



CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Strabismus Correction,
Surgical**

Effective Date4/15/2011
Next Review Date4/15/2013
Coverage Policy Number0317

Table of Contents

Coverage Policy	1
General Background	2
Coding/Billing Information	3
References	4
Policy History	6

Hyperlink to Related Coverage Policies

OnabotulinumtoxinA (Botox® A)
Vision Therapy/Orthoptics

INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2011 CIGNA

Coverage Policy

Coverage for strabismus repair is dependent upon benefit plan language, may be subject to the provisions of a cosmetic and/or reconstructive benefit and may be subject to state mandates. Under many benefit plans, strabismus correction is not covered when performed solely for the purpose of improving or altering appearance or self-esteem, or to treat psychological symptomatology or psychosocial complaints related to one's appearance. Please refer to the applicable benefit plan document to determine benefit availability and the terms, conditions and limitations of coverage.

If coverage is available for strabismus correction, the following conditions of coverage apply.

CIGNA covers the surgical correction of strabismus in a child up to age five as medically necessary when there is vision in both eyes and surgery is expected to achieve binocularity.

CIGNA covers the surgical correction of strabismus in an adult or a child age five and older as medically necessary when ALL of the following criteria are met:

- There is documented diplopia secondary to impaired extraocular muscle coordination.
- There is failure, contraindication, or intolerance of available nonsurgical management, including optical manipulations with a prism or other corrective lens, occlusion therapy, medications, and Botulinum Toxin Type A.
- The surgery proposed is expected to restore the ability to maintain binocular fusion.

General Background

Strabismus refers to ocular misalignment as a result of impaired extraocular muscle coordination. It is one of the most common eye disorders in children, affecting approximately 3% of the general population. Risk factors for strabismus include prematurity, family history, cerebral palsy, many chromosomal and other major genetic abnormalities, and major head trauma. Strabismic disorders are characterized by the inward, outward or vertical deviation of one or both eyes. This deviation causes the two eyes to be directed to different points when viewing the same object, making it difficult to maintain binocularity. Binocular vision allows for the perceptions of depth and dimension. Normal binocular vision depends on sensory fusion or integration of information from both eyes, as well as motor alignment and eye coordination. Strabismus may result in impaired depth perception, amblyopia, diplopia, suppression of vision of one eye, or an undesirable appearance. The two most common strabismic conditions are esotropia (eye turns inward) and exotropia (eye turns outward).

The classification of strabismus may be based on a number of factors in addition to the relative position of the eyes. These factors include age of onset, degree of associated refractive error, and whether the deviation is concomitant (constant), or incomitant (intermittent). Infantile strabismus, also referred to as congenital esotropia, usually occurs before six months of age. Acquired strabismus may occur at any time after infancy but is frequently associated with adult onset of the disorder. Adult strabismus includes all types of congenital and acquired strabismus that have persisted in individuals beyond the age of nine, which is considered the age of visual maturity. The type of strabismus is established by a detailed history and ophthalmoscopic examination.

Adults may have strabismus beginning in childhood or may have acquired the disorder due to cranial nerve palsies, trauma or neurological conditions. Unlike children with strabismus, adults may have had normal binocularity prior to the onset of strabismus and, as a result, may have diplopia and visual confusion. The initial symptoms of strabismus in adults may include: abnormal head posture, headache, eye fatigue or pain. In adults with untreated congenital strabismus, it may be too late to treat the associated amblyopia and depth perception impairment; therefore, the goal of treatment is sometimes purely cosmetic.

The treatment goals for acquired and congenital strabismus are usually to restore the ability to maintain single binocular vision and fusion of images and to improve impaired depth perception. Interventions for the treatment of strabismus include: surgery, botulinum toxin A injection, occlusion therapy, miotic and mydriotic medications, and optical manipulations with a prism or other corrective glasses. Surgical procedures involve lengthening or shortening the extraocular muscles to realign the affected eye. Surgical intervention is indicated for most cases of esotropia and exotropia in children but should be performed only when more conservative methods are ineffective.

Literature Review

Surgical intervention has been the long-established mainstay of therapy for strabismus with proven safety and effectiveness. However, studies in the published peer-reviewed literature have examined the optimal timing of surgery. Although controversial, in general, study results indicate that early (i.e., before 24 months) versus late surgery may be most effective for infantile strabismus (Wong, 2008; Simonsz, et al., 2005).

A number of studies, primarily case series, have also demonstrated that strabismus surgery can be successful in restoring binocularity in adult patients (Fawcett, et al., 2004; Mets, et al., 2004; Beauchamp, et al., 2003). An American Academy of Ophthalmology (AAO) technology assessment by Mills et al. (2004) evaluated the clinical benefit of surgery for strabismus in adults reported successful surgical alignment rates of 68–85%. It was summarized that despite the paucity of randomized controlled studies, the literature suggests that surgical treatment of strabismus is safe and effective in improving ocular alignment.

Professional Societies/Organizations

The AAO guideline for the management of esotropia and exotropia states the following (AAO, 2007):

- All forms of esotropia and exotropia should be considered for treatment.
- Ocular alignment should be established as soon as possible in young children, to maximize binocularity, prevent or facilitate treatment of amblyopia, and normalize appearance.
- Correction of significant refractive error is the first treatment modality.

- In almost all cases, clinically important refractive errors should be corrected.
- Amblyopia treatment is usually started before surgery, because this may reduce the angle of strabismus or increase the likelihood of good postoperative binocularity.

The guideline further states that “children or adults with esotropia should undergo surgical correction if eyeglasses and amblyopia management are ineffective in straightening the eyes. Strabismus surgery should be performed only when more conservative methods have failed or are unlikely to be of benefit. Surgery is rarely justified when the primary objective is to eliminate the eyeglasses” (AAO, 2007).

According to a joint policy statement from the American Association for Pediatric Ophthalmology and Strabismus (AAPOS) and the AAO on adult strabismus surgery, this intervention seeks to restore normal ocular alignment and is not surgical enhancement for cosmetics. Indications for adult strabismus surgery include diplopia and loss of binocular and peripheral vision (AAPOS/AAO, 2007).

The U.S. Preventive Services Task Force (USPSTF) specifically recommends screening to detect amblyopia, strabismus and defects in visual acuity in children younger than five years of age (USPSTF, 2005).

The Royal College of Ophthalmologists has stated that timely diagnosis and appropriate treatment of children with strabismus is likely to reduce the prevalence of persistent amblyopia and ocular misalignment in adults (Royal College of Ophthalmologists, 2000).

Summary

Despite the paucity of studies on safety and effectiveness, surgical correction is a long-standing well-established treatment for strabismus once conservative methods (e.g., occlusion of one eye, medications, glasses) have failed. It is generally agreed upon that many children with strabismus will eventually require surgery. There is some evidence in the published peer-reviewed scientific literature to suggest that surgical intervention results in the restoration of binocular fusion and elimination of diplopia in adults with strabismus. The primary goals of strabismus surgery for children and adults are to maximize visual acuity and to optimize conditions for binocular vision.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Covered when medically necessary:

CPT [®] * Codes	Description
67311	Strabismus surgery, recession or resection procedure; one horizontal muscle
67312	Strabismus surgery, recession or resection procedure; two horizontal muscles
67314	Strabismus surgery, one vertical muscle (excluding superior oblique)
67316	Strabismus surgery, two or more vertical muscles (excluding superior oblique)
67318	Strabismus surgery, any procedure, superior oblique muscle
67320	Transposition procedure (e.g., for paretic extraocular muscle), any extraocular muscle
67331	Strabismus surgery on patient with previous eye surgery or injury that did not involve the extraocular muscles (List separately in addition to code for primary procedure)
67332	Strabismus surgery on patient with scarring of extraocular muscles (eg, prior ocular injury, strabismus or retinal detachment surgery) or restrictive myopathy (eg, dysthyroid ophthalmopathy) (List separately in addition to code for primary procedure)
67334	Strabismus surgery by posterior fixation suture technique, with or without muscle recession (List separately in addition to code for primary procedure)
67335	Placement of adjustable suture(s) during strabismus surgery, including postoperative adjustment(s) of suture(s) (List separately in addition to code for

	primary procedure)
67340	Strabismus surgery involving exploration and/or repair of detached extraocular muscle(s) (List separately in addition to code for primary procedure)

ICD-9-CM Diagnosis Codes	Description
368.00 – 368.03	Amblyopia ex anopsia
368.2	Diplopia
368.30 – 368.34	Other disorders of binocular vision
378.00 – 378.08	Esotropia
378.10 – 378.18	Exotropia
378.20 – 378.24	Intermittent heterotropia
378.30 – 378.34	Other and unspecified heterotropia
378.40 – 378.45	Heterophoria
378.50 – 378.54	Paralytic strabismus
378.60 – 378.62	Mechanical strabismus
378.71 – 378.73	Other specified strabismus
378.81 – 378.87	Other disorders of binocular eye movements
378.9	Unspecified disorders of eye movements

References

1. American Academy of Ophthalmology (AAO). Esotropia and Exotropia. Preferred Practice Pattern. 2002 Sep. Revised 2007 Sep. Accessed Mar 10, 2009. Available at URL address: <http://one.aao.org/asset.axd?id=283e0e2d-0012-4a9d-88f4-0835a70adafc>
2. American Association for Pediatric Ophthalmology and Strabismus (AAPOS) and the American Academy of Ophthalmology (AAO). Joint policy statement: adult strabismus surgery. AAPOS-approved 2001 Mar; AAO-approved 2002 Apr. Revised 2007 Jan. Accessed Mar 9, 2009. Available at URL address: <http://www.aao.org/education/library/statements/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=1151>
3. Beauchamp GR, Black BC, Coats DK, Enzenauer RW, Hutchinson AK, Saunders RA, et al. The management of strabismus in adults--I. Clinical characteristics and treatment. J AAPOS. 2003 Aug;7(4):233-40.
4. Beauchamp GR, Black BC, Coats DK, Enzenauer RW, Hutchinson AK, Saunders RA, et al. The management of strabismus in adults--II. Patient and provider perspectives on the severity of adult strabismus and on outcome contributors. J AAPOS. 2005 Apr;9(2):141-7.

5. Beauchamp GR, Black BC, Coats DK, Enzenauer RW, Hutchinson AK, Saunders RA, et al. The management of strabismus in adults--III. The effects on disability. *J AAPOS*. 2005 Oct;9(5):455-9.
6. Crouch ER. Use of botulinum toxin in strabismus. *Curr Opin Ophthalmol*. 2006 Oct;17(5):435-40.
7. Elliott S, Shafiq A. Interventions for infantile esotropia. *Cochrane Database Syst Rev*. 2005 Jan 25;(1):CD004917.
8. Fawcett SL, Felius J, Stager DR. Predictive factors underlying the restoration of macular binocular vision in adults with acquired strabismus. *J AAPOS*. 2004 Oct;8(5):439-44.
9. Mets MB, Beauchamp C, Haldi BA. Binocularity following surgical correction of strabismus in adults. *J AAPOS*. 2004 Oct;8(5):435-8.
10. Mills MD, Coats DK, Donahue SP, Wheeler DT; American Academy of Ophthalmology (AAO). Strabismus surgery for adults: a report by the American Academy of Ophthalmology. *Ophthalmology*. 2004 Jun;111(6):1255-62.
11. Mocan MC, Azar N. Surgical timing for infantile esotropia. *Int Ophthalmol Clin*. 2005 Fall;45(4):83-95.
12. National Eye Institute (NEI). Clinical Studies Database. An Evaluation Of Treatment Of Amblyopia In Children 7 To <18 Years Old (ATS3). Updated 2004 Mar 15. Accessed Mar 4, 2011. Available at URL address: <http://www.nei.nih.gov/neitrials/viewStudyWeb.aspx?id=93>
13. National Eye Institute (NEI). Clinical Studies Database. Prism Adaptation Study (PAS), The. Last updated 1999 Sep 23. Accessed Mar 4, 2011. Available at URL address: <http://www.nei.nih.gov/neitrials/viewStudyWeb.aspx?id=20>
14. Royal College of Ophthalmologists. Guidelines for the management of strabismus and amblyopia in childhood—February 2000. Accessed Mar 7, 2011. Available at URL address: <http://site4sight.org.uk/Quality/RGov/Guidelines/Squint.htm>
15. Simonsz HJ, Kolling GH, Unnebrink K. Final report of the early vs. late infantile strabismus surgery study (ELISSS), a controlled, prospective, multicenter study. *Strabismus*. 2005 Dec;13(4):169-99.
16. Ticho BH. Strabismus. *Pediatr Clin North Am*. 2003 Feb;50(1):173-88.
17. U.S. Preventive Services Task Force (USPSTF). Screening for visual impairment in children younger than five years: recommendation statement. *Am Fam Physician*. 2005 Jan 15;71(2):333-6.
18. Wong AM. Timing of surgery for infantile esotropia: sensory and motor outcomes. *Can J Ophthalmol*. 2008 Dec;43(6):643-51.
19. Yanoff M, Duker JS, editors. *Ophthalmology*. 3rd ed. St. Louis, MO: Mosby, Inc.; 2008.

Policy History

Pre-Merger Organizations	Last Review Date	Policy Number	Title
CIGNA HealthCare	4/15/2007	0317	Strabismus Correction, Surgical

“CIGNA”, “CIGNA HealthCare” and the “Tree of Life” logo are registered service marks of CIGNA Intellectual Property, Inc., licensed for use by CIGNA Corporation and its operating subsidiaries. All products and services are provided by such operating subsidiaries and not by CIGNA Corporation. Such operating subsidiaries include Connecticut General Life Insurance Company, CIGNA Health and Life Insurance Company, CIGNA Behavioral Health, Inc., CIGNA Health Management, Inc., and HMO or service company subsidiaries of CIGNA Health Corporation and CIGNA Dental Health, Inc. In Arizona, HMO plans are offered by CIGNA HealthCare of Arizona, Inc. In California, HMO plans are offered by CIGNA HealthCare of California, Inc. In Connecticut, HMO plans are offered by CIGNA HealthCare of Connecticut, Inc. In North Carolina, HMO plans are offered by CIGNA HealthCare of North Carolina, Inc. In Virginia, HMO plans are offered by CIGNA HealthCare Mid-Atlantic, Inc. All other medical plans in these states are insured or administered by Connecticut General Life Insurance Company or CIGNA Health and Life Insurance Company.