



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.

Effective Date 3/15/2010
Next Review Date 3/15/2012
Coverage Policy Number 0047

Subject **Corneal Pachymetry**

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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

CIGNA covers corneal pachymetry as medically necessary for ANY of the following indications:

- bullous keratopathy
- corneal edema
- corneal dystrophy affecting the endothelium
- Fuch's corneal dystrophy
- keratoconus
- pellucid degeneration
- corneal transplant — pre- and post-surgical evaluation, rejection
- compromised endothelial function in individuals who are in need of cataract surgery
- diagnosed or suspected glaucoma, when pachymetry has not been previously performed

CIGNA does not cover corneal pachymetry for routine glaucoma screening because it is considered not medically necessary.

Many benefit plans specifically exclude coverage for refractive surgery. Corneal pachymetry for pre- or post-surgical evaluation of corneal thickness associated with refractive surgeries (e.g., LASIK, radial keratotomy) would be excluded from coverage under these plans.

General Background

Corneal pachymetry is the measurement of corneal thickness. Both ultrasonic and optical pachymetry are methods of measuring corneal thickness. Ultrasonic pachymetry is more reproducible, but optical pachymetry is especially helpful in measuring the depth of corneal pathology. The ultrasound pachymeter is designed for measuring the axial length of the eye and the thickness of the cornea. Ultrasound energy is emitted from the probe tip acting as both the transmitter and receiver. Some of the energy is reflected back toward the probe in the form of an echo. Measurement data can be calculated based on both the time it takes the echo to travel back to the probe from the eye and the preset converted velocity. Corneal thickness can also be measured by specular microscope.

Pachymetry is an established technology and has been used in routine ophthalmological exams when corneal pathology has been suspected. It is a valid test for the management of many ophthalmological conditions, such as Fuch's endothelial dystrophy, keratoconus, pellucid degeneration, bullous keratopathy and corneal edema. Pachymetry can assist in evaluating current medical treatment and is often an accurate means of assessing the progression of disease. Corneal thickness is an important criterion for assessing the risk of postoperative corneal decompression and for determining the appropriate surgical approach. Sequential corneal pachymetry is used to document the resolution of corneal disease or surgery affecting corneal thickness. Although ultrasonic pachymetry may be useful to confirm corneal thinning in patients with suspected keratoconus, videokeratography is currently the most sensitive and sophisticated method for confirming the presence of keratoconus.

Corneal thickness measurement has become as an important element in the management of patients diagnosed with glaucoma, as well as those at high risk for developing glaucoma (i.e., glaucoma suspect). Particularly, central corneal thickness (CCT) has been found to influence the measurement of intraocular pressure (IOP) as determined by Goldman applanation tonometry. IOP is the only factor known to be amenable to treatment in glaucoma and glaucoma suspects.

Literature Review: Supportive evidence for the use of corneal pachymetry as an adjunct in the assessment of glaucoma comes primarily from the Ocular Hypertension Treatment Study (OHTS) (Kass, et al., 2002; Gordon, et al., 2002; Brandt, et al., 2001) and the European Glaucoma Prevention Study (EGPS) (European Glaucoma Prevention Study Group, et al., 2007a). The OHTS (n=1636) was a prospective, multicenter, randomized controlled trial (RCT) that established CCT as a statistically significant predictor for the development of glaucoma. The EGPS, a randomized, double-masked, controlled clinical trial (n=1077), agreed with the findings of the OHTS.

In a technology assessment, Dueker et al. (2007) found clear consistent evidence from studies (n=37) in the form of well-designed RCTs, case-control studies, and nonrandomized clinical trials that CCT, as measured by ultrasound pachymetry, is a reliable indicator of risk for progression of ocular hypertension to glaucoma. Mixed evidence was found in terms of the association of CCT with the presence of glaucoma, therefore the value of CCT measurement as a screening tool for glaucoma reported to be negligible.

Professional Societies/Organizations

According to the AAO, the measurement of CCT aids in the interpretation of IOP measurement results and the stratification of patient risk for glaucoma. The AAO describes a glaucoma suspect as an individual with clinical findings and/or a group of risk factors that indicate an increased likelihood of developing POAG. Clinical findings include the following:

- appearance of the optic disc or retinal nerve fiber layer that is suspicious for glaucomatous damage
- a visual field suspicious for glaucomatous damage
- consistently elevated IOP associated with normal appearance of the optic disc and retinal nerve fiber layer and with normal visual field test results

Risk factors associated with glaucomatous optic neuropathy are elevated IOP measurement; older age; family history of glaucoma; African or Hispanic/Latino descent; and thinner CCT (AAO, 2005).

Summary

Well-established indications for corneal pachymetry include the management of corneal disorders such as Fuch's dystrophy and bullous keratopathy. The procedure may be useful for the preoperative evaluation of patients undergoing corneal transplant, as well as for postoperative follow-up and evaluation of corneal transplant rejection. The overall body of evidence in the published peer-reviewed medical literature suggests that the use of pachymetry should be considered as an adjunct to standard glaucoma evaluation to assist in the interpretation of intraocular pressure (IOP) measurement. It has not been proven that repeat measurements of corneal thickness for glaucoma are necessary unless the patient has corneal diseases or surgery affecting corneal thickness.

Coding/Billing Information

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

Covered when medically necessary:

CPT ^{®*} Codes	Description
76514	Ophthalmic ultrasound, diagnostic; corneal pachymetry, unilateral or bilateral (determination of corneal thickness)

ICD-9-CM Diagnosis Codes	Description
365.00 – 365.9	Glaucoma
371.03	Central opacity of cornea
371.20	Unspecified corneal edema
371.23	Bullous keratopathy
371.57	Endothelial corneal dystrophy
371.60 – 371.62	Keratoconus
996.51	Mechanical complications of other specified prosthetic device, implant and graft, due to corneal graft
	Multiple/varied

Experimental/Investigational/Unproven/Not Covered:

ICD-9-CM Diagnosis Codes	Description
V80.1	Screening for glaucoma

*Current Procedural Terminology (CPT[®]) © 2010 American Medical Association: Chicago, IL.

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http://www.aao.org/education/library/ppp/upload/Primary_Open-Angle_Glaucoma_Suspect.pdf
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Policy History

<u>Pre-Merger Organizations</u>	<u>Last Review Date</u>	<u>Policy Number</u>	<u>Title</u>
CIGNA HealthCare	03/15/2008	0047	Corneal Pachymetry

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