Defining Learning and Vision Therapy

Optometric Vision Therapy / Visual Neuro-rehabilitation

From Leonard Press "Applied Concepts in Vision Therapy", (OEP Foundation www.oepf.org) "Optometric vision therapy (OVT) can be defined as the art and science of developing visual abilities to achieve optimal visual performance and comfort. During VT, patients gain greater understanding of and control over their visual abilities and then develop the capacity to efficiently apply these abilities to relevant tasks and activities."

Paraphrasing Dr. Press, the goal of VT is to develop visual abilities so that the patient can meet the visual demands of variable and complex situations with greater efficiency, endurance, and economy of effort. Specifically, these goals are achieved by the application of a planned sequential presentation of experiences. A VT program is directed at rehabilitation and enhancement of the diagnosed inefficiencies, and concludes with activities that ensure that these new skills are carried over into areas of particular interest, such as sports or reading.

The foundation of vision therapy resembles neurology much more than cognitive sciences or psychology. Optometric vision therapy is unique in that it is the only domain that incorporates aspects of ophthalmology, neurology, optics and physiological optics, neurorehabilitation and behavioural training, and learning theory. There is an element of psychometrics in vision therapy, with an emphasis on visual perceptual testing and reading skills including RAN (Rapid Automated Naming) (See: RAN Tx Sample Exercises).

Learning and vision therapy combines OVT activities to bolster vision, and other activities that help develop skills and abilities necessary for success in the classroom. These learning therapy activities are primarily concerned with self-awareness, self-control, higher cognitive skills, and management of lifestyle including sleep, media exposure, and nutrition.

OVT addresses the following skill/ability elements:

1. Visuospatial awareness
2. Visual Analysis
3. Visual-Motor Integration
4. Visual-Auditory Integration
5. Oculomotor Skills
6. Accommodation (focusing)
7. Binocularity

The emphasis in therapy depends on the needs of the patient. The particular need might include amblyopia, strabismus, accommodative and vergence disorders, ocular motility dysfunction (i.e. saccadic control), developmental visual information processing disorders, acquired visual information processing disorders, sports vision, and myopia con-

trol. Learning therapy extends this to include additional activities to address emotional and cognitive concerns, regardless of visual status.

Development occurs first through working primitive motor coordination, balance, and bilateral integration. Further activities help the child gain full awareness of spatial orientation, depth, and relative orientation and positioning of objects in space. Therapy also incorporates use of locomotion and kinesthesis to promote directionality and laterality awareness, as well as saccadic control and peripheral visual sensitivity. In the end, the child stands a firm foundation allowing easier integration and evolution of higher-order skills.

To the professional new to the area of vision-based therapies, the initial impression might be that we are training the eyes, and this seems to have limited value. It is true that simply training the eyes will have limited value – simply acquiring a new skill in isolation, like a parlour trick, will add very little to the overall solution and perhaps even distract from it. Examples include some 'brain games' that appear to increase recognition skills or patterns, but these skills are really only beneficial in the game. Tinted lenses and food supplements are often sold on great promises, but the appearance of benefits can be short-lived and eventually the child succeeds just as well without.

Efficient visual function is critical for success in school, and for most children, there is no question that comprehensive visual neurorehabilitation can have a lasting and significant impact on academic outcomes – that is, even children who have no apparent trouble with reading. Clinically, the primary populations of interest, however, are those children who have developmental concerns (amblyopia, strabismus, marginal or clinically significant refractive errors), and those children who still show saccadic concerns by the end of the first grade.

Learning Therapy

In this context, the term Learning and Vision Therapy (LVT) encompasses a superset of therapy that includes the foundation of Vision Therapy as well as Learning therapy begins with ensuring good health and that the essential visual processes are maximally enabled to the extent possible. Next, and of prime importance, the therapist adopts a view that a perhaps 50% of the goal of any activity is that the child should succeed in their attempts, and that they should to always challenge themselves do the activity better.

Learning therapy extends the new awareness provided through Vision Therapy to include programming to develop

1. Positive self-image and confidence: Through thoughtful programming that encourages success by loading activities appropriately, providing concrete suggestions for improvement, and providing encouragement and support to promote risk taking. Instruction in meditation and yoga are also strongly recommended.

2. Cognitive skills, such as coding, memory, vocabulary: Varied activities on the LearningManagement.ca site, in addition to other resources from third parties and schools.
3. Reading, writing, and math support: Varied activities in the LearningManagement.ca library and third-party providers.
4. Self-awareness and self-control, including emotional awareness and control.
5. Motor development: Through varied targeted activities as well as through food preparation during nutritional instruction.
6. Nutritional and Lifestyle Instruction: Guidance is provided to empower children to take control of what they eat and to learn to prepare meals using healthy ingredients. Exercise, exposure to media, gaming, and sleep habits are also discussed.

These are accomplished through extended activities offered through therapists, and in conjunction with parents and teachers. Third party contractors may be employed to fill some needs where appropriate, such as for yoga instruction, tutorial programs, or approved remedial reading programs.

In planning activities with third-party providers, it is important engage only those providers who share a similar understanding of therapeutic needs and goals. Therapeutic activities should proceed in a joyful and safe environment, where the child feels free to express his true thoughts and feelings, and to fail without enduring a catastrophe. The child must learn that it is safe to challenge himself, and the therapist must provide safe scaffolding for him to climb to learn success through progressively greater challenges – in therapy, nothing succeeds like successive successes. This processing of creating learning opportunities that are progressively more challenging is referred to as loading, and the activities should be consistently loaded beginning with a simple level at which the child is sure to succeed. Unloading describes the process of simplifying an activity to bring it within the functional reach of the child. Activities in the LearningManagement.ca library often have suggestions for appropriate loading and unloading.