

The Binocular Vision dysfunction Pandemic

Identifying and Solving Binocular and Nearpoint Vision Problems In a Busy Primary Care Practice Setting

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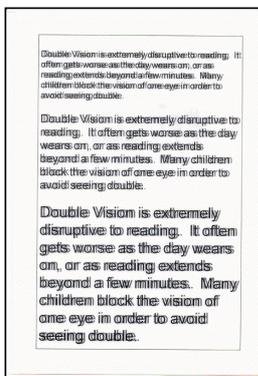
NOTE: This article can serve as an outline for a talk on identifying and dealing with binocular vision problems for a society meeting or a special workshop for interested ODs in your area. Lecoq Practice Development authorizes use and distribution of the forms in our system that are mentioned in the article for doctor and referral source education in your area.

Studies show that the number of patients with Binocular and nearpoint vision dysfunctions is growing, yet such problems are easily overlooked in busy primary care practices.

Some of these patients are very sensitive to small differences in lens power, and are likely to complain that their glasses cause headaches or visual disturbances such as peripheral blur, headaches and lens rejections. Admonishing patients with such delicately balanced visual systems to be patient and get used to their new Rx may leave them frustrated. Although some patients may learn to tolerate the new Rx, they may ultimately abandon your practice over their dissatisfaction with the prescription.

More serious binocular vision problems, amblyopia, strabismus, convergence insufficiency, poor eye teaming and vision problems that interfere with reading, concentration and even learning are also on the rise, and also go undetected. Part of this may be that a doctor is uncomfortable working with youngsters, or hasn't the time to take an extended history or to do additional testing that would reveal the problem.

The cost to patients can be high. For example a child with crisp distance acuities but with Convergence Insufficiency (CI) who does not receive treatment will suffer through their school years, or worse, decide to stop trying. Poor academic performance lowers self esteem and is associated with high dropout rates, aggression or inattention, and behavior problems. Today, not doing well in school is a recipe for an impoverished life.



How can an optometrist who is committed to the highest level of care identify more of these patients without causing undue delays in a busy primary care setting?

Early detection by an assistant: Most busy practices have staff doing pre-testing, so the doctor can add a few simple screening tests to their normal battery.

Double Vision Test Card: This is a card with a written passage beneath an identical overlay. When aligned, the image is single, when the overlay is moved slightly to one side, the image doubles. The assistant asks the

patient, “when you are reading, especially at the end of a day or when you are tired, do the words look something like this?” The overlay can be moved slightly so the image also jiggles. If the answer is yes, there is almost certainly a binocular vision problem.



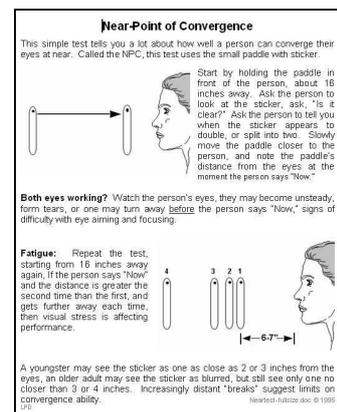
Brock String Screening for binocular function and suppression:

Suppression can reduce comprehension and may indicate the presence of amblyopia or strabismus. The assistant has the patient hold one end of a string to the center of the bridge of their nose and instructs them to look at the bead (it helps to put a letter on the bead as a target). The assistant asks the patient to describe what they are seeing, which should be two strings that form an X, crossing at the bead. If the patient

reports one string, two beads or one string that fades in or out, or that a string has a section missing, there is a strong possibility of a binocular vision problem. If the strings crosses in front of or behind the target bead, it suggests an eye aiming problem (a possible esophoria if in front of the bead, exophoria if behind).

A red green reader bar held over a printed passage, with the patient wearing red green glasses will also indicate suppression if the patient is unable to read the words under one or the other of the color bars.

Near point of discomfort: Another test that can be administered by a trained assistant is to use a pencil to determine at what distance (with and/or without correction) the person feels discomfort. This is often much further out than where the eyes actually break or turn away. If the distance is further than the patient’s habitual reading distance, the patient may benefit greatly from a reading Rx. In addition, remember that reading at arms length is much closer for a child than for an adult. If the patient is an esophore, they are more likely to love their near Rx and benefit more from it than if they are an exophore. Train the tech to notice if the patient leans away as the target gets closer, it is where the discomfort occurs that is most telling.



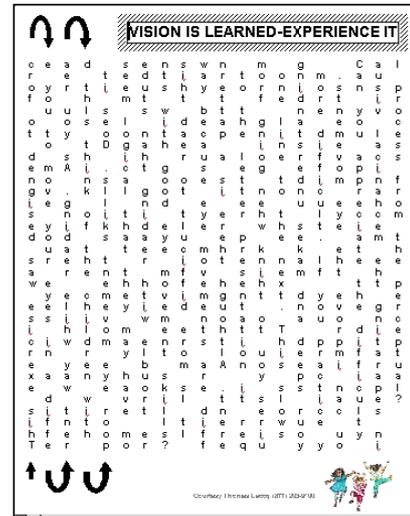
The results of these and other simple screening tests by the pretest technician give the doctor a heads up that more testing is in order, or that they may have to be more deliberate in developing an Rx. For many people, children in particular, the doctor may find that lenses alone are not going to be enough and that a referral for vision therapy is in order.

Many doctors make such recommendations but find patients do not comply. There may be a financial, time or insurance issue, but in many cases, for example with a child referral, the parent just hasn’t understood how vision could be causing problems with reading, comprehension or even motion sickness and headaches. A few demonstrations can quickly make the case.

Double Vision Demo: Show the parent the same card used in pretest. Ask the child if the doubled image is what they see when at school or reading—especially toward the end of the day when they’re tired. When the child says yes, turn the demonstration card to the parents and explain, “This is how your child’s books look. Can you imagine how hard it would be to sit through school all day if every book and worksheet looked like this?”

Up-Down Reader Demonstration: This is the easiest way to show the link between vision and comprehension. This card has several sentences arranged vertically, starting up the page, over a column, then down, over a column and then up and so on.

Have the parent read it aloud. Most people start fast, then quickly slow down as they struggle to move their eyes in this unfamiliar way. Point out slow or hesitant reading and ask if that's what the child (or adult patient) sounds like when reading. After the third or fourth sentence is read, stop the patient and ask them to tell you what the sentence before last said. Very few can do this. Explain *"All I have done is make it as hard for you to move your eyes up and down as it is for your child (or adult patient) to move their eyes from left to right. You can see how that eye movement problem completely disrupts comprehension."*



Referring the patient or parent: If you are not offering vision therapy yourself, tell the parent that you have found a problem that will require more to resolve than the lens you could prescribe today. Say that you are referring them to an optometrist who deals with the kinds problems with focusing, aiming, using the eyes as a team, suppression, amblyopia, strabismus, etc, that you found. If you can, link the findings to things like a nightly homework battle, attention problems, reversals, visual memory problems such as inability to recall spelling words, etc. You can do this by asking questions on a checklist (see free downloads) of signs. An assistant can fill this out. Let them know that someone from the referral office will contact them with more information. This is because you know that this comes as a surprise and that they are certain to have many questions and considerations.

When turning the patient over to a technician, tell the assistant that you are referring to another doctor for binocular vision assessment and treatment. Explain to the parent or patient that you will have the assistant call the other doctor to set up an appointment--if they wish.

Most vision therapy providers are happy to work out a protocol with you for referral that includes brief reports and return of your patient (and their family) for primary care and for lens prescriptions. In 30 years of working with VT optometrists, I have yet to find one that isn't diligent about returning patients for primary care, often with praise that the primary care doctor is very good if they found this binocular vision problem in the first place.

For many patients with nearpoint and binocular vision problems, the difficulty can be that they are over accommodating, with the neural overflow affecting vergence. In other words, they are not aiming their eyes exactly where they are focusing and they may have difficulty focusing, tracking or doing any of the 20 or so visual skills required to read, comprehend or to pay attention.. For some patients, the answer lies in special purpose lenses. And that often means multiple pairs are required since it is nearly impossible to make one Rx cover all visual activities.

Low Plus lenses are often misunderstood; how is it that a half diopter of plus (or half D less minus) makes a significant difference? As neuro science has focused more on the visual system, it has become clear that the effect of the plus is not on the eyes so much as on the brain. The low plus actually quiets down the neural overflow of excessive accommodative signals so vergence is relaxed. Often the amount of plus required to accomplish this is very small, roughly the dioptric value of the lag (difference between the distance at which the patient is focused, and where their eyes are aiming).



One of the best and most practical ways to learn about low plus (often called relaxing or occasionally learning lenses) is to keep a few flippers on hand with very low plus lenses. My own set includes .25, .50, .75, 1.0 and +1.25 lenses. If patients are affected by small differences in lens power, pull out the flippers, give the patient a near reading card and with their distance Rx on, drop and lift the flipper in front of them as they read. Try several powers. In many cases you will hear rapid changes in reading rate or smoothness when you add a plus .50 or +.75. If the patient is a child, ask parents if they notice or hear a difference.

The need for this kind of plus need for adult patients is common because something like a quarter of all people have this kind of problem and if untreated, it persists in adulthood.

Ask the patient, “Does it feel better when the lens is there?” I suggest you tell such patients that you are going to recommend this additional lens because it makes a difference for them. It is their choice whether to get it or not, but seeing/hearing/feeling is believing and many patients will accept the multiple recommendation and love you for it. This is good for profit margins as well as for patient loyalty. You may be the only OD who prescribes in a way that patients like.

The book, “*Management of Nearpoint Vision Problems*” by the late Martin Birnbaum, O.D., FCOVD and a SUNY Professor, is an excellent guide that explores both the clinical and scientific basis for the use of nearpoint lenses. It is available from at www.oepf.org. If I were giving this presentation to ODs, I would bring a copy along.

There is much more to dealing with the huge population with nearpoint and binocular vision problems, but these suggestions may be helpful in organizing the practice and alerting the doctor and staff to their presence. Attending to these patients is satisfying at a professional level, but also rewarding financially.

Equipment and demonstrations: Equipment for binocular vision testing is available from Bernell or the OEP Foundation at www.oepf.org. The Up-down demonstration, child binocular vision checklist and a simple double vision demonstrator are free at idealvt.com/downloads.htm.

Thomas Lecoq has been an optometric consultant working with vision therapy practices for 30 years. Anee Lecoq has been providing staff and doctor training for about 8 years. Mr. Lecoq’s method includes a segment on primary care which emphasizes efficient detection, testing of and both lens and VT treatment of nearpoint and binocular vision problems, some of which is included in this article. Their website is www.idealvt.com.