

**Medical Coverage Policy | Corneal Topography /  
Computer Assisted Corneal Topography /  
Photokeratoscopy**



**EFFECTIVE DATE:** 10|01|2015  
**POLICY LAST UPDATED:** 12|06|2016

## OVERVIEW

Computer-assisted topography/photokeratoscopy provides a quantitative measure of corneal curvature. Measurement of corneal topography is being evaluated for the diagnosis and follow-up of corneal disorders such as keratoconus, difficult contact lens fits, and pre- and postoperative assessment of the cornea, most commonly after refractive surgery.

## MEDICAL CRITERIA

Not applicable

## PRIOR AUTHORIZATION

Not applicable

## POLICY STATEMENT

### BlueCHiP for Medicare and Commercial Products

Computer-assisted corneal topography is considered not medically necessary to detect or monitor diseases of the cornea.

## COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for limitations of benefits/coverage when services are not medically necessary.

## BACKGROUND

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. Various techniques and instruments are available to measure corneal topography, including:

- 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 is an instrument that 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 in 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.

Due to the additional cost of this procedure and a lack of scientific evidence from appropriately constructed clinical trials that confirm improved health outcomes, quantitative evaluation of corneal topography, including evaluation with computer assistance, is considered not medically necessary.

## **CODING**

### **BlueCHiP for Medicare and Commercial Products**

Non-computer-assisted corneal topography is considered part of the evaluation and management services of general ophthalmologic services (CPT codes 92002–92014), and therefore this service should not be billed separately. There is no separate CPT code for this type of corneal topography. Non-computer-assisted corneal topography should be considered inclusive to evaluation and management services.

The following CPT code is not medically necessary:  
92025

## **RELATED POLICIES**

Not applicable

## **PUBLISHED**

Provider Update, January 2017  
Provider Update, August 2015  
Provider Update, February 2013  
Provider Update, July 2008  
Policy Update, June 2006

## **REFERENCES**

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2. Wilson SE, Klyce SD. Advances in the analysis of corneal topography. *Surv Ophthalmol.* 1991;35(4-Jan):269–277.
3. Bhattoa NS, Hau S, Ehrlich DP. A comparison of a topography-based rigid gas permeable contact lens design with a conventionally fitted lens in patients with keratoconus. *Cont Lens Anterior Eye.* Jun 2010;33(3):128-135. PMID 20053579
4. Lee H, Chung JL, Kim EK, et al. Univariate and bivariate polar value analysis of corneal astigmatism measurements obtained with 6 instruments. *J Cataract Refract Surg.* Sep 2012;38(9):1608-1615. PMID 22795977
5. Ophthalmic Technology Assessment Committee Cornea Panel American Academy of Ophthalmology. Corneal topography. *Ophthalmology.* 1999;106(8-Jan):1628-1638.

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