



MASSACHUSETTS

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Medical Policy

Corneal Endothelial Microscopy-Specular Microscopy

Table of Contents

- [Policy: Commercial](#)
- [Coding Information](#)
- [Information Pertaining to All Policies](#)
- [Policy: Medicare](#)
- [Description](#)
- [References](#)
- [Authorization Information](#)
- [Policy History](#)

Policy Number: 050

BCBSA Reference Number: 9.03.04A

NCD/LCD: N/A

Related Policies

None

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO BlueSM and Medicare PPO BlueSM Members

Corneal endothelial microscopy (specular microscopy) is **MEDICALLY NECESSARY** to treat the following conditions:

- As a pre-operative test for patients undergoing intra-ocular surgery (such as cataract surgery), to help identify patients at risk for post-surgical problems
- For patients undergoing surgical procedures with high risk to corneal endothelium, such as phacoemulsification
- For patients with corneal abnormalities, such as corneal dystrophy or edema, or irido-corneal endothelium syndrome
- For patients who have undergone intraocular surgery who are being fitted with extended-wear contact lenses, and
- For patients with slit lamp evidence of endothelial dystrophy or corneal edema.

Corneal endothelial microscopy is **NOT MEDICALLY NECESSARY** when it does not meet the policy statement.

Prior Authorization Information

Pre-service approval is required for all inpatient services for all products.

See below for situations where prior authorization may be required or may not be required for outpatient services.

Yes indicates that prior authorization is required.

No indicates that prior authorization is not required.

N/A indicates that this service is primarily performed in an inpatient setting.

	Outpatient
Commercial Managed Care (HMO and POS)	No
Commercial PPO and Indemnity	No
Medicare HMO BlueSM	No
Medicare PPO BlueSM	No

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code 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 as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

CPT codes:	Code Description
92286	Anterior segment imaging with interpretation and report; with specular microscopy and endothelial cell analysis

Description

The cornea is the transparent dome-shaped part of the outer surface of the eye covering the iris. It protects the eye and acts as the “glass” through which light passes. The main purpose of the cornea is to focus light into the eye. It is made of 5 layers of which the endothelium is the innermost layer. The endothelium is made of a single layer of densely packed flattened cells facing the anterior chamber of the eye. This layer of cells works with metabolic enzymes to pump water from the cornea and keep it clear. Normally, fluid leaks slowly from inside the eye into the stroma or middle layer of the cornea. Without pumping action of the endothelial cells, the stroma would swell with water, become hazy and ultimately opaque. Endothelial cells, if damaged or diseased, will not regenerate, and if too many endothelial cells are destroyed, corneal edema and blindness will ensue leaving corneal transplantation the only available therapy.

Ophthalmologists, particularly corneal specialists, rely on specular microscopes to examine the corneal endothelium at a magnified level. Specular microscopy can help visualize the hexagonal layer of endothelial cells, magnifying specific corneal disease damaged areas and deposits identified with Fuchs’ corneal dystrophy, a Krukenberg’s spindle suggesting pigmentary dispersion syndrome and pigmentary glaucoma, and keratic precipitates that point towards uveitis.

Summary

Corneal endothelial microscopy has been frequently used as a pre-operative test before intraocular surgery to identify patients at risk for corneal decompensation after surgery. In this setting, the most common application has been cataract surgery. In addition, corneal endothelial microscopy has been used in patients with corneal endothelial dystrophies, including Fuchs’ endothelial dystrophy, posterior polymorphous dystrophy, and iridocorneal endothelial syndromes. Specular microscopy yields important information that guides the physician’s decision-making processes when managing a corneal disorder such as pre and post cataract surgery, corneal transplantation, or disease. For these reasons, it is considered medically necessary as described in the policy statement.

Policy History

Date	Action
8/2015	Added coding language.
12/2013	Revised description of CPT code 92286.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
2/2011	Reviewed - Medical Policy Group - Psychiatry, Ophthalmology and Endocrinology. No changes to policy statements.
2/2010	Reviewed - Medical Policy Group - Psychiatry, Ophthalmology and Endocrinology. No changes to policy statements.
2/2009	Reviewed - Medical Policy Group - Psychiatry, Ophthalmology and Endocrinology. No changes to policy statements.
8/2008	New policy, effective 8/2008.
2/2007	Reviewed - Medical Policy Group - Psychiatry, Ophthalmology and Endocrinology. No changes to policy statements.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

References

1. Cataract Management Guideline Panel. Cataract in Adults: Management of Functional Impairment. Rockville, MD. AHCPR Publication no. 93-0542, 1993.
2. American Academy of Ophthalmology. Corneal endothelial photography. Ophthalmology 1991; 98(9):1464-8.