TITLE: Pachymetry

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.

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 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
H40.021 Open angle with borderline findings, high risk, right eye
H40.022 Open angle with borderline findings, high risk, left eye
H40.023 Open angle with borderline findings, high 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
H40.20X2  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
H52.03  Hypermetropia, bilateral
H52.11  Myopia, right eye
H52.12  Myopia, left eye
H52.13  Myopia, bilateral
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
H18.20  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
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>H18.13</td>
<td>Bullous keratopathy, bilateral</td>
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<tr>
<td>H18.51</td>
<td>Endothelial corneal dystrophy</td>
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<td>H18.51</td>
<td>Endothelial corneal dystrophy</td>
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<tr>
<td>H18.59</td>
<td>Other hereditary corneal dystrophies</td>
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<tr>
<td>T85.318A</td>
<td>Breakdown (mechanical) of other ocular prosthetic devices, implants and grafts, initial encounter</td>
</tr>
<tr>
<td>T85.328A</td>
<td>Displacement of other ocular prosthetic devices, implants and grafts, initial encounter</td>
</tr>
<tr>
<td>T85.398A</td>
<td>Other mechanical complication of other ocular prosthetic devices, implants and grafts, initial encounter</td>
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**REVISIONS**

<table>
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<th>Date</th>
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| 07-30-2013 | In Policy section:  
- Revised the following medical policy language:
  "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."

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<th>Date</th>
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<tr>
<td>03-16-2016</td>
<td>Description, Policy, and Coding sections reviewed with no updates.</td>
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</table>
| 10-01-2016 | In Coding section:
- Termined ICD-10 codes effective 09-30-2016: H40.11x1, H40.11x2, H40.11x3, H40.11x4 |
In Coding section:

- Removed ICD-9 codes.
- Added ICD-10 codes: H40.021, H40.022, H40.023.

Updated References section.

Remainder of policy reviewed; no other revisions made.

**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.