MEDICAL POLICY

POLICY TITLE	**COMPUTER-ASSISTED CORNEAL TOPOGRAPHY**
POLICY NUMBER	**MP 5.062**

CLINICAL BENEFIT	☐ MINIMIZE SAFETY RISK OR CONCERN. ☒ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. ☐ ASSURE APPROPRIATE LEVEL OF CARE. ☐ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. ☒ ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. ☐ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	**10/1/2025**

I. POLICY

Computer-assisted corneal topography is considered **medically necessary** for any of the following indications:

- Pre-operative evaluation for phototherapeutic keratectomy.
- Pre-operative evaluation for surgery to correct astigmatism resulting from trauma or from previous surgery
- Assessment of post-operative complications associated with post-traumatic corneal scarring or complications of a transplanted cornea
- Post-operative management of penetrating keratoplasty or cataract surgery
- Documenting visual complications resulting from trauma or from previous surgery.
- Evaluation of patients with unexplained visual loss
- Diagnosis and management of keratoconus, bullous keratopathy, or corneal dystrophy

Computer-assisted corneal topography is considered **investigational** for all other indications including when performed as part of pre-operative assessment of members with cataracts. There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.

Cross-Reference:
MP 9.011 Corneal Surgery

II. PRODUCT VARIATIONS

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This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations as discussed in Section VI. Please see additional information below.

FEP PPO - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at:

https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies .

III. DESCRIPTION/BACKGROUND

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Corneal topography describes measurements of the curvature of the cornea. An evaluation of corneal topography is necessary for the accurate diagnosis and follow-up of certain corneal disorders, such as keratoconus, difficult contact lens fits, and pre- and postoperative assessment of the cornea, most commonly after refractive surgery.

Assessing corneal topography is part of the standard ophthalmologic examination of some patients. Corneal topography can be evaluated and determined in multiple ways. Computer-assisted corneal topography has been used for early identification and quantitative documentation of the progression of keratoconic corneas, and evidence is sufficient to indicate that computer-assisted topographic mapping can detect and monitor disease.

Various techniques and instruments are available to measure corneal topography: keratometer, keratoscope, and computer-assisted photokeratoscopy.

The keratometer (also referred to as an ophthalmometer), the most commonly used instrument, projects an illuminated image onto a central area in the cornea. By measuring the distance between a pair of reflected points in both of the cornea's 2 principal meridians, the keratometer can estimate the radius of curvature of 2 meridians. Limitations of this technique include the fact that the keratometer can only estimate the corneal curvature over a small percentage of its surface and that estimates are based on the frequently incorrect assumption that the cornea is spherical.

The keratoscope reflects a series of concentric circular rings off the anterior corneal surface. Visual inspection of the shape and spacing of the concentric rings provides a qualitative assessment of topography.

A photokeratoscope is a keratoscope equipped with a camera that can provide a permanent record of the corneal topography. Computer-assisted photokeratoscopy is an alternative to keratometry or keratoscopy for measuring corneal curvature. This technique uses sophisticated image analysis programs to provide quantitative corneal topographic data. Early computer-based programs were combined with keratoscopy to create graphic displays and high-resolution, color-coded maps of the corneal surface. Newer technologies measure both curvature and shape, enabling quantitative assessment of corneal depth, elevation, and power.

REGULATORY STATUS

A number of corneal topography devices have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process. In 1999, the Orbscan® (manufactured by Orbtek, distributed by Bausch and Lomb) was cleared by the FDA. The second-generation Orbscan II is a hybrid system that uses both projective (slit scanning) and reflective (Placido) methods. The Pentacam® (Oculus) is 1 of a number of rotating Scheimpflug imaging systems produced in Germany. In 2005, the Pentacam HR was released with a newly designed high-resolution camera and improved optics.

FDA product code: MXK.

IV. RATIONALE TOP

For individuals who have disorders of corneal topography who receive computer-assisted corneal topography/photokeratoscopy, the evidence includes a single RCT and multiple nonrandomized studies. Relevant outcomes are test accuracy, other test performance measures, and functional outcomes. With the exception of refractive surgery, a procedure not discussed herein, no studies have shown clinical benefit (e.g., a change in treatment decisions) based on a quantitative evaluation of corneal topography. In addition, a large prospective series found no advantage with use of different computer-assisted corneal topography methods over manual corneal keratometry. Computer-assisted corneal topography lacks evidence from appropriately constructed clinical trials that could confirm whether it improves outcomes. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

V. DEFINITIONS/BACKGROUND TOP

N/A

VI. DISCLAIMER TOP

Capital Blue Cross' medical policies are used to determine coverage for specific medical technologies, procedures, equipment, and services. These medical policies do not constitute medical advice and are subject to change as required by law or applicable clinical evidence from independent treatment guidelines. Treating providers are solely responsible for medical advice and treatment of members. These polices are not a guarantee of coverage or payment. Payment of claims is subject to a determination regarding the member's benefit program and eligibility on the date of service, and a determination that the services are medically necessary and appropriate. Final processing of a claim is based upon the terms of contract that applies to the members' benefit program, including benefit limitations and exclusions. If a provider or a member has a question concerning this medical policy, please contact Capital Blue Cross' Provider Services or Member Services.

VII. CODING INFORMATION

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Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement. The codes need to be in numerical order.

Covered when Medically Necessary

Procedure Codes							
92025							

Medically Necessary Diagnoses for Corneal Topography

ICD-10-CM Diagnosis Codes	Description
A18.59	Other tuberculosis of eye
E36.8	Other intraoperative complications of endocrine system
H17.00	Adherent leukoma, unspecified eye
H17.01	Adherent leukoma, right eye
H17.02	Adherent leukoma, left eye
H17.03	Adherent leukoma, bilateral
H17.10	Central corneal opacity, unspecified eye
H17.11	Central corneal opacity, right eye
H17.12	Central corneal opacity, left eye
H17.13	Central corneal opacity, bilateral
H17.811	Minor opacity of cornea, right eye
H17.812	Minor opacity of cornea, left eye
H17.813	Minor opacity of cornea, bilateral
H17.819	Minor opacity of cornea, unspecified eye
H17.821	Peripheral opacity of cornea, right eye

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ICD-10-CM Diagnosis Codes	Description
H17.822	Peripheral opacity of cornea, left eye
H17.823	Peripheral opacity of cornea, bilateral
H17.829	Peripheral opacity of cornea, unspecified eye
H17.89	Other corneal scars and opacities
H17.9	Unspecified corneal scar and opacity
H18.10	Bullous keratopathy, unspecified eye
H18.11	Bullous keratopathy, right eye
H18.12	Bullous keratopathy, left eye
H18.13	Bullous keratopathy, bilateral
H18.501	Unspecified hereditary corneal dystrophies, right eye
H18.502	Unspecified hereditary corneal dystrophies, left eye
H18.503	Unspecified hereditary corneal dystrophies, bilateral
H18.509	Unspecified hereditary corneal dystrophies, unspecified eye
H18.511	Endothelial corneal dystrophy, right eye
H18.512	Endothelial corneal dystrophy, left eye
H18.513	Endothelial corneal dystrophy, bilateral
H15.519	Endothelial corneal dystrophy, unspecified eye
H18.521	Epithelial (juvenile) corneal dystrophy, right eye
H18.522	Epithelial (juvenile) corneal dystrophy, left eye
H18.523	Epithelial (juvenile) corneal dystrophy, bilateral
H18.529	Epithelial (juvenile) corneal dystrophy, unspecified eye
H18.531	Granular corneal dystrophy, right eye
H18.532	Granular corneal dystrophy, left eye

ICD-10-CM Diagnosis Codes	Description
H18.533	Granular corneal dystrophy, bilateral
H18.539	Granular corneal dystrophy, unspecified eye
H18.541	Lattice corneal dystrophy, right eye
H18.542	Lattice corneal dystrophy, left eye
H18.543	Lattice corneal dystrophy, bilateral
H18.549	Lattice corneal dystrophy, unspecified eye
H18.551	Macular corneal dystrophy, right eye
H18.552	Macular corneal dystrophy, left eye
H18.553	Macular corneal dystrophy, bilateral
H18.559	Macular corneal dystrophy, unspecified eye
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
H18.601	Keratoconus, unspecified, right eye
H18.602	Keratoconus, unspecified, left eye
H18.603	Keratoconus, unspecified, bilateral
H18.609	Keratoconus, unspecified, unspecified eye
H18.611	Keratoconus, stable, right eye
H18.612	Keratoconus, stable, left eye
H18.613	Keratoconus, stable, bilateral
H18.619	Keratoconus, stable, unspecified eye
H18.621	Keratoconus, unstable, right eye

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ICD-10-CM Diagnosis Codes	Description
H18.622	Keratoconus, unstable, left eye
H18.623	Keratoconus, unstable, bilateral
H18.629	Keratoconus, unstable, unspecified eye
H18.711	Corneal ectasia, right eye
H18.712	Corneal ectasia, left eye
H18.713	Corneal ectasia, bilateral
H18.719	Corneal ectasia, unspecified eye
H18.899	Other specified disorders of cornea, unspecified eye
H18.9	Unspecified disorder of cornea
H27.00	Aphakia, unspecified eye
H27.01	Aphakia, right eye
H27.02	Aphakia, left eye
H27.03	Aphakia, bilateral
H52.201	Unspecified astigmatism, right eye
H52.202	Unspecified astigmatism, left eye
H52.203	Unspecified astigmatism, bilateral
H52.209	Unspecified astigmatism, unspecified eye
H52.211	Irregular astigmatism, right eye
H52.212	Irregular astigmatism, left eye
H52.213	Irregular astigmatism, bilateral
H52.219	Irregular astigmatism, unspecified eye
H52.221	Regular astigmatism, right eye
H52.222	Regular astigmatism, left eye

ICD-10-CM Diagnosis Codes	Description
H52.223	Regular astigmatism, bilateral
H52.229	Regular astigmatism, unspecified eye
L76.81	Other intraoperative complications of skin and subcutaneous tissue
L76.82	Other postprocedural complications of skin and subcutaneous tissue
Q12.3	Congenital aphakia
S05.00XA	Injury of conjunctiva and corneal abrasion without foreign body, unspecified eye, initial encounter
S05.00XD	Injury of conjunctiva and corneal abrasion without foreign body, unspecified eye, subsequent encounter
S05.00XS	Injury of conjunctiva and corneal abrasion without foreign body, unspecified eye, sequela
S05.01XA	Injury of conjunctiva and corneal abrasion without foreign body, right eye, initial encounter
S05.01XD	Injury of conjunctiva and corneal abrasion without foreign body, right eye, subsequent encounter
S05.01XS	Injury of conjunctiva and corneal abrasion without foreign body, right eye, sequela
S05.02XA	Injury of conjunctiva and corneal abrasion without foreign body, left eye, initial encounter
S05.02XD	Injury of conjunctiva and corneal abrasion without foreign body, left eye, subsequent encounter
S05.02XS	Injury of conjunctiva and corneal abrasion without foreign body, left eye, sequela
S05.8X1A	Other injuries of right eye and orbit, initial encounter
S05.8X1D	Other injuries of right eye and orbit, subsequent encounter
S05.8X1S	Other injuries of right eye and orbit, sequela
S05.8X2A	Other injuries of left eye and orbit, initial encounter
S05.8X2D	Other injuries of left eye and orbit, subsequent encounter

ICD-10-CM Diagnosis Codes	Description
S05.8X2S	Other injuries of left right eye and orbit, sequela
T81.31XA	Disruption of external operation (surgical) wound, not elsewhere classified, initial encounter
T81.31XD	Disruption of external operation (surgical) wound, not elsewhere classified, subsequent encounter
T81.31XS	Disruption of external operation (surgical) wound, not elsewhere classified, sequela
T81.49XA	Infection following a procedure, other surgical site, initial encounter
T81.49XD	Infection following a procedure, other surgical site, subsequent encounter
T81.49XS	Infection following a procedure, other surgical site, sequela
T81.89XA	Other complications of procedures, not elsewhere classified, initial encounter
T81.89XD	Other complications of procedures, not elsewhere classified, subsequent encounter
T86.840	Corneal transplant rejection
T86.841	Corneal transplant failure
T86.842	Corneal transplant infection
T86.848	Other complications of corneal transplant
T86.849	Unspecified complication of corneal transplant
Z94.7	Corneal transplant status

VIII. REFERENCES

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IX. POLICY HISTORY

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MP 5.062	**04/22/2025 Major review. New Policy.** Criteria from MP 1.044.

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