



## Vision Therapy Position Statement

August 2022

**Vision therapy (VT)**, or **behavioural optometry**, is a generalized term for behavioural treatments based upon the belief that abnormalities in vision are the underlying cause of learning, neurological and spatial disabilities.

A review of the available literature on these treatments conducted in 2022 by a committee of physicians specializing in pediatric ophthalmology and **neuro-ophthalmology** found that, with the exception of convergence insufficiency, evidence that these therapies are effective is lacking.

### Background

Vision therapy is a term used to refer to a spectrum of in-office supervised exercises that aim to improve visual ability and skill. Vision therapy programs are prescribed for a wide and etiologically diverse group of pathological and non-pathological learning, oculomotor, visual and post-traumatic states. These conditions include strabismus, amblyopia, learning/reading disabilities (dyslexia), myopia, and brain injuries such as stroke, concussion, and trauma with visuospatial neglect. Vision therapy remains an uninsured paramedical service.

Canadian Ophthalmological Society (COS) members have noted a sharp increase in the number of requests to provide an opinion on the effectiveness and validity of prescribed vision therapy programs. These programs can last from several weeks to years and, at times, a lifetime of treatment. The COS Vision Therapy committee feels that additional high-quality evidence-based research must be performed prior to any consideration for public or private insurance coverage.

## Research Evidence

Visual Disorder Treatments with research evidence of effectiveness (Level III and higher)

1. Occlusion (patching) and “penalization” treatments for amblyopia. Level III research evidence of effectiveness has been demonstrated by the Pediatric Eye Disease Investigator Group (PEDIG)<sup>1</sup>. These treatments are considered “standard of care” and alternatives need to be directly compared to this approach to have research validity.
2. Orthoptic exercises in the treatment of convergence insufficiency<sup>2</sup>. Level III evidence demonstrates moderate effectiveness.
3. Treatment of Strabismus with spectacles, prisms and surgery. Strabismus is a well-known and studied entity comprising many different eye movement disorders. Level I, II and III evidence<sup>3</sup> of effectiveness exists.

Vision Therapies with Low Quality research evidence

1. There is no high-quality evidence to support vision therapy in the following conditions<sup>3</sup>:
  - All types of phorias
  - Exotropia without convergence insufficiency
  - Nystagmus
  - Convergence excess
  - Divergence insufficiency
  - Divergence excess
  - Stroke or traumatic brain injury with visuospatial deficit, hemispatial neglect, or visual loss
2. Vision therapy, including the use of coloured lenses, has not been shown to improve or treat dyslexia, learning, language or reading disabilities<sup>5, 6</sup>.
3. Vision therapy is unproven in the treatment of stroke or traumatic brain injury including those with visuospatial deficit, hemispatial neglect, or visual loss<sup>7</sup>.
4. Vision therapy is unproven for the treatment of post-concussion syndrome<sup>8</sup>.

## Orthoptic Assessment

Orthoptic assessment, also referred to as a binocular vision assessment, is a detailed examination of the coordination and alignment of the two eyes under a variety of conditions. These assessments are performed on individuals with strabismus, amblyopia, cranial nerve palsies, and other neurological conditions. The outcome is a quantitative measurement of the alignment or coordination of the visual system. An orthoptist works in conjunction with an ophthalmologist to determine if any treatment may be of benefit. These services are covered by provincial health insurance plans.

## Potential for Vision Therapy to produce harm

When dealing with vulnerable individuals, such as children with learning disabilities and those with traumatic brain injuries, timely intervention is necessary. Delay in treatment or application of alternative unproven techniques in place of standard evidence-based therapy can lead to less-than-optimal outcomes<sup>10</sup>.

## Cost

Vision therapy remains unproven and, is not covered in Canada by private or government-funded health insurance plans. Individuals undergoing vision therapy pay directly for the service which may cost several thousand dollars over the extended course of treatment. These costs seem excessive considering the limited evidence for effectiveness.

## References

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