

Policy: MP199

Section: Medical Benefit Policy

Subject: Corneal Pachymetry

Applicable line of business:

Commercial	x	Medicaid	x
Medicare	x	ACA	x
CHIP	x		

I. Policy: Corneal Pachymetry

II. Purpose/Objective:

To provide a policy of coverage regarding Corneal Pachymetry

III. Responsibility:

- A. Medical Directors
- B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

Commercial

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Medicare

Geisinger Gold Medicare Advantage HMO, PPO, and HMO D-SNP plans are offered by Geisinger Health Plan/Geisinger Indemnity Insurance Company, health plans with a Medicare contract. Continued enrollment in Geisinger Gold depends on contract renewal. Geisinger Health Plan/Geisinger Indemnity Insurance Company are part of Geisinger, an integrated health care delivery and coverage organization.

CHIP

Geisinger Health Plan Kids (GHP Kids) is a Children's Health Insurance Program (CHIP) offered by Geisinger Health Plan in conjunction with the Pennsylvania Department of Human Services (DHS). Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Medicaid

Geisinger Health Plan Family (GHP Family) is a Medical Assistance (Medicaid) insurance program offered by Geisinger Health Plan in conjunction with the Pennsylvania Department of Human Services (DHS). Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community.
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
- e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

- Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
- Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an illness, condition, injury or disability.
- Will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for Members of the same age

DESCRIPTION:

Corneal pachymetry is the measurement of central corneal thickness by either ultrasound or optical biometry.

INDICATIONS:

Corneal pachymetry may be considered medically necessary for **any** of the following conditions:

- To assist in the diagnosis of corneal thinning disorders; **or**
- To assess corneal edema; **or**
- To assess disease progression in disorders of endothelial dysfunction; **or**
- To aid in the early diagnosis and treatment of corneal transplant rejection; **or**
- To determine the response to treatment of corneal transplant rejection; **or**
- To determine the influence of corneal thickness on intraocular pressure measurements (greater than 24 mm/Hg) in both suspected and established glaucoma; **or**
- To assist in selection of appropriate cataract surgical techniques for members with prior intraocular surgery or established corneal diseases

LIMITATIONS:

Corneal pachymetry testing for the evaluation of glaucoma is considered medically necessary once per lifetime.

Note: The lifetime limit **ONLY** applies for measurements done to assess corneal thickness, in conjunction with a glaucoma diagnosis. The limit does not apply in cases where the assessment of corneal thickness is required after ocular trauma (surgical or accidental) has been sustained, including the management of bullous keratopathy resulting from surgical or accidental trauma, or in Fuch's dystrophy.

Repeat corneal pachymetry testing for diseases and injury is considered medically necessary when performed no more frequently than once every six months.

EXCLUSIONS:

There is insufficient evidence in the available published, peer-reviewed medical literature to support the use of corneal pachymetry outside of the established indications. Corneal pachymetry is considered **unproven** and is **NOT COVERED** in the following scenarios:

- Pre-operative evaluation of cataract surgery in the absence of documented corneal disease
- As a screening test for glaucoma in the absence of signs or symptoms of glaucoma or increased intraocular pressure

The use of corneal pachymetry associated with the pre-operative evaluation for surgical refractive error correction is **NOT COVERED**.

Medicaid Business Segment:

Any requests for services, that do not meet criteria set in the PARP, may be evaluated on a case by case basis.

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in MP 15 - Experimental Investigational or Unproven Services or Treatment.

CODING ASSOCIATED WITH: Corneal Pachymetry

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

76514 Ophthalmic ultrasound, diagnostic, corneal pachymetry, unilateral or bilateral (determination of corneal thickness)

Current Procedural Terminology (CPT®) © American Medical Association: Chicago, IL

LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

REFERENCES:

Sobottka Ventura AC, Bohnke M, Mojon DS. Central corneal thickness measurements in patients with normal tension glaucoma, primary open angle glaucoma, pseudoexfoliation glaucoma or ocular hypertension. Br J Ophthalmol 2001;85:792-795.

Nemesure B, Wu SY, Hennis A, Leske MC. Corneal thickness and intraocular pressure in the Barbados eye studies. Arch Ophthalmol. 2003 Feb;121(2):240-244.

Brandt JD. Corneal thickness in glaucoma screening, diagnosis and management. Curr Opin Ophthalmol. 2004 Aug;15(2):85-89.

Brandt JD, Beiser JA, Kass MA, Gordon MO. Central corneal thickness in the Ocular Hypertension Treatment Study (OHTS). Ophthalmology 2001 Oct;108(10):1779-1788.

Doughty MJ, Zaman ML. Human corneal thickness and its impact on intraocular pressure measures. A review and meta-analysis approach. Survey of Ophthalmology 2000 Mar-Apr;44(5):367-408.

American Academy of Ophthalmology. Preferred Practice Pattern 2005.

http://www.guideline.gov/summary/summary.aspx?doc_id=8202&nbr=004577&string=glaucoma

Jonas JB, Stroux A, Velten I, et al. Central corneal thickness correlated with glaucoma damage and rate of progression. Invest Ophthalmol Vis Sci 2005;46:1269-1274.

Ayala, M, Strandas R. Accuracy of optical coherence tomography (OCT) in pachymetry for glaucoma patients. BMC Ophthalmology 2015; 15:124

Maloca PM, Studer HP, et al. Interdevice variability of central corneal thickness measurement. PLOS One. Sep 2018

Bohm M, Shajari M, Remy M, Kohnen T. Corneal densitometry after accelerated corneal collagen cross-linking in progressive keratoconus. Int Ophthalmol. 2019;39(4):765-775.

Gharieb HM, Ashour DM, Saleh MI, Othman IS. Measurement of central corneal thickness using Orbscan 3, Pentacam HR and ultrasound pachymetry in normal eyes. Int Ophthalmol. 2020;40(7):1759-1764.

Kim JS, Rho CR, Cho YW, Shin J. Comparison of corneal thickness measurements using ultrasound pachymetry, noncontact tonopachy, Pentacam HR, and Fourier-domain OCT. Medicine 2021;100(16):e25638

Camburu G, Zemba M, Tătaru CP, Purcărea VL. The measurement of Central Corneal Thickness. Rom J Ophthalmol. 2023; 67(2): 168-174.

Mian SI, Viriya ET, Ahmad S, et al. Corneal Edema and Opacification Preferred Practice Pattern®. Ophthalmology. 2024;131(4): P247-P305

This policy will be revised as necessary and reviewed no less than annually.

Devised: 03/2007

Revised: 4/23 (add clarification to benefit limit); 4/25 (add indication, revise unproven language)

Reviewed: 3/08, 3/09, 3/10, 5/11, 5/12, 5/13, 5/14, 5/15, 5/16, 4/17, 4/18, 4/19, 4/20, 4/21, 4/22, 4/24

CMS UM Oversight Committee Approval: 12/23, 7/24, 6/25

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Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at <https://www.geisinger.org/health-plan/providers/ghp-clinical-policies>

Please be advised that the use of the logos, service marks or names of Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company on a marketing, press releases or any communication piece regarding the contents of this medical policy is strictly prohibited without the prior written consent of Geisinger Health Plan. Additionally, the above medical policy does not confer any endorsement by Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company regarding the medical service, medical device or medical lab test described under this medical policy.