

TREATMENT

With appropriate treatment, the prognosis is excellent. While different kinds of treatment can bring about temporary improvement, long term gains and recovery are achieved with low plus lenses and optometric vision therapy.

Most Streff syndrome patients show dramatic and immediate improvement with lenses and/or prisms. With appropriate lens prescription and wearing schedule, usable visual fields begin to enlarge almost immediately. Nine of ten patients can be expected to recover normal distance sight. However, vision therapy is usually essential to assure potential gains and to sustain future performance.

Unsteady fixation, poor ocular motilities, (eye movement control), difficulty in sustaining focus, and visually directed movement (gross motor abilities) are common areas that need enhancement in Streff syndrome patients. Optometric vision therapy helps the patient learn new ways of using his eyes for more efficient, comfortable visual performance.

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Success rates with lenses and vision therapy are very high. It is extremely important to wear the lenses for the time prescribed by the optometrist, (all day, only when indoors, etc.). Equally important is letting the doctor know when things have changed, things like “I don’t think I really need them,” or peer pressure problems. Before changing the wearing time, schedule a progress evaluation and discuss these things with your optometrist. Keep all scheduled appointments so that the optometrist can carefully monitor the patient’s progress.

Sometimes the improvements can be amazing, but frequently they are subtle. Watch for less fatigue and visual discomfort, for improved handwriting and school work. Also, *look for a happier, more confident person.*

For more information and research review, see *Behavioral Aspects of Vision Care: Bilateral Functional Amblyopia-Streff Syndrome*. A. Barber, ed. Santa Ana, CA: Optometric Extension Program Foundation, Inc. 2001



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Juvenile Bilateral Functional Amblyopia

Streff Syndrome



DESCRIPTION

The Streff syndrome (also known as non-malingering bilateral functional amblyopia) is a vision dysfunction that is often misdiagnosed or not treated. Most children who have this syndrome have healthy eyes. A reaction to *overloading*, it is the body's response to visual demands that are greater than the person's visual skills and abilities. Children who exhibit the symptoms of this visual syndrome frequently develop learning and/or behavior problems.

Streff syndrome is most commonly found in elementary students in fall or spring of the year, after school holidays. These students often have difficulty describing what they are experiencing. Their complaints might include, "I have trouble seeing," "I can't see right," or "The harder I try, the blurrier it gets."

An increase in demands upon the individual often precedes the onset of this condition. However, it may come after a head injury or psychological trauma. The phenomena becomes more apparent when the individual is under stress, especially when required to sustain visual concentration.

When a patient is suffering from Streff syndrome the ability to read letters across the room is reduced to 20/30 or less and letters at reading distance are blurred even more. During testing, the patient labors and is unsure as letters get smaller.

These children tend to tuck in their chins and get very close to their work. Their responses become out of step, reading is more halting, and reversing of letters may occur. They frequently demonstrate a tunneling of vision when they try to see, behaving as if their peripheral or side vision is closed down.

BEHAVIOR

To concentrate, children make an obvious effort to focus in on seeing. Because such children have no significant refractive error (are not nearsighted or farsighted), they are often judged as malingering (wanting glasses), hysterical (having a primary psychiatric problem), or even nearsighted (because of reduced sight).

OBSERVED BEHAVIORS

- **Poor sight, especially at near.** The harder a child tries, the worse things seem to get.
- **Holds reading very close.** The child gets closer to the book or paper, and tucks chin to raise eyes in their sockets, but this doesn't really help him see.
- **Discomfort with reading and writing.** Writing and other sequential motor skills seem to worsen over time. The child may complain of headaches during or after doing close work.
- **Poor timing and coordination.** The child seems to be out of step in motor or sports activities: she/he has trouble with timing.
- **Reduced depth perception at near.**
- **Reduced color perception**
- **Normal refractive status.** No significant nearsightedness, farsightedness or astigmatism.
- As the individual is required to sit or stand still and confine her/his visual attention, behavior worsens.
- All behaviors are exaggerated when the child is tired or at the end of his endurance threshold.

- Ideas seem to fly out of a child's head. What she/he knew in the evening is gone the next day.

EXPLANATION OF ANOMALY

The cause of the Streff syndrome is not completely clear. The difficulty is visual processing overload, a visual neurological problem. Vision depends upon cooperative interactions of two processes, the visual motor function (how the eyes move, focus and team to see to gather information) and the visual sensory function (what we see or perceive). These functions are controlled by different nerve pathways. The visual motor pathway regulates visual scanning, balance, movement and one's reactions. The visual sensory pathway is primarily geared to take in detail, color and shapes in a limited pre-selected attention field.

The Streff syndrome occurs when these functions get out of synch. What should be automatic (the act of looking and focusing) becomes difficult. The sensory system then becomes overloaded and processing delays occur. The child has trouble understanding what he is seeing.

The excessive stress without relief won't go away on its own and may cause psychological problems, like field constriction and confusion, and a feeling that "I am stupid." Because the Streff syndrome is related to an intense pattern of internal stress, care must be taken to follow the treatment plans of wearing the prescribed lenses and/or vision therapy program. Otherwise, other visual problems may develop, which would be more difficult to treat. If vision care is not given, the episode may progress into myopia and/or astigmatism.