MEDICAL POLICY

Medical Policy Title	**Vision Therapy**
Policy Number	**9.01.04**
Current Effective Date	**November 20, 2025**
Next Review Date	**November 2026**

Our medical policies are based on the assessment of evidence based, peer-reviewed literature, and professional guidelines. Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract. (Link to Product Disclaimer)

POLICY STATEMENT(S)

I. Vision therapy that includes orthoptics and occlusion therapy is considered **medically appropriate** for the treatment of amblyopia.

II. Vision therapy that includes prism adaptation is considered **medically appropriate** when utilized for acquired esotropia prior to surgical intervention.

III. Vision therapy is considered **medically appropriate** for the treatment of convergence insufficiency.

IV. Vision therapy using web-based and/or digital programming/therapeutics is considered **investigational** (e.g., Luminopia, RevitalVision, CureSight-CS100).

V. Vision therapy is considered **investigational** for **ALL** other indications including, but not limited to, the following:

   A. All other accommodative and vergence dysfunctions, (e.g., fusional vergence dysfunction, divergence excess, convergence excess, divergence insufficiency, vertical phorias, basic exophoria, basic esophoria, accommodative insufficiency, sustained accommodation, accommodative infacility, and spasm accommodation);

   B. Low vision;

   C. Myopia;

   D. Nystagmus;

   E. Presbyopia;

   F. Strabismus, including esotropia (with the exception of acquired esotropia as stated above) and exotropia; and

   G. Age-related macular degeneration.

   H. Learning disabilities; including attention deficit hyperactivity disorder (ADHD)

   I. Dyslexia

RELATED POLICIES

Corporate Medical Policy

11.01.27 New/Emerging Technology and Services

POLICY GUIDELINE(S)

Not Applicable

DESCRIPTION

Vision therapy (also known as visual therapy, visual training, vision training, or eye training) involves a range of treatment modalities that include the use of lenses, prisms, filters, optometric phototherapy (syntonics), occlusion therapy (eye patching), behavioral modalities, and eye exercises (orthoptics, pleoptics). The therapeutic goal of vision therapy is to correct or improve specific visual dysfunctions. Vision therapy is performed in an optometrist's or ophthalmologist's office one to two times weekly for a number of months, with additional home exercises done as reinforcement.

Luminopia is a software-only digital therapeutic designed to be used with commercially available Head-Mounted Displays (HMDs). Luminopia is indicated for improvement in visual acuity in amblyopia patients and is intended to be used as an adjunct to full-time refractive correction, such as glasses, which should also be worn under the HMD during Luminopia therapy. Their proprietary software uses a dual-action mechanism taking the content, modifying it in real-time, and presenting it differently to each eye to rebalance the input to the brain. The contrast of the stronger eye image is reduced to encourage the brain to pay more attention to the weaker eye and complementary masks remove parts of each eye's image, teaching the brain to combine input from both eyes.

RevitalVision is a perceptual learning vision training software program that aims to improve the brains visual processing and vision in amblyopic individuals. Training is done while the dominant eye is blurred with a semi-transparent white cover. By improving the brains visual processing to perform better, it compensates for some blurry images caused by small refractive error and allows patients to see better without correction.

CureSight-CS100 (NovaSight) is a digital eye tracking treatment using a special device and red-blue treatment glasses. The treatment is carried out while the child watches any streamed content of choice at home, under the remote supervision of an eye care provider and a dedicated Monitoring Center. By tracking the gaze position of both eyes in real-time, the CureSight system blurs the center of vision of the dominant eye and provides the amblyopic eye with a normal sharp image. This stimulates the visual system to use the information coming from the amblyopic eye to process the fine details, improving its acuity and developing stereoacuity as the eyes learn to work together. Indications for use include pediatric patients aged 4 to <9 years with amblyopia associated with anisometropia and/or mild strabismus. CureSight is intended as an adjunct to full-time refractive correction (e.g., glasses). Available by prescription-only, for at-home use under supervision of an eye care provider.

SUPPORTIVE LITERATURE

Most studies evaluating the efficacy of vision therapy for visual disorders are small. In general, these studies are poorly designed, with significant methodological flaws, and the data derived from them are relatively weak and inconclusive. There is some evidence to support the use of vision therapy

that involves occlusion as a treatment for amblyopia (treatment success with patching are 72.3% - 79%) and vision therapy that involves prism adaptation prior to surgery administered as a treatment for acquired esotropia (surgical success rates for prism adaption prior to surgery are 89% versus 72% for patients receiving no prism therapy). Large, well-designed studies comparing vision therapy with other treatment modalities, standardization of outcome measurements, and the criteria for defining patient selection are needed to adequately evaluate vision therapy for visual dysfunctions.

Hernández-Andrés (2025) published a randomized controlled trial comparing the results of three (3) treatments, two (2) combining patching with active therapy and one (1) with patching alone. Fifty-two amblyopic children (aged 4-12 years), were randomly assigned to three (3) monocular treatment groups: perceptual learning with a computer game designed to favor the medium-to-high spatial frequency-tuned achromatic mechanisms of parvocellular origin (n=17), vision therapy with a specific protocol and 2-h patching (n=17), and the third treatment group used 2-h patching only (n=18). Visual outcomes were analyzed after 3 months and compared with a control group (n = 36) of subjects with normal vision. Visual acuity (VA) and stereoacuity (STA) improved significantly after treatment for the three groups with the best results for patching plus vision therapy, followed by monocular perceptual learning, with patching only least effective. The authors concluded that this study showed visual acuity and STA improved with the two most active treatments, that is, vision therapy followed by perceptual learning. These results suggest that vision therapy should include monocular accommodative exercises, ocular motility, and central fixation exercises where the fovea is more active.

Singh et al (2021) published results of an RCT to assess and compare the effectiveness of home-based pencil push-up therapy (PPT) and office-based orthoptic therapy (OBOT) in 176 children and young adults with convergence insufficiency. Patients were randomized to 6 weeks of OBOT (3 times per week) or PPT (15 minutes per day). At study end, there was no difference between groups in near point of convergence or Convergence Insufficiency Symptom Survey scores, but there was a significantly greater improvement in positive fusional vergence with office-based therapy compared to home-based exercises ($p<.001$). Limitations of this study include lack of blinding, a wide range of patient ages, short duration compared to other studies, 20% to 30% loss to follow-up leading to a lack of power, and the study was conducted at a single center in India.

Verma et al (2025) published results from a one-year prospective, interventional, comparative study of the surgical outcomes of patients with acute acquired comitant esotropia (AACE) managed with and without pre-operative prism adaptation test (PAT). Forty patients with AACE were randomly divided into two groups by computerized randomization - those undergoing surgery after pre-operative PAT and those undergoing surgery without it. In the control group (Group C), patients underwent surgery based on the angle of deviation at distance measured by prism bar cover test (PBCT) and wearing full cycloplegic correction, while in test group (Group T), patients underwent surgery based on the preoperative prism-adapted angle at distance wearing prism power determined by PBCT and wearing full cycloplegic correction. The mean SD (standard deviation) of the PBCT for distance (measured in prism diopters - PD), PBCT for near (measured in prism diopters - PD) and stereopsis for near (measured in seconds of arc using Titmus Fly Test) at last follow-up visit (week 12) in the test versus control group were as follows: 1.70 ± 1.42 PD versus 4.75 ± 3.39 PD, 2.55 ± 1.82 PD versus 6.95 ± 3.35 PD and 74.90 ± 53.47 sec of arc versus 48.60 ± 31.97 sec of arc,

respectively, which were statistically significant (p = <0.01, p = <0.01 and p = .03, respectively). The authors concluded that their study showed surgical outcomes in patients of AACE are better when surgical planning is done after performing pre-operative PAT as opposed to when surgery is planned without PAT. Better motor alignment (less under correction and over correction) and better sensory results in terms of improvement in stereopsis were observed.

Hofsli et al (2025) published results from an observational, retrospective study of individuals with symptomatic esophoria (SE) (that progresses into a manifest esotropia), comparing rates of repeated surgical interventions with or without PAT as a supplement to standard orthoptic evaluation. This study was conducted by reviewing records of patients who underwent surgery at the Department of Ophthalmology, Rigshospitalet, Glostrup, Denmark, from January 1, 2017, to August 31, 2023. Primary outcome was the need for repeated intervention either by reoperation or by postoperative adjustment of sutures. A total of 105 SE patients were included, with 61 in the non-PAT group and 44 in the PAT group. Repeated surgical interventions were less frequent in the PAT group (23%) compared to the non-PAT group (48%) (P 0.009). PAT resulted in an increase in median angles of deviation (AOD) at near and distance by 14PD and 16PD, respectively (p < .001 and p < .001). The authors concluded this study showed SE patients undergoing PAT had significantly lower rates of repeated surgical interventions and a significant increase in baseline AOD, compared to those who did not undergo PAT.

The use of digital programs (e.g., Luminopia, RevitalVision, CureSight-CS100) have been proposed for the treatment of amblyopia. Overall, the literature supporting its use consists of randomized trials with small sample sizes and short-term outcomes. Larger studies comparing digital programs to a relevant comparator with longer follow-ups are needed. The available evidence is insufficient to evaluate the effect of its use on health outcomes.

PROFESSIONAL GUIDELINE(S)

The American Academy of Pediatrics (AAP), American Association for Pediatric Ophthalmology and Strabismus (AAPOS), American Association of Certified Orthoptists (AACO) and American Academy of Ophthalmology (AAO) published a joint policy statement on learning disabilities, dyslexia, and vision (2009; reaffirmed 2014). They state:

- "Diagnostic and treatment approaches for dyslexia that lack scientific evidence of efficacy such as behavioral vision therapy, eye muscle exercises, or colored filters and lenses are not endorsed or recommended.
- Detailed review of the literature supporting vision therapy reveals that most of the information is poorly validated, because it relies on anecdotes, poorly designed studies, and poorly controlled or uncontrolled studies.
- There is currently no evidence that children who participate in vision therapy are more responsive to educational instruction than are children who do not participate."

The American Association for Pediatric Ophthalmology and Strabismus (AAPOS) describe vision therapy as an attempt to develop or improve visual skills and abilities; improve visual comfort, ease, and how well the eyes work; and change visual processing or understanding of visual information.

(AAPOS 2023). A vision therapy program can consist of in-office and home eye exercises and may last for several months. Along with exercises, lenses, prisms, filters, patches, electronic targets, or balance boards may be used in vision therapy. They describe three (3) main types of vision therapy:

- Behavioral/perceptual vision therapy – eye exercises to improve visual processing and visual understanding.
- Vision therapy for prevention or treatment of myopia (nearsightedness).
- Orthoptic vision therapy - different type of eye exercises to improve binocular function (how well the two eyes work together). This type of eye exercise is taught in the office and done at home.

AAPOS states there is no evidence that vision therapy for learning disabilities, dyslexia or myopia, behavioral vision therapy or training glasses work to improve vision. They continue to state that orthoptics can be helpful in the treatment of eye movement problems that cause blurry vision, double vision, or headaches (like convergence insufficiency).

The American Academy of Ophthalmology (AAO) amblyopia preferred practice pattern (Cruz 2023) states:

- "Suitable treatment options for amblyopia include optical correction, patching, pharmacological treatment, optical treatment, Bangerter (translucent) filters, digital therapeutics, and managing the underlying cause of amblyopia.
- Most children who have moderate amblyopia (20/40 to 20/80) respond to initial treatment consisting of 2 hours of daily patching or weekend atropine."

The AAO esotropia and exotropia preferred practice pattern (Sprunger 2023) states treatment for esotropia includes the following:

- correction of refractive errors
- bifocal eyeglasses
- prism therapy
- extraocular muscle surgery:
- botulinum toxin injection
- other pharmacologic agents.

They go on to say in some patients with acquired esotropia less than 30 prism diopters who have diplopia, prism therapy may be beneficial in promoting binocular vision.

The American Optometric Association published optometric clinical practice guidelines for the care of the patient with amblyopia (2004). They explain the following treatment options:

- "Occlusion has been the cornerstone of treatment of amblyopia for over 200 years. The rationale for using occlusion is that occluding the better eye stimulates the amblyopic eye, decreasing inhibition by the better eye.

- Vision therapy refers to the total treatment program, which may include passive therapy options (e.g., spectacles, occlusion, pharmacologic agents) and active therapy. With such passive treatment options as optical correction and occlusion, the patient experiences a change in visual stimulation without any conscious effort. Active therapy is designed to improve visual performance by the patient's conscious involvement in a sequence of specific, controlled visual tasks or procedures that provide feedback about the patient's performance. When a reflexive response is achieved, it is anticipated that improved performance will transfer to other noncontrolled visual tasks, ultimately changing the underlying visual processing mechanism.
- Active vision therapy for amblyopia is designed to remediate deficiencies in four specific areas: eye movements and fixation, spatial perception, accommodative efficiency, and binocular function. The goal of vision therapy is remediation of these deficiencies, with subsequent equalization of monocular skills and, finally, integration of the amblyopic eye into binocular functioning.
- Active monocular and binocular amblyopia therapies, as opposed to passive management (e.g., occlusion), reduce the total treatment time needed to achieve the best visual acuity. Monocular therapy involves stimulation techniques that enhance amblyopic resolution and foster more normal eye movements, central fixation, and accommodation of the amblyopic eye. Because active binocular inhibition is one of the underlying etiologies of unilateral types of amblyopia, antisuppression procedures are performed under binocular conditions or in-instrument conditions simulating binocular conditions."

REGULATORY STATUS

CureSight-CS100 received FDA's 510(k) clearance for the CureSight-CS100 system (K221375) on September 29, 2022. More information is available from: https://www.accessdata.fda.gov/cdrh_docs/pdf22/K221375.pdf [accessed 2025 Sep 26].

Luminopia One received FDA's De Novo classification (DEN210005) on October 20, 2021. More information is available from: https://www.accessdata.fda.gov/cdrh_docs/pdf21/DEN210005.pdf [accessed 2025 Sep 26].

RevitalVision technology received FDA's 510(K) clearance August 31, 2001 (K012530), originally branded as the NeuroVision AA-1 system. More information is available from: https://www.accessdata.fda.gov/cdrh_docs/pdf/K012530.pdf [accessed 2025 Sep 26].

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

CPT Codes

Code	Description
92065	Orthoptic training; performed by a physician or other qualified health care professional
92066	Orthoptic training; under supervision of a physician or other qualified health care professional
0687T (E/I)	Treatment of amblyopia using an online digital program; device supply, educational set-up, and initial session
0688T (E/I)	Treatment of amblyopia using an online digital program; assessment of patient performance and program data by physician or other qualified health care professional, with report, per calendar month.
0704T (E/I)	Remote treatment of amblyopia using an eye tracking device; device supply with initial set-up and patient education on use of equipment
0705T (E/I)	Remote treatment of amblyopia using an eye tracking device; surveillance center technical support including data transmission with analysis, with a minimum of 18 training hours, each 30 days
0706T (E/I)	Remote treatment of amblyopia using an eye tracking device; interpretation and report by physician or other qualified health care professional, per calendar month

HCPCS Codes

Code	Description
A9292 (E/I)	Prescription digital visual therapy, software-only, FDA cleared, per course of treatment

ICD10 Codes

Code	Description
H50.00-H50.08	Esotropia (code range)
H51.11-H51.12	Convergence insufficiency and excess (code range)
H53.001-H53.039	Amblyopia (code range)

REFERENCES

American Academy of Pediatrics, Section on Ophthalmology, Council on Children with Disabilities; American Academy of Ophthalmology; American Association for Pediatric Ophthalmology and Strabismus; American Association of Certified Orthoptists. Joint statement--Learning disabilities, dyslexia, and vision. Pediatrics. 2009 Aug;124(2):837-44. (Reaffirmed 2014)

American Association for Pediatric Ophthalmology and Strabismus (AAPOS) [Internet]. Vision therapy; what is vision therapy? 2023 Apr [accessed 2025 Sep 30]. Available from: https://aapos.org/glossary/vision-therapy

American Optometric Association [Internet]. Clinical practice guideline. Care of the patient with amblyopia. Reviewed 2004 [accessed 2025 Sep 30]. Available from: https://www.aoa.org/AOA/Documents/Practice%20Management/Clinical%20Guidelines/Consensus-based%20guidelines/Care%20of%20Patient%20with%20Amblyopia.pdf

Cruz OA, et al; American Academy of Ophthalmology Preferred Practice Pattern Pediatric Ophthalmology/Strabismus Panel. Amblyopia preferred practice pattern. Ophthalmology. 2023 Mar;130(3): P136-P178.

Hernández-Andrés R, et al. Randomized trial of three treatments for amblyopia: Vision therapy and patching, perceptual learning and patching alone. Ophthalmic Physiol Opt. 2025 Jan;45(1):31-42.

Hofsli M, et al. Prism adaptation versus conventional orthoptic measurement for symptomatic esophoria: a retrospective study. Strabismus. 2025 Feb 19:1-8.

Pediatric Eye Disease Investigator Group. A randomized trial of atropine vs patching for treatment of moderate amblyopia in children. Arch Ophthalmol. 2002 Mar; 120:268-78.

Pediatric Eye Disease Investigator Group, et al. A randomized trial of atropine vs patching for treatment of moderate amblyopia: follow-up at age 10 years. Arch Ophthalmol. 2008 Aug;126(8):1039-44.

Singh A, et al. Comparison of home-based pencil push-up therapy and office-based orthoptic therapy in symptomatic patients of convergence insufficiency: a randomized controlled trial. Int Ophthalmol. 2021 Apr;41(4):1327-1336.

Sprunger DT, et al; American Academy of Ophthalmology Preferred Practice Pattern Pediatric Ophthalmology/Strabismus Panel. Esotropia and exotropia preferred practice pattern. Ophthalmology. 2023 Mar;130(3): P179-P221.

Verma P, et al. Comparative evaluation of surgical outcomes in acute acquired comitant esotropia managed with and without pre-operative prism adaptation test. Strabismus. 2025 Apr 25:1-6.

SEARCH TERMS

Acquired esotropia, Amblyopia, Convergence insufficiency, Orthoptics.

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

Based on our review, vision therapy is not addressed in National or Regional Medicare coverage determinations or policies.

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.
- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION

Committee Approval Dates

10/18/01, 04/24/03, 02/19/04, 02/17/05, 11/17/05, 02/22/07, 12/13/07, 12/11/08, 12/10/09, 12/09/10, 12/08/11, 12/06/12, 10/24/13, 12/11/14, 12/10/15, 12/08/16, 12/14/17, 12/13/18, 12/12/19, 12/10/20, 12/16/21, 11/17/22, 11/16/23, 11/21/24, 11/20/25

Date	Summary of Changes
11/20/25	• Annual review, policy intent unchanged.
01/01/25	• Summary of changes tracking implemented.
10/18/01	• Original effective date