Title: Pachymetry

Professional
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
Current Effective Date: August 19, 2015

Institutional
Original Effective Date: March 11, 2004
Revision Date(s): July 30, 2013; December 11, 2013; March 31, 2015; August 19, 2015; March 16, 2016; October 1, 2016
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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

*(See Covered Diagnoses section for a listing of codes)*
**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.

**CODING**
The following codes for treatment and procedures applicable to this policy are included below for informational purposes. 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.

<table>
<thead>
<tr>
<th>CPT/HCPCS</th>
<th>Description</th>
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<tr>
<td>76514</td>
<td>Ophthalmic ultrasound, diagnostic; corneal pachymetry, unilateral or bilateral (Determination of corneal thickness)</td>
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</table>

**ICD-9 Diagnoses**

**Pachymetry once per lifetime for the following codes:**
- 364.53 Degenerations of iris and ciliary body; pigmentary iris degeneration
- 364.77 Adhesions and disruptions of iris and ciliary body; recession of chamber angle
- 365.00 Borderline glaucoma [glaucoma suspect]; preglaucoma, unspecified
- 365.01 Borderline glaucoma [glaucoma suspect]; open angle with borderline findings, low risk
- 365.02 Borderline glaucoma [glaucoma suspect]; anatomical narrow angle
- 365.03 Borderline glaucoma [glaucoma suspect]; steroid responders
- 365.04 Borderline glaucoma [glaucoma suspect]; ocular hypertension
- 365.05 Borderline glaucoma [glaucoma suspect]; open-angle with borderline findings, high risk
- 365.10 Open-angled glaucoma, unspecified
- 365.11 Open-angle glaucoma; primary open angle glaucoma
- 365.12 Open-angle glaucoma; low tension glaucoma
- 365.13 Open-angle glaucoma; pigmentary glaucoma
- 365.14 Open-angle glaucoma; glaucoma of childhood
- 365.20 Primary angle-closure glaucoma, unspecified
- 365.23 Primary angle-closure glaucoma; chronic angle-closure glaucoma
- 366.11 Senile cataract; pseudoexfoliation of lens capsule

**Pachymetry once per lifetime for the following codes for patients with Vision Correction Surgery Coverage:**
- 367.0 Disorders of refraction and accommodation; hypermetropia
- 367.1 Disorders of refraction and accommodation; Myopia
- 367.20 Astigmatism, unspecified

**Pachymetry may be performed once per year in the following codes:**
- 371.20 Corneal edema, unspecified
- 371.21 Corneal edema; idiopathic corneal edema
- 371.22 Corneal edema; secondary corneal edema
- 371.23 Corneal edema; bullous keratopathy
371.57 Hereditary corneal dystrophies; endothelial corneal dystrophy
371.58 Hereditary corneal dystrophies; other posterior corneal dystrophies
996.51 Mechanical complication of other specified prosthetic device, implant, and graft; due
to corneal graft

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 Preglaucoma, unspecified, right eye
H40.002 Preglaucoma, unspecified, left eye
H40.003 Preglaucoma, unspecified, bilateral
H40.011 Open angle with borderline findings, low risk, right eye
H40.012 Open angle with borderline findings, low risk, left eye
H40.013 Open angle with borderline findings, low risk, bilateral
H40.031 Anatomical narrow angle, right eye
H40.032 Anatomical narrow angle, left eye
H40.033 Anatomical narrow angle, bilateral
H40.041 Steroid responder, right eye
H40.042 Steroid responder, left eye
H40.043 Steroid responder, bilateral
H40.051 Ocular hypertension, right eye
H40.052 Ocular hypertension, left eye
H40.053 Ocular hypertension, bilateral
H40.10X1 Unspecified open-angle glaucoma, mild stage
H40.10X2 Unspecified open-angle glaucoma, moderate stage
H40.10X3 Unspecified open-angle glaucoma, severe stage
H40.10X4 Unspecified open-angle glaucoma, indeterminate stage
H40.1110 Primary open-angle glaucoma, right eye, stage unspecified
H40.1111 Primary open-angle glaucoma, right eye, mild stage
H40.1112 Primary open-angle glaucoma, right eye, moderate stage
H40.1113 Primary open-angle glaucoma, right eye, severe stage
H40.1114 Primary open-angle glaucoma, right eye, indeterminate stage
H40.1120 Primary open-angle glaucoma, left eye, stage unspecified
H40.1121 Primary open-angle glaucoma, left eye, mild stage
H40.1122 Primary open-angle glaucoma, left eye, moderate stage
H40.1123 Primary open-angle glaucoma, left eye, severe stage
H40.1124 Primary open-angle glaucoma, left eye, indeterminate stage
H40.1130 Primary open-angle glaucoma, bilateral, stage unspecified
H40.1131 Primary open-angle glaucoma, bilateral, mild stage
H40.1132 Primary open-angle glaucoma, bilateral, moderate stage
H40.1133 Primary open-angle glaucoma, bilateral, severe stage
H40.1134 Primary open-angle glaucoma, bilateral, indeterminate stage
H40.1210 Low-tension glaucoma, right eye, stage unspecified
H40.1211 Low-tension glaucoma, right eye, mild stage
H40.1212  Low-tension glaucoma, right eye, moderate stage
H40.1213  Low-tension glaucoma, right eye, severe stage
H40.1214  Low-tension glaucoma, right eye, indeterminate stage
H40.1221  Low-tension glaucoma, left eye, mild stage
H40.1222  Low-tension glaucoma, left eye, moderate stage
H40.1223  Low-tension glaucoma, left eye, severe stage
H40.1224  Low-tension glaucoma, left eye, indeterminate stage
H40.1231  Low-tension glaucoma, bilateral, mild stage
H40.1232  Low-tension glaucoma, bilateral, moderate stage
H40.1233  Low-tension glaucoma, bilateral, severe stage
H40.1234  Low-tension glaucoma, bilateral, indeterminate stage
H40.1311  Pigmentary glaucoma, right eye, mild stage
H40.1312  Pigmentary glaucoma, right eye, moderate stage
H40.1313  Pigmentary glaucoma, right eye, severe stage
H40.1314  Pigmentary glaucoma, right eye, indeterminate stage
H40.1321  Pigmentary glaucoma, left eye, mild stage
H40.1322  Pigmentary glaucoma, left eye, moderate stage
H40.1323  Pigmentary glaucoma, left eye, severe stage
H40.1324  Pigmentary glaucoma, left eye, indeterminate stage
H40.1330  Pigmentary glaucoma, bilateral, stage unspecified
H40.1331  Pigmentary glaucoma, bilateral, mild stage
H40.1332  Pigmentary glaucoma, bilateral, moderate stage
H40.1333  Pigmentary glaucoma, bilateral, severe stage
H40.1334  Pigmentary glaucoma, bilateral, indeterminate stage
H40.20X1  Unspecified primary angle-closure glaucoma, mild stage
H40.20X1  Unspecified primary angle-closure glaucoma, mild stage
H40.20X2  Unspecified primary angle-closure glaucoma, moderate stage
H40.20X3  Unspecified primary angle-closure glaucoma, severe stage
H40.20X4  Unspecified primary angle-closure glaucoma, indeterminate stage
H40.2210  Chronic angle-closure glaucoma, right eye, stage unspecified
H40.2211  Chronic angle-closure glaucoma, right eye, mild stage
H40.2212  Chronic angle-closure glaucoma, right eye, moderate stage
H40.2213  Chronic angle-closure glaucoma, right eye, severe stage
H40.2214  Chronic angle-closure glaucoma, right eye, indeterminate stage
H40.2220  Chronic angle-closure glaucoma, left eye, stage unspecified
H40.2221  Chronic angle-closure glaucoma, left eye, mild stage
H40.2222  Chronic angle-closure glaucoma, left eye, moderate stage
H40.2223  Chronic angle-closure glaucoma, left eye, severe stage
H40.2224  Chronic angle-closure glaucoma, left eye, indeterminate stage
H40.2230  Chronic angle-closure glaucoma, bilateral, stage unspecified
H40.2231  Chronic angle-closure glaucoma, bilateral, mild stage
H40.2232  Chronic angle-closure glaucoma, bilateral, moderate stage
H40.2233  Chronic angle-closure glaucoma, bilateral, severe stage
H40.2234  Chronic angle-closure glaucoma, bilateral, indeterminate stage
H40.2291  Chronic angle-closure glaucoma, unspecified eye, mild stage
H40.2292  Chronic angle-closure glaucoma, unspecified eye, moderate stage
H40.2293  Chronic angle-closure glaucoma, unspecified eye, severe stage
H40.2294  Chronic angle-closure glaucoma, unspecified eye, indeterminate stage
H25.89  Other age-related cataract

**Pachymetry once per lifetime for the following codes for patients with Vision Correction Surgery Coverage:**

- H52.01  Hypermetropia, right eye
- H52.02  Hypermetropia, left eye
- H52.03  Hypermetropia, bilateral
- H52.11  Myopia, right eye
- H52.12  Myopia, left eye
- H52.13  Myopia, bilateral
- H52.201 Unspecified astigmatism, right eye
- H52.202 Unspecified astigmatism, left eye
- H52.203 Unspecified astigmatism, bilateral
- H18.20  Unspecified corneal edema
- H18.20  Unspecified corneal edema

**Pachymetry may be performed once per year in the following codes:**

- H52.201 Unspecified astigmatism, right eye
- H52.202 Unspecified astigmatism, left eye
- H52.203 Unspecified astigmatism, bilateral
- H18.20  Unspecified corneal edema
- H18.221 Idiopathic corneal edema, right eye
- H18.222 Idiopathic corneal edema, left eye
- H18.223 Idiopathic corneal edema, bilateral
- H18.231 Secondary corneal edema, right eye
- H18.232 Secondary corneal edema, left eye
- H18.233 Secondary corneal edema, bilateral
- H18.11  Bullous keratopathy, right eye
- H18.12  Bullous keratopathy, left eye
- H18.13  Bullous keratopathy, bilateral
- H18.51  Endothelial corneal dystrophy
- H18.51  Endothelial corneal dystrophy
- H18.59  Other hereditary corneal dystrophies
- T85.318A Breakdown (mechanical) of other ocular prosthetic devices, implants and grafts, initial encounter
- 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 | In Policy section:
<table>
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<tr>
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<td>Revised the following medical policy language:</td>
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"Pachymetry testing will be allowed:
• Once per lifetime,
• Once per lifetime with Vision Correction Surgery Coverage or
• Once per year."

In Coding section:
- Added ICD-9 diagnosis code 365.05

Updated Reference section.

12-11-2013
In Coding section:
- Added ICD-10 Diagnosis codes (*Effective October 1, 2014*)

03-31-2015
In Policy section:
- 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"

In Coding section:
- Updated nomenclature for ICD-9 codes.

08-19-2015
In Policy section:
- 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
In Coding section:
- Termined ICD-10 codes effective 09-30-2016: H40.11x1, H40.11x2, H40.11x3, H40.11x4

REFERENCES
1. Chen PP Correlation of visual field progression between eyes in patients with open-angle glaucoma Ophthalmology 2002; 19:2093-2099
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 extracapular cataract extraction and phacoemulsification J Cataract Refract Surg 1997 Sep; 23(7):967-8

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).
5. Blue Cross and Blue Shield of Kansas Optometry Liaison Committee, May 2013; May 2014.