

Medical Policy



Title: Pachymetry

Professional	Institutional
Original Effective Date: March 11, 2004	Original Effective Date: March 11, 2004
Revision Date(s): November 3, 2005; July 30, 2013; December 11, 2013; March 31, 2015; August 19, 2015; March 16, 2016; October 1, 2016; February 15, 2018; January 16, 2019; October 1, 2020; October 19, 2021, September 13, 2022	Revision Date(s): July 30, 2013; December 11, 2013; March 31, 2015; August 19, 2015; March 16, 2016; October 1, 2016; February 15, 2018; January 16, 2019; October 1, 2020; October 19, 2021; September 13, 2022
Current Effective Date: August 19, 2015	Current Effective Date: August 19, 2015

State and Federal mandates and health plan member contract language, including specific provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage. To verify a member's benefits, contact [Blue Cross and Blue Shield of Kansas Customer Service](#).

The BCBSKS Medical Policies contained herein are for informational purposes and apply only to members who have health insurance through BCBSKS or who are covered by a self-insured group plan administered by BCBSKS. Medical Policy for FEP members is subject to FEP medical policy which may differ from BCBSKS Medical Policy.

The medical policies do not constitute medical advice or medical care. Treating health care providers are independent contractors and are neither employees nor agents of Blue Cross and Blue Shield of Kansas and are solely responsible for diagnosis, treatment and medical advice.

If your patient is covered under a different Blue Cross and Blue Shield plan, please refer to the Medical Policies of that plan.

DESCRIPTION

Ophthalmic ultrasound is done to determine corneal thickness on one or both eyes by using corneal pachymetry, which is non-invasive and painless. Measuring the cornea is done by administering a topical anesthetic into the eye and placing a plastic ultrasonic probe onto the central cornea. Pachymetry uses ultrasound to determine the thickness of the cornea in any given location.

Corneal thickness directly affects assumptions made in the Goldman tonometry formula used in the measurement of intraocular pressure. Corneal thickness provides indirect measurement of physiologic function of the cornea.

POLICY

- A. Pachymetry testing is considered **medically necessary** for the following indications (see Policy Guidelines):
1. Adhesions and disruptions of iris and ciliary body; recession of chamber angle
 2. Degenerations of iris and ciliary body; pigmentary iris degeneration
 3. Borderline glaucoma [glaucoma suspect]; preglaucoma
 4. Borderline glaucoma [glaucoma suspect]; open angle glaucoma with borderline findings, low risk
 5. Borderline glaucoma [glaucoma suspect]; anatomical narrow angle
 6. Borderline glaucoma [glaucoma suspect]; steroid responders (borderline glaucoma)
 7. Borderline glaucoma [glaucoma suspect]; ocular hypertension
 8. Borderline glaucoma [glaucoma suspect]; open-angle with borderline findings, high risk
 9. Open-angle glaucoma
 10. Open-angle glaucoma; primary open angle glaucoma
 11. Open-angle glaucoma; pigmentary glaucoma
 12. Childhood glaucoma
 13. Primary angle-closure glaucoma
 14. Primary angle-closure glaucoma; chronic angle-closure glaucoma
 15. Senile cataract; pseudoexfoliation of lens capsule
 16. Disorders of refraction and accommodation; hypermetropia (with Vision Correction Surgery Coverage)
 17. Disorders of refraction and accommodation; myopia (with Vision Correction Surgery Coverage)
 18. Astigmatism (with Vision Correction Surgery Coverage)
- B. Pachymetry testing is considered **medically necessary, once per year**, for the following indications:
1. Corneal edema
 2. Corneal edema; idiopathic corneal edema
 3. Corneal edema; secondary corneal edema
 4. Corneal edema; bullous keratopathy
 5. Hereditary corneal dystrophies; endothelial corneal dystrophy
 6. Hereditary corneal dystrophies; posterior corneal dystrophy
 7. Mechanical complication of other specified prosthetic device, implant, and graft; due to corneal graft
- C. Pachymetry testing is considered **not medically necessary** for the following indications:
1. Routine screening services
 2. Glaucoma screening services
 3. Routine vision screening

POLICY GUIDELINES

In general, pachymetry is medically necessary once in a patient's lifetime for the indications in Item A. Other examinations will be considered on a case by case basis.

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.

CODING

The following codes for treatment and procedures applicable to this policy are included below for informational purposes. This may not be a comprehensive list of procedure codes applicable to this policy.

Inclusion or exclusion of a procedure, diagnosis or device code(s) 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 of these services as it applies to an individual member.

The code(s) listed below are medically necessary ONLY if the procedure is performed according to the "Policy" section of this document.

CPT/HCPCS	
76514	Ophthalmic ultrasound, diagnostic; corneal pachymetry, unilateral or bilateral (determination of corneal thickness)

ICD-10 DIAGNOSES	
H21.231	Degeneration of iris (pigmentary), right eye
H21.232	Degeneration of iris (pigmentary), left eye
H21.233	Degeneration of iris (pigmentary), bilateral
H21.551	Recession of chamber angle, right eye
H21.552	Recession of chamber angle, left eye
H21.553	Recession of chamber angle, bilateral
H40.001-H40.053	Glaucoma Suspect, code range
H40.10X1-H40.1134	Open-angle glaucoma, code range
H40.1210-H40.1234	Low-tension glaucoma, code range
H40.1311-H40.1334	Pigmentary glaucoma, code range
H40.20X1-H40.20X4	Unspecified primary angle-closure glaucoma, code range
H40.2210-H40.2294	Chronic angle-closure glaucoma, code range
H52.01-H52.209	Disorders of refraction and accommodation, code range
H18.20	Unspecified corneal edema
H18.221-H18.239	Corneal edema, code range
H18.11	Bullous keratopathy, right eye
H18.12	Bullous keratopathy, left eye
H18.13	Bullous keratopathy, bilateral
H18.511	Endothelial corneal dystrophy, right eye
H18.512	Endothelial corneal dystrophy, left eye
H18.513	Endothelial corneal dystrophy, bilateral
H18.591	Other hereditary corneal dystrophies, right eye
H18.592	Other hereditary corneal dystrophies, left eye
H18.593	Other hereditary corneal dystrophies, bilateral
H18.599	Other hereditary corneal dystrophies, unspecified eye
T85.318A	Breakdown (mechanical) of other ocular prosthetic devices, implants and grafts, initial encounter

ICD-10 DIAGNOSES	
T85.328A	Displacement of other ocular prosthetic devices, implants and grafts, initial encounter
T85.398A	Other mechanical complication of other ocular prosthetic devices, implants and grafts, initial encounter

REVISIONS	
07-30-2013	<p>In Policy section:</p> <ul style="list-style-type: none"> ▪ Revised the following medical policy language: "Pachymetry testing will be allowed: <ul style="list-style-type: none"> • Once per lifetime, • Once per lifetime with Vision Correction Surgery Coverage or • Once per year." <p>In Coding section:</p> <ul style="list-style-type: none"> ▪ Added ICD-9 diagnosis code 365.05 <p>Updated Reference section.</p>
12-11-2013	<p>In Coding section:</p> <ul style="list-style-type: none"> ▪ Added ICD-10 Diagnosis codes (<i>Effective October 1, 2014</i>)
03-31-2015	<p>In Policy section:</p> <ul style="list-style-type: none"> ▪ In Item A 1, added "Adhesions and disruptions of iris and ciliary body" ▪ In Item A 2, added "Degenerations of iris and ciliary body" ▪ In Items A 3, 4, 5, 6, 7, and 8, added "Borderline glaucoma [glaucoma suspect]" ▪ In Items A 10 and 11, added "Open-angle glaucoma" ▪ In Item A 14, added "Primary angle-closure glaucoma" ▪ In Item A 15, added "Senile cataract" ▪ In Items A 16 and 17, added "Disorders of refraction and accommodation" ▪ In Items B 2, 3, and 4, added "Corneal edema" ▪ In Items B 5 and 6, added "Hereditary corneal dystrophies" ▪ In Item B 7, added "Mechanical complication of other specified prosthetic device, implant, and graft" <p>In Coding section:</p> <ul style="list-style-type: none"> ▪ Updated nomenclature for ICD-9 codes.
08-19-2015	<p>In Policy section:</p> <ul style="list-style-type: none"> ▪ In Item A, removed "once in a lifetime" and added "(see Policy Guidelines)" to read "Pachymetry testing is considered medically necessary for the following indications (see Policy Guidelines)" ▪ Added Policy Guidelines: "In general, pachymetry is medically necessary once in a patient's lifetime. Other examinations will be considered on a case by case basis."
03-16-2016	Description, Policy, and Coding sections reviewed with no updates.
10-01-2016	<p>In Coding section:</p> <ul style="list-style-type: none"> ▪ Added ICD-10 codes effective 10-01-2016: H40.1110, H40.1111, H40.1112, H40.1113, H40.1114, H40.1120, H40.1121, H40.1122, H40.1123, H40.1124, H40.1130, H40.1131, H40.1132, H40.1133, H40.1134 ▪ Termed ICD-10 codes effective 09-30-2016: H40.11x1, H40.11x2, H40.11x3, H40.11x4
02-15-2018	<p>In Coding section:</p> <ul style="list-style-type: none"> ▪ Removed ICD-9 codes. ▪ Added ICD-10 codes: H40.021, H40.022, H40.023. <p>Updated References section.</p> <p>Remainder of policy reviewed; no other revisions made.</p>

REVISIONS	
01-16-2019	Medical policy reviewed; no revisions made.
10-01-2020	In Coding Section: <ul style="list-style-type: none"> • Added ICD-10 codes: H18.511, H18.512, H18.513, H18.591, H18.592, H18.593, H18.599 • Deleted ICD-10 codes: H18.51, H18.59
10-19-2021	Reviewed medical policy no changes
09-13-2022	Updated Policy Section <ul style="list-style-type: none"> ▪ Section C removed statement: "(See Covered Diagnoses section for a listing of codes)"
	Updated Coding Section <ul style="list-style-type: none"> ▪ Removed statements : "Pachymetry <u>once per lifetime</u> for the following codes for patients with Vision Correction Surgery Coverage" and "Pachymetry may be performed <u>once per year</u> in the following codes" from the ICD-10 box. ▪ Converted ICD-10 codes to ranges to include all ICD-10 codes within range: H40.001-H40.053, H40.10X1-H40.1134, H40.1210-H40.1234, H40.1311-H40.1334, H40.20X1-H40.20X4, H40.2210-H40.2294, H52.01-H52.209, and H18.221-H18.239.

REFERENCES

1. Chen PP Correlation of visual field progression between eyes in patients with open-angle glaucoma Ophthalmology 2002; 19:2093-2099
2. Diaz-Valle D, Benitez del Castillo Sanchez JM et.al Endothelial damage with cataract surgery techniques J Cataract Refract Surgery 1998 Jul 24(7):951-5
3. Doughty MJ et al. Human corneal thickness and its impact on intraocular pressure measures: A review and meta-analysis approach surv Ophthalmol 2000; 44:367-408
4. Ehlers N et al. Biometric correlations of corneal thickness Acta Ophthalmol Copenh 1975; 53:652-659
5. Emara BY, Tingey DP et al Central corneal thickness in low tension glaucoma Can J Ophthalmol 1999 Oct; 34(6):319-24
6. Gordon, MO, Beiser JA, et al. The ocular hypertension treatment study: Baseline factors that predict the onset of primary open angle glaucoma. Arch Ophthalmol 2002; 120 (June):714-719
7. Herman DC, Hodge DO, Bourne WM, Increased corneal thickness in patients with ocular hypertension Arch Ophthalmol 2001 Mar; 119(3):334-6
8. Kass MA, Heuer DK, et al. The Ocular Hypertension Treatment Study: A Randomized Trial Determines That Topical Ocular Hypotensive Medication Delays or Prevents the Onset of Primary Open-Angle Glaucoma. Arch Ophthalmol 2002; 120 (June):701-713
9. LaRosa FA, Gross RL, Orengo-Nania S Central corneal thickness of Caucasians and African-Americans in glaucomatous and non-glaucomatous populations Arch Ophthalmol 2001 Jan; 119(1):23-7
10. Marsich MW, Beillemore MA, The repeatability or corneal thickness measures Cornea 2000 Nov; 19(6):792-5
11. Palmberg P Answers from The Ocular Hypertension Treatment Study Arch Ophthalmol 2002 June; 120(6):829-830
12. Ravalico G, Tognetto D et al Corneal endothelial function after extracapsular cataract extraction and phacoemulsification J Cataract Refract Surg 1997 Sep; 23(7):967-8

13. Reep OF, Cagil N, Hasiripi H Correlation between intraocular pressure and corneal stromal thickness after laser in situ keratomileusis J Cataract Refract Surg 2001 Aug; 27(8):1146-7
14. Reep OF, Cagil N et al Relation between corneal thickness and intraocular pressure measurement by noncontact and applanation tonometry J Cataract Refract Surg 2001 Nov; 27(11):1787-91
15. Shah S, Catterjee A et al Relationship between corneal thickness and measured intraocular pressure in a general ophthalmologic clinic Ophthalmology 1999 Nov; 106(11):2154-60
16. Ventura AC, Walti R, Bohnke M Corneal thickness and endothelial density before and after cataract surgery Br J Ophthalmol 2001 Jan; 85(1):18-20
17. Ventura AC, Bohnke M, Mojon DS Central corneal thickness measurements in patients with normal tension glaucoma, open angle glaucoma pseudoexfoliation glaucoma, or ocular hypertension. Br J Ophthalmol 2001; Jul 85(7):792-5
18. Whitacre MM, Stein RA, Hassanein K The effect of corneal thickness on applanation tonometry Am J Ophthalmol 1993 May 15; (5):592-6
19. Wilson MR et al. Progression of visual field loss in untreated glaucoma patients and glaucoma suspects in St. Lucia, West Indies Am J Ophthalmol 2002; 134:399-405

OTHER REFERENCES

1. Blue Cross and Blue Shield of Kansas Ophthalmology Liaison Committee, May 4, 2005 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report. MAC-03-05).
2. Blue Cross and Blue Shield of Kansas Optometric Liaison Committee, May 26, 2005 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report. MAC-03-05).
3. Blue Cross and Blue Shield of Kansas Medical Advisory Committee meeting, November 3, 2005 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report. MAC-03-05).
4. Blue Cross and Blue Shield of Kansas Ophthalmology Liaison Committee, May 2014; May 2015; June 2016.
5. Blue Cross and Blue Shield of Kansas Optometry Liaison Committee, May 2013; May 2014.