

VISION AND LEARNING GUIDE



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WHAT IS A DEVELOPMENTAL OPTOMETRIST?

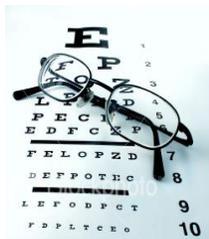
A developmental optometrist spends years in post- doctoral education to master the complex visual programs prescribed to prevent or to normalize visual problems and enhance visual performance.

Developmental optometrists, also known as behavioural optometrists, perform *functional vision exams* to test for visual conditions that can hinder reading, learning, hand-eye coordination and work performance.

Few optometrists have the advanced training or equipment required to perform a functional vision assessment, which is why many refer their patients to Dr. Debbie Luk.

Dr. Debbie Luk is a graduate of the University of Waterloo, School of Optometry. She completed her residency in Vision Therapy and Rehabilitation at SUNY State College of Optometry and is a Fellow of the international College of Optometrists in Vision Development (COVD).

SIGHT VERSUS VISION



20/20 eyesight is the ability to see a certain letter size on the eye chart when standing 20 feet away. You can have 20/20 eyesight, but still have a vision problem. This is because reading an eye chart is a static visual task, but most daily activities require our eyes to perform more demanding, dynamic functions. Below are four aspects of vision that are important in daily activities and learning.

Eye Tracking (Oculomotor) Oculomotor dysfunction exists when both eyes do not move smoothly, precisely or quickly. Skipping lines or words, misreading the beginnings of words and loss of place are all sign of problems with eye tracking. An eye tracking problem inhibits the ability to sustain attention and fixate onto a single target such as a word in a book or a ball in a sport game.

Eye focusing (Accommodation) Accommodation is the focusing capability of the eye. The eye is equipped with a variable lens system that allows for changes in focusing. Excess effort may be needed in order to maintain a clear image. As a result, eyestrain, headaches, and intermittent blurry vision can occur.

Eye Teaming/Fusion (Binocularity) Eye fusion is the ability of two eyes to work together to obtain a single image. Many children maintain the use of both eyes working together; however, it may come at the expense of excessive effort, fatigue and sometimes confusion. Strabismus is the condition where both eyes fail to work together and one or both of the eyes deviates instead of aiming at one location. The inability of both eyes to work together as a team can result in double vision, reduced depth perception and poor physical coordination in sports.

Visual Perception This is the learned ability to interpret, perceive and correctly identify information. It is the understanding of things that we cannot use our other senses such as touch, taste, smell or hear for. Visual perception delays can result in letter reversals (such as b and d), and poor spelling, reading comprehension and math abilities.

DO YOU HAVE A VISION PROBLEM?

Your visual system can undergo tremendous 'visual stress' with the demands of today's society. Protracted, uninterrupted periods of reading, studying and/or computer work cause visual problems such as: headaches, blurred vision, burning eyes and fatigue. Visual stress is linked to the development of permanent vision conditions such as nearsightedness, astigmatism and other problems that effect school and work performance.

Complete the vision quiz at the end of the package to see if you may have a functional vision problem that can be treated with glasses and/or vision therapy.

VISION THERAPY

Vision Therapy is an individualized therapy program designed to improve and treat visual function. This includes the treatment of amblyopia (lazy eye), strabismus (eye turn), eye tracking, eye focusing, eye teaming and visual perceptual deficits. The goal is to improve visual skills and functions to eliminate symptoms of visual stress and provide the skills necessary to read and learn at the patient's full potential.

WHAT DOES VISION THERAPY INVOLVE?

In order to treat the visual condition in an efficient and effective manner, vision therapy usually involves weekly/ bi-weekly in-office training of 30 -60 minutes duration, supplemented by daily home therapy of approximately 20-30 minutes. The length of the program varies between several months to up to a year depending on the severity of the condition.

WHO DOES OPTOMETRIC VISION THERAPY?

The vision therapy program is designed and supervised by a developmental optometrist. The therapy is provided on a one-to-one basis by the doctor or vision therapist. Various equipments are used to remediate the visual function such as:

- corrective lenses (regulated medical devices)
- therapeutic lenses (regulated medical devices)
- prism lenses (regulated medical devices)
- 3D Touch Screen computer software
- optical filters
- eye patches
- vestibular (balance) equipment
- visual-motor-sensory integration training devices



WHO CAN BENEFIT FROM VISION THERAPY?

In short, Vision Therapy benefits all ages. It was once thought that certain developmental vision problems such as amblyopia/lazy eye cannot be treated after childhood. However, recent ophthalmology and neuroscience research have proven that teenagers and adults can improve in visual function with treatment. This is because the human brain is malleable, and changes as a result of one's experience, even in adulthood.

Patients who can benefit from vision therapy generally have:

- **Learning-related vision problems (Learning Disabled):** Conditions such as eye tracking, eye focusing, eye teaming and visual perceptual delays can interfere with learning. These individuals cannot tolerate the demands within the classroom/work for very long, therefore avoidance behaviours are common.
- **Crossed Eye (Crossed eye) or Lazy Eye (Amblyopia):** These conditions result in reduced acuity, double vision and/or reduce depth perception. In certain cases, vision therapy is an effective alternative to eye surgery. Vision therapy is also important in helping post-surgical patients develop functional vision and depth perception.
- **Traumatic Brain Injuries:** Patients who had strokes, brain surgeries or were involved in motor vehicle accidents often experience balance problems, dizziness, eyestrain, reduced ability to read efficiently, double vision and/or visual memory problems. Neuro-visual rehabilitation can provide lifelong change in overall performance, comfort and quality of life
- **Interest in Improving Athletic Abilities:** Athletes engage in sports vision therapy to enhance their eye-tracking abilities, eye-focusing abilities, depth perception, eye-hand coordination, peripheral vision, visualization and other visual skills that are required for peak performance.

RESOURCES

College of Optometrists in Vision Therapy	www.covd.org
Optometric Extension Program	www.oepf.org
Neuro-Optometric Rehabilitation Association	www.nora.cc
Parents Active for Vision Education (P.A.V.E)	www.pavevision.org
Vision Therapy Success Stories	http://www.visiontherapystories.org
Vision Therapy FAQs	http://www.visiontherapy.org/vision-therapy/faqs/vision-therapy-FAQs.html

TYPICAL COMMENTS FROM PATIENTS



Dear Dr. Luk, I just want to thank you so much for all your help. I have seen much improvement in my eyes since I started my therapy with you. Thank you so much for all your patience, especially your willingness to listen to and answer my numerous questions. Your dedication and passion has helped me cope better with my eye condition. It was truly a blessing to have met you. Thank you again and I wish you all the best. Maria



Dr. Debbie Luk is one of those providers whose commitment and caring truly impressed us. Dr. Luk demonstrated professionalism, patience and sensitivity while working with our son, who besides vision issues was recently diagnosed with ADHD. She became an instrumental part of our son's support team.

She attended the team meeting at his elementary school which included the principal, classroom teacher, guidance counselor and occupational therapist as well as a neuropsychologist, psychotherapist, private occupational therapist and parents. She helped to develop and implement an interdisciplinary treatment approach and contributed to the support team's email group. She consulted with our son's occupational therapist to improve his attention during V.T. sessions. Moreover, when our son began taking ADHD medications, she gave us feedback on the behavioral impact of different dosages on his sessions. When his multiple therapies, intensive homework load and resistance made it difficult for him to accomplish the vision therapy homework, Dr. Luk helped to find a workable solution. Clearly she gave Valentine [our son] the encouragement and extra support that kids experiencing ADHD really need but rarely receive. Dr. Luk is a real gem! With highest regards, Kim and Mike

How has Vision Therapy changed your life?"

Welly let's just say that I'm happy that I can finish books now in 1 day, And its all thanks to vision therapy. I'm proud that they helped me out, especially when I needed help the most. No tired of reading headaches allowed! Odios, Amegos! See you never again, Crocodiles! Now that my Eyes are head-ache-free, Man, I feel better...and I'd like to give a special thanks to all of you! And keep up the good work You changed my life, and now I feel alive! (Well, actually I'm alive) Lol!(laugh out loud)

From: Chelsea



As a result of your Vision Therapy Program, I can read looking straight without getting any headaches. Also in class, I can see the blackboard without blurry words and can write with the paper straight without having the words seen the same way. Even though these positive results were gradual, I can see a difference between the past and the present. Thank you so much for being flexible and for making the sessions as amusing as possible. I hope that other people can see how great you are and hope that you succeed with several other people. Ayah



Symptoms of Visual Problems

How often does your child experience the following symptoms?
Place a checkmark in the column that best describes your child.

How frequently does this happen?	Never 0	Little 1	At Times 2	A Lot 3	Always 4
1. Headaches with reading or writing					
2. Words slide together or get blurry when reading					
3. Reads below grade level					
4. Loses place while reading					
5. Head tilt or closes an eye when reading					
6. Hard to copy from the board					
7. Doesn't like reading or writing					
8. Leaves out small words when reading					
9. Hard to write in a straight line					
10. Burning, itching, or watery eyes					
11. Hard to understand what he/she has read					
12. Holds book very close					
13. Hard to pay attention when reading					
14. Hard to finish assignments on time					
15. Gives up easily (says "I can't" before trying)					
16. Bumps into things, knocks things over					
17. Homework takes too long					
18. Daydreams					
19. In trouble for being off task at school					
Number of total marks in each column					
Multiply total marks in each column by:	x 0	x 1	x 2	x 3	x 4
Score for each column					

If the **total score is more than 20**, there is > 80% chance of having a vision problem that is interfering with learning. The higher the score, the greater the probability. If a problem is suspected, a comprehensive examination is required to assess basic visual skills. A functional vision exam with a *Developmental Optometrist* may be done to evaluate specific areas necessary for efficient academic performance. If necessary, glasses, visual hygiene and/or optometric vision therapy will be prescribed to meet your specific needs and goals. If a problem is suspected, please call our office today. (403) 248 - 3937