Visual Information Processing Evaluations

Vision is a product of our inherited potentials, our past experiences, and current information. Efficient visual functioning enables us to understand the world around us better and to guide our actions accurately and quickly. Age is not a deterrent to the achievement of successful visual therapy outcomes. Vision is the dominant sense and is comprised of three areas of function:

- Visual pathway integrity including eye health, visual acuity, and refractive status
- Visual skills including accommodation (eye focusing), binocular vision (eye teaming), and eye movements (eye tracking).
- Visual information processing including identification, discrimination, spatial awareness, and integration with other senses.

Learning to read and reading for information require efficient visual abilities. The eyes must team precise, focus clearly, and track quickly and accurately across the page. These processes must be coordinated with the perceptual and memory aspects of vision, which in turn must combine with linguistic processing for comprehension. To provide reliable information, this must occur with precise timing. Inefficient or poorly developed vision requires individuals to divide their attention between the task and the involved visual abilities. Some individuals have symptoms such as headaches, fatigue, eyestrain, errors, loss of place, and difficulty sustaining attention. Others may have an absence of symptoms due to the avoidance of visually demanding tasks.

Visual therapy is prescribed to treat diagnosed conditions of the visual system. Effective therapy requires visual skills to be developed until they are integrated with other systems and become automatic, enabling individuals to achieve their full potential. The goals of a prescribed visual therapy treatment regimen are to achieve desired visual outcomes, alleviate the signs and symptoms, meet the patient’s needs, and improve the patient’s quality of life.

During this assessment, we will complete a perceptual screening. Visual-perception is the final stage of the visual process. It is the integration of information from the eyes, which has been modified by the refractive state of the eye (farsightedness, nearsightedness, astigmatism), the focusing and tracking systems and by how the two eyes are working together (eye coordination or binocularity). It may include (but not limited to) areas such as: Visual memory, Visual spatial relations, Letter reversals, Visual discrimination, Directionality, Pencil grip and writing posture, Eye-hand coordination, Visual-motor control, Form perception, Dyslexia screening test, Eye tracking abilities, Focusing difficulties and transferring of focusing from near to far to near. Additional areas based on need or reason for referral.

This assessment often takes 1-1 ½ hours and is booked on specific dates and times. A parent/guardian’s presence during the testing is recommended. Alberta Health Care does not cover this additional testing. Generally, prior to this assessment, Dr. Neufeld will allow for a full eye examination with additional testing in the areas of: Ocular motility, Tracking (eye movement control), Accommodation (focusing ability and flexibility), Binocular integration (eye teaming ability). A 3rd appointment is scheduled (without the child present unless the child is an older teenager) where Dr. Neufeld will discuss the results from the first two testing sessions with BOTH parents. It is essential that BOTH parents attend this consultation appointment (3rd appointment) so each can ask their own questions and hear the answers together. A written report is provided at the end of this consultation time. Recommendations of whether visual training would be of benefit will be made at that time.

After the assessment, what may be the next step?
Identification of problem areas and delays in visual perception or visual skills is only the first step in remediation. Visual skills are learned. Several deficient visual skills can be improved and remediated through a personalized program of directed procedures and activities known as visual therapy (VT). The visual system is very complex and it is essential to have guided in-office optometric training and home therapy. For many visual efficiency problems, in-office visual therapy may be required for up to 6-10 months.

Visual Therapy entails weekly in-office training sessions in addition to home training procedures to be practiced at home. Weekly, twice a week or three times a week in office training sessions may be offered or available. In general, the more frequent the in-office visual training sessions, the less home procedures will need to be done at home and the shorter amount of weeks that the therapy programs can be expected to take (assuming good patient motivation and cooperation).

Once an in-office therapy session time is decided upon, the subsequent in-office sessions are scheduled on the same day of the week at the same time. The time(s) chosen are reserved specifically for you/the patient. In-office vision therapy is offered during our office hours. Currently there is limited number of Saturday vision therapy spots and there are no evenings. For visual skills to improve it is essential that all in-office training sessions be attended AND home procedures are performed daily.

VISIT the following websites for additional information on visual training: www.covid.org and www.visiotherapy.com.