7-_vision_and_dyslexia.pdf?hhSearchTerms=dyslexia

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<http://www.nclld.org/types-learning-disabilities/what-is-ld/vision-therapy-learning>