

**Policy #: 054**

**Original policy date: 7/03**  
**Revised date: 10/6/09**

**Page: 1 of 6**

**Title**

**Corneal Pachymetry**

**Description**

One of the risk factors for the development of glaucoma is an elevated pressure inside the eye, known as intraocular hypertension. Intraocular pressures (IOP) are measured in millimeters of mercury using a technique known as tonometry. As a rule of thumb, pressures in the mid-teens and higher represent an increased risk of developing glaucoma. However, the measurement of intraocular pressure using tonometry is affected by the thickness of the cornea.

Corneal pachymetry refers to the measurement of the thickness of the cornea, using ultrasound technology. Intraocular pressures are underestimated in patients with thin corneas. In other words, in patients with thin corneas the true IOP is higher than what is measured using an applanation tonometer (a commonly used type of tonometer). Conversely, in thicker corneas the true IOP is lower than what is measured by applanation tonometry. If the corneal thickness is less than 0.50 or greater than 0.60 mm, the applanation tonometer will significantly underestimate or overestimate the intraocular pressure readings, respectively. Using corneal pachymetry, a correction factor can be applied to the IOP measurement to determine the true intraocular pressure, allowing for a more accurate prediction of glaucoma risk and better medical management.

**When services are covered for commercial products (excluding Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx)**

We cover **corneal pachymetry for glaucoma for commercial products**<sup>1</sup>.

**Note:** For diagnoses that are considered medically necessary for commercial products, excluding Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx Products, see footnote 1.

**When services are not covered for commercial products (excluding Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx)**

We **do not cover corneal pachymetry** for conditions not listed above.<sup>1</sup>

**When services are covered for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx**

We cover **corneal pachymetry** for Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx products, in accordance with local Medicare guidelines, when the test is integral to the medical management decision-making of the patient **AND** for patients who have one of the following conditions:<sup>2</sup>

- Corneal ectasias, e.g., keratoglobus, pellucid degeneration, and keratoconus
- Fuch's endothelial dystrophy or bullous keratopathy
- Posterior polymorphous dystrophy
- Corneal rejection post-penetrating keratoplasty
- Corneal edema
- Elevated intraocular pressure in glaucoma suspect when corneal thickness is unknown
- Worsening of glaucoma when corneal thickness is unknown

- Enlarged cup-disc ratios > 0.3.

**Note:** For diagnoses that are considered medically necessary for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx products, see footnote 2.

We cover **preoperative corneal pachymetry** for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx products who are scheduled for a corneal transplant.<sup>2</sup>

We cover **postoperative corneal pachymetry** for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx products when the test is performed following a corneal transplant.<sup>2</sup>

**When services are not covered for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx**

We **do not cover corneal pachymetry** for Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx products for conditions not listed above.<sup>2</sup>

**Individual consideration**

All our medical policies are written for the majority of people with a given condition. Each policy is based on medical science. For many of our medical policies, each individual’s unique clinical circumstances may be considered in light of current scientific literature. For consideration of an individual patient, physicians may send relevant clinical information to:

**For services already billed**

Blue Cross Blue Shield of Massachusetts  
 Provider Appeals  
 PO Box 986065  
 Boston, MA 02298

**Prior to performance of service**

Blue Cross Blue Shield of Massachusetts  
 Case Creation/Medical Policy  
 One Enterprise Drive  
 Quincy, MA 02171  
 Tel: 1-800-327-6716  
 Fax: 1-888-641-5330

**Authorization Information**

**For Managed Care members:**

- No authorization is required for this service; *see Managed Care Guidelines for additional requirements.*

**For Indemnity and PPO members:**

- No authorization is required for this service; *see Indemnity and PPO Guidelines for additional requirements.*

**Managed Care Guidelines**

**All authorization requirements are determined by the individual’s subscriber certificate, explanation of coverage, or summary plan description, however;**

- **For Medicare HMO Blue members:** The service must meet the criteria for coverage noted in this policy, be medically necessary, prescribed by a plan physician and provided by a network provider.
- **For Medicare HMO Blue members:** Referrals are required for all visits to a specialist.
- For all other Managed Care plans, any specialist visit requires a referral, except for visits performed by OB/GYN specialists.
- Authorization is required for an inpatient admission.

**Indemnity and PPO Guidelines**

**All authorization requirements are determined by the individual’s subscriber certificate, explanation of coverage, or summary plan description, however;**

- Authorization is required for an inpatient admission.
- Authorizations are not required for most outpatient services as determined by the individual's subscriber certificate.
- Referrals to a specialist are not required.

### Coding information

*Procedure codes are from current CPT, HCPCS Level II, Revenue Code, and/or ICD-9-CM manuals, as recommended by the American Medical Association, Centers for Medicare and Medicaid Services and American Hospital Associations. Blue Cross Blue Shield Association national codes may be developed when appropriate.*

*The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.*

#### Modifiers:

- modifier TC, technical component-
- modifier 26, professional component

#### CPT code:

- **76514:** ophthalmic ultrasound, echography, diagnostic; corneal pachymetry, unilateral or bilateral (determination of corneal thickness)

**Note:** The above code will deny, leaving no patient balance if submitted with a diagnosis other than the covered listed conditions.

**Note:** See footnote 1 for medically necessary diagnoses *for commercial products only*.

**Note:** See footnote 2 for medically necessary diagnoses *for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx only*.

### Utilization guidelines for Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx for corneal pachymetry

- Claims for corneal pachymetry will be allowed once per lifetime for the evaluation of the patient who meets the indications of coverage.
- Claims for corneal pachymetry, submitted more than once per lifetime for any diagnosis, may be reviewed on a post-payment basis.
- Claims for corneal pachymetry, submitted for patients with Fuchs' dystrophy, will be allowed twice per year without medical review. This diagnostic test must be used for medical management decision-making.
- Corneal pachymetry is covered on a one-time basis when performed on an established glaucoma patient.
- Claims for corneal pachymetry performed more than once per year in the evaluation of corneal edema, corneal rejection following penetrating keratoplasty, and the endothelial dysfunction of the cornea may be reviewed on a post-payment basis. The diagnostic test must be used for clinical decision-making and medical management. When corneal pachymetry is used to decide if the patient might undergo cataract surgery without simultaneous penetrating keratoplasty is an example of the use of medical management decision-making. This criteria applies to the following codes:
  - 371.20: Corneal edema, unspecified
  - 371.22: Secondary corneal edema
  - 371.23: Bullous keratopathy
  - 371.58: Posterior polymorphous dystrophy

- 996.51: Corneal rejection post penetrating keratoplasty

#### **Documentation Requirements for our Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx products for corneal pachymetry**

- The documentation should show that the service was reasonable and necessary for at least one of the covered indications of coverage.
- The patient's medical record should be legible, clearly indicate the reasonableness and necessity, and frequency of the service.
- Documentation supporting the necessity and frequency of treatment more than once per lifetime must be kept in the patient's medical record and be available to Medicare upon request.
- Medical records should be furnished upon request.

Updated 7/03 to include coverage for corneal pachymetry for Medicare HMO Blue products (effective 7/15/03) and to clarify that coverage for corneal pachymetry for glaucoma for all Products is included as part of a comprehensive ophthalmological evaluation. Updated 12/03 to clarify corneal pachymetry for glaucoma for all Products is included as part of an ophthalmological evaluation and management service. Reviewed 2/04 MPG- Psychiatry, Ophthalmology and Endocrinology, no changes in coverage were made. Reviewed 2/06 MPG- Psychiatry, Ophthalmology and Endocrinology, no changes in coverage were made. Reviewed 2/07 MPG- Psychiatry, Ophthalmology and Endocrinology, no changes in coverage were made. Updated 5/07 to reformat coding information section and remove deleted codes. Updated 12/07 after review of Local Medicare LCD, to include 5<sup>th</sup> digit ICD-9 CM diagnoses under footnote 8 (365.81-.89) and also added additional ICD-9 CM diagnosis code 377.14 (glaucomatous atrophy of optic disc) under footnote 8, as well as removed corneal pachymetry as a result of a complication of refractive surgery under utilization guidelines for our Medicare Advantage members in accordance with Medicare LCD on corneal pachymetry. Updated 12/07, to note medically necessary ICD-9 CM diagnoses for corneal pachymetry under footnote 9 for all Products excluding Medicare Advantage products. Updated 7/08 to remove reimbursement references relative to incidental editing when corneal pachymetry is performed for glaucoma diagnoses with an ophthalmological evaluation and management service, effective 8/1/08. New policy, effective 8/08. Reviewed 2/09 MPG – Psychiatry, Ophthalmology and Endocrinology, no changes in coverage were made. Updated 9/09 after review of Medicare LCD (L30264) Corneal Pachymetry effective 10/5/09.

This document is designed for informational purposes only and is not an authorization, or an explanation of benefits, or a contract. Receipt of benefits is subject to satisfaction of all terms and conditions of the coverage. Medical technology is constantly changing, and we reserve the right to review and update our policies periodically.

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#### **Footnotes**

<sup>1</sup> ICD-9 codes that support medical necessity for commercial products (excluding Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx) include:

- 365.00: preglaucoma unspecified
- 365.01: open angle with borderline glaucoma findings
- 365.02: anatomical narrow angle borderline glaucoma
- 365.03: steroid responders borderline glaucoma
- 365.04: ocular hypertension
- 365.10: open-angle glaucoma unspecified
- 365.11: primary open angle glaucoma

- 365.12: low tension open-angle glaucoma
- 365.13: pigmentary open-angle glaucoma
- 365.14: glaucoma of childhood
- 365.15: residual stage of open angle glaucoma
- 365.20 - 365.24 primary angle-closure glaucoma
- 365.31: corticosteroid-induced glaucoma glaucomatous stage
- 365.41 - 365.44 glaucoma associated with congenital anomalies, dystrophies and systemic syndromes
- 365.51 - 365.59 glaucoma associated with disorders of the lens
- 365.60: glaucoma associated with unspecified ocular disorder
- 365.81-89: other specified forms of glaucoma
- 365.9: unspecified glaucoma
- 371.50-371.58: hereditary corneal dystrophies
- 371.60-371.62: keratoconus
- 743.20 - 743.22 buphthalmos

<sup>2</sup> Corneal pachymetry covered **effective July 15, 2003** for Medicare HMO Blue, Medicare PPO Blue and Blue Medicare PFFS PlusRx products in accordance with NHIC Local Medicare Coverage Determination (LCD), #L12803:

[http://www.cms.hhs.gov/mcd/viewlcd.asp?lcd\\_id=12803&lcd\\_version=32&show=all](http://www.cms.hhs.gov/mcd/viewlcd.asp?lcd_id=12803&lcd_version=32&show=all) **This LCD was retired 10/5/09.**

New NHIC Local Medicare Coverage Determination (LCD), #L30264, **effective 10/5/09**:

[http://www.cms.hhs.gov/mcd/viewlcd.asp?lcd\\_id=30264&lcd\\_version=3&show=all](http://www.cms.hhs.gov/mcd/viewlcd.asp?lcd_id=30264&lcd_version=3&show=all)

**ICD-9 codes that support medical necessity for Medicare HMO Blue, Medicare PPO Blue, and Blue Medicare PFFS PlusRx products only include:**

- 364.22: glaucomatocyclitic crises
- 364.77: recession of chamber angle of eye
- 365.00: preglaucoma unspecified
- 365.01: open angle with borderline glaucoma findings
- 365.02: anatomical narrow angle borderline glaucoma
- 365.03: steroid responders borderline glaucoma
- 365.04: ocular hypertension
- 365.10: open-angle glaucoma unspecified
- 365.11: primary open angle glaucoma
- 365.12: low tension open-angle glaucoma
- 365.13: pigmentary open-angle glaucoma
- 365.14: glaucoma of childhood
- 365.15: residual stage of open angle glaucoma
- 365.20 - 365.24 primary angle-closure glaucoma
- 365.31: corticosteroid-induced glaucoma glaucomatous stage
- 365.41 - 365.44 glaucoma associated with congenital anomalies, dystrophies and systemic syndromes
- 365.51 - 365.59 glaucoma associated with disorders of the lens
- 365.60: glaucoma associated with unspecified ocular disorder
- 365.81-365.89: hypersecretion glaucoma - other specified glaucoma
- 365.9: unspecified glaucoma
- 371.00: corneal opacity unspecified
- 371.10: corneal deposit unspecified
- 371.11: anterior corneal pigmentations

- 371.12: stromal corneal pigmentations
- 371.13: posterior corneal pigmentations
- 371.14: Kayser-Fleischer ring
- 371.15: other corneal deposits associated with metabolic disorders
- 371.16: argentous corneal deposits
- 371.20: corneal edema unspecified
- 371.21: idiopathic corneal edema
- 371.22: secondary corneal edema
- 371.23: bullous keratopathy
- 371.50: hereditary corneal dystrophy unspecified
- 371.57: endothelial corneal dystrophy
- 371.58: other posterior corneal dystrophies
- 371.60: keratoconus unspecified
- 371.61: keratoconus stable condition
- 371.62: keratoconus acute hydrops
- 371.70: corneal deformity unspecified
- 371.71: corneal ectasia
- 377.14: glaucomatous atrophy (cupping) of optic disc
- 743.10 - 743.12: microphthalmos
- 743.20 - 743.22: buphthalmos
- 743.41 - 743.49: coloboma and other anomalies of anterior segment
- 996.51: mechanical complication of prosthetic corneal graft
- 996.89: complications of other specified transplanted organ