APPENDIX to Orthoptic Training Policy

Prior Authorization Requirements

This service (or procedure) is considered **medically necessary** in certain instances and **investigational** in others (refer to policy for details).

For instances when the indication is **medically necessary**, clinical evidence is required to determine **medical necessity**.

For instances when the indication is **investigational**, you may submit additional information to the Prior Authorization Department.

Within five days before the actual date of service, the Provider MUST confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should also be directed to the Prior Authorization Department. Please call 1-800-541-6652 or visit the Provider Portal www.blueshieldca.com/provider.

Evidence Basis for the Policy

Rationale

Vision therapy encompasses a wide range of optometric (non-surgical) treatment modalities proposed to correct or improve ocular disorders (eye movement and fixation), visual processing, and perceptual disorders. Vision therapy modalities may include orthoptic or pleoptic training (eye exercises), occlusion (i.e., eye patching), behavioral or computer-based training, lenses, prisms, and filters. There are different vision therapy approaches however; there is no clear consensus on the exact definition of vision therapy. In 1999, the American Academy of Ophthalmology (AAO) and the American Optometric Association (AOA) in a joint policy statement, defined vision therapy as a sequence of activities individually prescribed and monitored by an optometrist to develop efficient visual skills and processing. Vision therapy is also referred to as orthoptics, visual training, vision training, eye exercise therapy, or orthoptic vision therapy.

Orthoptics is a discipline of ophthalmology specializing in disorders of the visual system with an emphasis on binocular vision and eye movements. Orthoptic training is used to strengthen eye muscles, and improve visual coordination, efficiency and functioning. Orthoptic training requires a number of office visits, with the length of the program varying from several weeks to several

months, depending on the severity of the visual condition. In-office techniques are typically taught to the patient to be practiced at home to reinforce developing visual skills.

Convergence Insufficiency

When looking at a distance, the eyes are almost parallel, (i.e., both point straight ahead). However, when looking at a near object, the eyes come close to each other to maintain binocular fixation. The simultaneous turning of the two eyes toward the nose is called convergence. Efficient convergence is necessary for troublefree near-point work.

Convergence insufficiency (CI) is a common condition characterized by a patient's inability to maintain proper binocular eye alignment on objects as they approach from distance to near (Von Noorden, 1995). There is typically an exophoria (a tendency for the eye(s) to turn outward) or intermittent exotropia (a constant turning of the eyes outward) at near, a receded point of near convergence, reduced positive fusional convergence amplitudes, and a low accommodation convergence/accommodation ratio (Bartiss et al., 2011). Symptoms can be mild or severe, and may include eyestrain, headaches, blurred vision, diplopia, sleepiness, difficulty concentrating, movement of print, and loss of comprehension after short periods of reading or performing close activities. Prism reading glasses, home therapy with pencil push-ups, and office-based vision therapy and orthoptics have been evaluated for the treatment of CI. Convergence insufficiency is most often diagnosed in older children and adolescents.

A systematic review of the applicability and efficacy of eye exercises found that small controlled trials and a large number of cases supported their use in the treatment of CI (Rawstron et al., 2005). In 2008, the multicenter Convergence Insufficiency Treatment Trial (CITT) investigator group reported a randomized controlled trial (RCT) of 221 children (nine to 17 years of age) with symptomatic CI. The children were randomly assigned to one of four treatment conditions: home-based pencil push-ups; home-based computer vergence/accommodative therapy and pencil push-ups; weekly office-based vergence/accommodative therapy with home exercises; or weekly office-based placebo exercises with home reinforcement of the placebo exercises. Blinded evaluation following 12 weeks of treatment (99% completion rate) showed successful (< 16 on the Convergence Insufficiency Symptom Survey (CISS), with a normal near point of convergence (NPC) and normal positive fusional vergence (PFV)) or improved outcomes (10 or more points on the CISS and at least a normal NPC, or improvement in NPC of more than 4 centimeters, normal PFV or an increase in PFV of more than 10 prism diopters) for 73% of patients treated with office-based therapy, 43% with home pencil push-ups, 33% with home computer exercises, and 35% of patients in the placebo-control group. For office-based orthoptic training, the average CISS improved from 30 at baseline to 15 at the final assessment, which was significantly better than the other three groups. The group practicing pencil push-ups at home improved from an average CISS score of 28 to 21 at 12 weeks; similar scores were obtained for the home computer exercise group (from 32 to 25) and the office-based placebo group (from 30 to 22). At one-year follow-up, 88% of the 32 children who were asymptomatic (CISS < 16) at the completion of the 12-week office-based treatment program remained successful or improved; 67% of the home-based pencil push-up group remained successful or improved (CITT, 2009).

In 2009, Scheiman and colleagues from the CITT group, published a review of their three RCTs (including the 2008 trial described above) resulting in evidence-based guidelines for the

treatment of children with symptomatic CI. A RCT with 72 children that compared base-in prism glasses or placebo reading glasses for all reading and near tasks was discussed (Scheiman et al., 2005). Base-in prism glasses were found to be no more effective in alleviating symptoms, improving the NPC, or improving PFV at near than placebo reading glasses. Another RCT from the CITT group compared a 12-week program of home-based pencil push-ups with office-based vision therapy/orthoptics or office-based placebo therapy in 47 children (Scheiman et al., 2005). Pencil push-ups, performed 15 minutes a day, five days a week, did not improve symptoms or signs associated with CI in this small study. Office-based vision therapy (sessions once a week for 12 weeks), supplemented by home exercises, was more effective than home-based pencil push-ups or office-based placebo therapy in reducing symptoms and improving signs of CI in children. The third trial (221 children, discussed above) also found a significant benefit of office-based vision therapy compared to pencil push-ups, home computer exercise, or office-based placebo therapy, although some benefit of pencil push-ups was observed (CITT, 2008). The review concluded use of base-in prism reading glasses was not supported by the results of the RCT, and although evidence does support office-based vision therapy as first-line treatment, home-based therapy has both greater availability and lower cost than office-based therapy. Therefore, these investigators recommended the use of home-based computer software plus pencil push-ups because this treatment approach was more effective than pencil push-ups alone in improving PFV, more engaging for the child, and provided an automated, stepwise treatment approach. Monitoring of compliance was recommended.

Other Visual Disorders

The efficacy of eye exercises was evaluated in a systematic review by Rawstrom and colleagues in 2005. Forty-three studies were obtained including 14 clinical trials (10 controlled studies), 18 review articles, two historical articles, one case report and six editorials or letters, and two position statements from professional colleges. The authors reported many of the references listed in the larger reviews were unpublished or published in obscure or non-referenced sources that were not accessible. They further concluded the following:

> Eye exercises have been purported to improve a wide range of conditions including vergence problems, ocular motility disorders, accommodative dysfunction, amblyopia, learning disabilities, dyslexia, asthenopia, myopia, motion sickness, sports performance, stereopsis, visual field defects, visual acuity, and general well-being. Small controlled trials and a large number of cases support the treatment of convergence insufficiency. Less robust, but believable, evidence indicates visual training may be useful in developing fine stereoscopic skills and improving visual field remnants after brain damage. As yet there is no clear scientific evidence published in the mainstream literature supporting the use of eye exercises in the remainder of the areas reviewed, and their use therefore remains controversial.

Ambliopia

Ambliopia or "lazy eye," is an eye condition noted by reduced vision not correctable by glasses or contact lenses and not due to any eye disease. It is one of the most common causes of visual impairment in children. Causes of ambliopia include constant unilateral strabismus (i.e., either the right or left eye turns all of the time) and cloudiness in normally clear eye tissue (e.g.,

cataracts). Treatment includes occlusion therapy (eye patching of the dominant eye) or instillation of atropine sulfate drops to blur the dominant eye, thereby strengthening the affected eye. These treatments are well supported in the peer-reviewed literature (Shotton & Elliott, 2008; Pediatric Eye Disease Investigator Group, 2008; Li & Shotton, 2009).

Orthoptic vision therapy has also been promoted for the treatment of ambliopia. However, the evidence supporting orthoptic training has generally been of poor quality, including methodological flaws. Additionally, according to the 2007 AAO Preferred Practice Pattern for the management of ambliopia, there was insufficient clinic-based studies to make a recommendation for the use of orthoptics or pleoptics, or other forms of vision therapy.

Myopia, Hyperopia and Astigmatism

Myopia, or nearsightedness, is a very common vision condition in which close objects are seen clearly, but objects further away appear blurred. Treatment includes glasses or contact lenses, corneal refractive surgery, laser procedures, and intraocular lens implantation for severe conditions. Hyperopia, or farsightedness, is a vision condition in which distant objects are usually seen clearly, however close ones do not come into focus. Treatment includes eyeglasses or contact lenses. Astigmatism causes blurred vision due either to the irregular shape of the cornea, the clear front cover of the eye, or sometimes the curvature of the lens inside the eye. Astigmatism frequently occurs with myopia or hyperopia. Depending on the amount of astigmatism present, eyeglasses or contact lenses may be prescribed to alter the way light enters into the eyes.

The AAO Complementary Therapy Assessment (2004) on visual training for refractive errors stated no evidence was found that visual training had any effect on the progression of myopia. Additionally, there was no evidence visual training improved visual function for patients with hyperopia or astigmatism, disease processes such as age-related macular degeneration, glaucoma, or diabetic retinopathy.

Learning Disabilities

Some learning disabilities, particularly those in which reading is impaired, have been associated with deficits in eye movements and/or visual tracking. For example, many dyslexic persons may have unstable binocular vision and report that letters may appear to move around, causing visual confusion. Advocates of vision therapy believe that many dyslexics have impaired development of the magnocellular component of the visual system which is important for timing visual events and controlling eye movements. Orthoptic training is being investigated for the treatment of attention deficient disorders, dyslexia, dysphasia, and reading disorders. Also known as ocular pursuit, the treatment may include the use of training glasses, prism glasses, or tinted or colored lenses.

This policy was originally based on a 1996 Blue Cross Blue Shield Association Technology Evaluation Center (TEC) Assessment, which offered the following observations:

- If visual problems have a causal relationship to reading disorders, then it would follow that successful treatment of such visual anomalies might result in an improvement in reading. However, if visual anomalies are the result of a central processing deficit, orthoptic training would not be effective and might possibly be harmful. For example,

atypical eye movements might be a compensatory response among persons with reading disorders to obtain sensory information in a manner that they can process. Finally, if eye movement anomalies are uncorrelated to reading disorders, then the presence of a reading disorder would not be an indication for orthoptic intervention.

- Three scientific issues must be addressed in the evaluation of orthoptic training: 1) whether available evidence supports the proposition that visual defects have a role in the development or maintenance of reading disorders; 2) whether or not orthoptics alters the identified visual defects; and most importantly, 3) whether treating the visual defects results in improved reading comprehension

The TEC Assessment concluded the evidence available at that time did not support the conclusion that orthoptic training improves reading comprehension (Heath et al., 1976; Weisz, 1979; Cooper et al., 1983; Rounds et al., 1991). Specifically, the study populations in the available published reports were not well-defined, and while the subjects were reported to be "poor readers," it could not be determined whether they had a verifiable diagnosis of a reading disorder. In addition, objective outcomes of reading comprehension were lacking in the published studies

In 1997, the following joint policy statement was formulated by the College of Optometrists in Vision Development, the American Optometric Association, and the American Academy of Optometry:

> People at risk for learning-related vision problems should receive a comprehensive optometric evaluation. This evaluation should be conducted as part of a multidisciplinary approach in which all appropriate areas of function are evaluated and managed. The role of the optometrist when evaluating people for learning-related vision problems (e.g., dyslexia) is to conduct a thorough assessment of eye health and visual functions and communicate the results and recommendations. The management plan may include treatment, guidance and appropriate referral. The expected outcome of optometric intervention is an improvement in visual function with the alleviation of associated signs and symptoms. Optometric intervention for people with learning-related vision problems consists of lenses, prisms, and Vision Therapy. Vision Therapy does not directly treat learning disabilities or dyslexia. Vision Therapy is a treatment to improve visual efficiency and visual processing, thereby allowing the person to be more responsive to educational instruction. It does not preclude any other form of treatment and should be a part of a multidisciplinary approach to learning disabilities.

Of note, this joint policy statement did not provide a detailed review of the literature.

There were two studies published that focused on the use of tinted lenses and eye patching as a technique to steady binocular vision as a therapy for dyslexia. Stein and colleagues (2000) reported results of a randomized trial in which 143 dyslexic children were instructed to wear yellow tinted glasses with or without the left lens occluded. The children were instructed to wear the glasses whenever they were reading or writing. More of the children who were given occluded glasses gained stable binocular vision in the first three months, (59%) compared with children given the unoccluded glasses (36%). Christenson and colleagues (2001), however, found no difference in reading ability in children with dyslexia and abnormal binocular vision

who were tested both with and without occluded, blue-tinted lenses. A systematic review of the applicability and efficacy of eye exercises found there was no clear scientific evidence to support the use of eye exercises for other disorders aside from CI, including learning disabilities and dyslexia (Rawstron et al., 2005).

Several recent studies reported that poor reading in children who do not have dyslexia or attention deficits may be related to impairments in accommodation or convergence, suggesting the need for an ophthalmologic and orthoptic evaluation (Grisham et al., 2007; Palomo-Alvarez & Puell, 2008; Ponsonby et al., 2009). Additional studies are needed to evaluate whether treatments for poor convergence or accommodation improve reading performance in this population.

In August 2009, the American Academy of Pediatrics (AAP), AAO, American Association for Pediatric Ophthalmology and Strabismus, and the American Association of Certified Orthoptists issued a joint policy statement concerning pediatric learning disabilities, dyslexia, and vision. For vision therapy, the policy concluded:

> Currently, there is no adequate scientific evidence to support the view that subtle eye or visual problems cause learning disabilities. Furthermore, the evidence does not support the concept that vision therapy or tinted lenses or filters are effective, directly or indirectly, in the treatment of learning disabilities. Thus, the claim that vision therapy improves visual efficiency cannot be substantiated. Diagnostic and treatment approaches that lack scientific evidence of efficacy are not endorsed or recommended.

In summary, the CITT study (2008) indicated office-based vision/orthoptic training improved symptoms of CI in a greater percentage of patients than a home-based vision exercise program consisting of pencil push-ups or home computer vision exercises. Therefore, orthoptic training is considered medically necessary in patients with CI whose symptoms have failed to improve with a trial of at least 12 weeks of home-based treatment.

For learning disabilities, no evidence has been identified in the past decade that would alter the conclusions reached in the 1996 TEC Assessment regarding the use of orthoptic training. In addition, there is consensus that visual therapies are not effective for reading/learning disorders such as dyslexia (Wright, 2007; AAP, 2009). Therefore, orthoptic training for the treatment of learning disabilities is considered not medically necessary.

There is insufficient evidence to evaluate the effect of orthoptic training in children or adults who are slow readers without identified learning disabilities or symptoms of CI, or for the treatment of other visual disorders. Therefore, orthoptic training for all other conditions is investigational.

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of

service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program (FEP)) prohibit Plans from denying Food and Drug Administration (FDA) - approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

This Policy relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore, contract language should be reviewed before applying the terms of the Policy. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement Policy

Type	Number	Description
CPT	92065	Orthoptic and/or pleoptic training, with continuing medical direction and evaluation
HCPC	V2799	Vision service, miscellaneous
ICD9 Procedure		
	95.35	Orthoptic training
ICD9 Diagnosis	All Diagnoses	
Place of Service	All Places of Service	

Tables

Definitions

Definitions

N/A

Index / Cross Reference of Related BSC Medical Policies

The following Medical Policies share diagnoses and/or are equivalent BSC Medical Policies:

N/A

Key / Related Searchable Words

N/A

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Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action	Reason
10/9/1996	New Policy Adoption	Medical Policy Committee
6/1/2001	Policy Review Policy Statement Unchanged.	Medical Policy Committee
12/18/2009	Policy revision without position change	Medical Policy Committee
7/1/2011	Policy title change from Orthoptics for Learning Disabilities with position change	Medical Policy Committee

The materials provided to you are guidelines used by this plan to authorize, modify, or deny care for persons with similar illness or conditions. Specific care and treatment may vary depending on individual need and the benefits covered under your contract. These Policies are subject to change as new information becomes available.

Click here to view the policy statement for this policy

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