# MEDICAL POLICY

| POLICY TITLE | EYE CARE |
|---|---|
| POLICY NUMBER | MP 2.028 |

| Effective Date: | 7/1/2023 |
|---|---|



## I. POLICY

### Corneal Pachymetry

Corneal Pachymetry may be considered **medically necessary** when used as part of the medical management for any one of the following:

- Assessing progression of disease in patients with endothelial dystrophies;
- Aiding in early diagnoses and treatment of graft failure and the need for regrafting in corneal transplant recipients;
- To determine the response to the treatment of corneal transplant rejection;
- Assisting in the diagnosis of corneal thinning disorders; and
- To determine the influence of corneal thickness on intraocular pressure measurements for a glaucoma diagnosis, to include both glaucoma suspect and established glaucoma patients.

**Note:** For the above indications, corneal pachymetry may be considered medically necessary only once per lifetime per eye except for those patients undergoing corneal surgery, corneal transplant, and those being followed for ongoing corneal endothelial dystrophies and status-post corneal transplant.

Corneal Pachymetry is considered **not medically necessary** for the following:

- Performed as part of an evaluation for refractive surgery;
- Assessing the risk of corneal decompensation pre- and post-cataract surgery;
- Assisting in selection of appropriate cataract surgical techniques for patients with prior intraocular surgery or established corneal diseases;
- Performed solely as a screening (e.g., no evidence to support diagnosis of glaucoma);
- Pre-operative evaluation (unless a corneal transplant is scheduled);
- Performed postoperatively (unless test is performed following corneal transplant)

**Corneal endothelial microscopy** (also known as endothelial cell photography, endothelial microscopy, or anterior segment photography)

Corneal endothelial microscopy may be considered **medically necessary** for any one of the following indications:

- As a pre-operative test before intraocular surgery (e.g., cataract surgery) to identify patients at risk for postsurgical corneal decompensation.
- In the diagnosis and management of patients with corneal dystrophies or other corneal abnormalities
- Are about to undergo a secondary intraocular lens implantation,
- Have had previous intraocular surgery and require cataract surgery,
- Are about to be fitted with extended wear contact lenses after intraocular surgery.

**Transciliary Fistulization**

Transciliary fistulization for the treatment of glaucoma is considered **investigational,** as there is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with these procedures:

**Corneal Collagen Cross-Linking**

Corneal collagen cross-linking using riboflavin and ultraviolet A may be considered **medically necessary** as a treatment of progressive keratoconus (see policy guidelines for definition) or corneal ectasia after refractive surgery in patients who have failed conservative treatment (e.g. spectacle correction, rigid contact lens).

Corneal collagen cross-linking using riboflavin and ultraviolet A is considered **investigational** for all other indications as there is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with these procedures.

**POLICY GUIDELINES**

Progressive keratoconus or corneal ectasia is defined as 1 or more of the following:

- An increase of 1 D in the steepest keratometry value
- An increase of 1 D in regular astigmatism evaluated by subjective manifest refraction
- A myopic shift (decrease in the spherical equivalent) of 0.50 D on subjective manifest refraction
- A decrease ≥0.1 mm in the back optical zone radius in rigid contact lens wearers where other information was not available.

**Cross-references:**

**MP 1.044** Corneal Surgery, Implantation of Intrastromal Corneal Ring Segment and Corneal Topography/Photokeratoscopy
**MP 4.007** Vision Therapy
**MP 4.042** Amniotic Membrane and Amniotic Fluid Injections
**MP 9.011** Corneal Transplant, Endothelial Keratoplasty, and Keratoprostheses

## 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 pachymetry

Corneal pachymetry using ultrasound is a specialized, noninvasive, ophthalmologic procedure that uses a pachymeter to measure corneal thickness. Measurements of central corneal thickness are performed by applying a topical anesthetic to the eye and placing an ultrasound probe on the central cornea where ultrasonic wave energy is passed into the eye.

Corneal pachymetry using ultrasound is primarily used to assist with the diagnosis, assessment, and/or monitoring of corneal diseases and to assess suspected or established glaucoma. For example, corneal pachymetry using ultrasound is used to assist with the diagnosis of corneal thinning disorders (e.g., keratoconus, keratoglobus, keratotorus, posterior keratoconus, pellucid marginal degeneration). Corneal pachymetry using ultrasound is also included in the assessment and/or monitoring of disease progression of many conditions or injury affecting the cornea such as Fuchs' endothelial dystrophy, posterior polymorphous dystrophy, corneal edema, endothelial disease from any etiology, bullous keratopathy, corneal ectasia, and corneal trauma.

Corneal pachymetry using ultrasound is an important component of the assessment and management of intraocular pressure and glaucoma. Corneal thickness is important because it can mask an accurate reading of intraocular pressure in glaucoma. Actual intraocular pressure may be underestimated in individuals with thinner central corneal thickness or overestimated in individuals with thicker central corneal thickness. Because intraocular pressure is reportedly the most important and only variable risk factor for glaucoma progression, knowledge of the central corneal thickness is important in managing individuals with either suspected or established glaucoma. Repeat measurements of central corneal thickness for suspect or established glaucoma is not indicated unless the individual has corneal disease or has had surgery affecting corneal thickness. Corneal pachymetry for suspected or established glaucoma only needs to be performed once to obtain baseline glaucoma risk information.

In addition to assisting with the diagnosis, assessment, and/or the monitoring of corneal diseases and assessing suspected or established glaucoma, corneal pachymetry using ultrasound is valuable in the selection of appropriate surgical techniques and assessment of the individual's risk and response to certain ophthalmologic surgical procedures (e.g., corneal transplant

surgery, cataract surgery). Corneal pachymetry using ultrasound is effective in aiding the early diagnosis and/or treatment of corneal transplant rejection, as well as assessing the response to treatment of corneal graft rejection. The procedure may be used to assess corneal graft health. Corneal pachymetry using ultrasound is also considered for assessing the risk of corneal decompensation before and after cataract surgery for individuals with endothelial disease.

**Corneal Endothelial Microscopy**

The cornea is the transparent structure that forms the anterior one sixth of the outer coat of the eye and is responsible for more than two thirds of its refractive power. The cornea consists of several layers, including the epithelium, stroma, and single-celled endothelium. The endothelium is the most posterior layer, interfacing with the aqueous humor of the anterior chamber of the eye. Corneal clarity is dependent on a relatively dehydrated state. The endothelium plays a key role in maintaining dehydration by both preventing aqueous humor from entering the cornea and by pumping fluid from the corneal stroma into the anterior chamber. The corneal endothelial cells do not replicate. When destroyed by disease or surgery, the remaining cells enlarge and spread out to cover the posterior corneal surface, thus decreasing the cell density (cell count). Corneas with extremely low endothelial cell densities can no longer maintain a dehydrated state. The corneas may decompensate, swell, and become cloudy over time, with an associated loss of visual acuity.

The slit lamp (or biomicroscope) is commonly used to assess the status of the cornea and corneal endothelium. However, the specular microscope provides a magnified view of a small area of corneal endothelial cells to measure and record endothelial cell counts of the cornea. This technique is also known as corneal endothelial microscopy. Images of the endothelium seen with specular microscopy can be recorded on videotape or photographic film to facilitate estimates of endothelial cell density and configuration. The cell density of an individual's cornea can then be compared to a previously documented normal range, allowing for a rough estimation of the ability of that cornea to withstand damage from surgical or other trauma.

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. Finally, specular microscopy has been widely used in the evaluation of donor tissue for corneal transplantation.

**Transciliary Fistulization for the Treatment of Glaucoma**

Transciliary fistulization, also known as transciliary filtration or Singh filtration, uses a thermocauterization device called the Fugo blade to create a pore in the posterior chamber of the eye from the sclera through the ciliary body. This procedure reduces intraocular pressure (IOP) in patients with glaucoma by allowing aqueous fluid to seep into the subconjunctival lymphatic system.

Glaucoma is a disease characterized by degeneration of the optic disc. Elevated intraocular pressure (IOP) has long been thought to be the primary etiology, but the relationship between IOP and optic nerve damage varies among patients, suggesting a multifactorial origin. For example, some patients with clearly elevated IOP will show no damage to the optic nerve, while other patients with marginal or no pressure elevation will, nonetheless, show optic nerve damage. The association between glaucoma and other vascular disorders, such as diabetes or hypertension, suggests vascular factors may play a role in glaucoma. Specifically, it has been hypothesized that reductions in blood flow to the optic nerve may contribute to the visual field defects associated with glaucoma.

For primary-open angle glaucoma (POAG) associated with IOP, a decrease in aqueous outflow through the trabecular meshwork is believed to cause the IOP. However, there are many theories on what causes the decrease in aqueous outflow such as foreign body obstruction, trabecular endothelial cell loss, reduced trabecular pore density, disturbances in neurofeedback mechanisms, or normal phagocytic activity.

IOPs above 21 mm Hg have been shown to increase rates of visual field loss, and conventional management of the patient principally involves drug therapy to control elevated IOP to prevent or delay glaucomatous loss of vision. For POAG, drug therapy may include alpha-agonist, beta-blockers, carbonic-anhydrase inhibitors, miotic agents, and prostaglandin analogs. When the maximum tolerated medical therapy fails to control optic neuropathy, surgical care is considered the next treatment option. Surgical procedures include laser trabeculoplasty, incisional or filtering surgery, such as trabeculectomy or drainage implants, and as a last resort, ablation of the ciliary body.

Transciliary fistulization for the treatment of glaucoma, also known as transciliary filtration or Singh filtration, is a recent approach to filtering surgery. This procedure uses a thermocauterization device called the Fugo blade to create a plasma-ablated pore or filter track from the sclera through the ciliary body to allow aqueous fluid to ooze into the subconjunctival lymphatics from the posterior chamber (behind the iris) of the eye. Plasma ablation with the Fugo blade allows the highly vascular ciliary body to be penetrated with little or no bleeding.

Transciliary fistulization allows aqueous fluid to drain from the posterior chamber of the eye and differs from conventional filtering surgeries, such as trabeculoplasty, trabeculectomy, and drainage implant surgery, in which aqueous fluid is filtered from the anterior chamber of the eye. In the trabeculoplasty procedure, a laser is used to burn small areas of the trabecular meshwork, where normal drainage of the eye occurs, to increase aqueous fluid outflow, thereby lowering IOP. In trabeculectomy (or glaucoma filtration procedure), a portion of trabecular meshwork is surgically removed through a superficial flap of sclera to lower IOP by creating an alternate pathway for the aqueous fluid to flow from the anterior chamber to a bleb created in the subconjunctival space. If trabeculectomy has failed to reduce IOP sufficiently or a patient is considered to be at high risk for trabeculectomy failure, drainage implant surgery may be considered in which a tube is placed in the anterior chamber to shunt aqueous fluid to the subconjunctival space and lower IOP. Both trabeculectomy and drainage implant surgery often

result in flat or collapsed anterior chambers and usually require that an iridectomy (placement of a hole in the iris) also be performed. Transciliary fistulization rarely requires an iridectomy and is thought to reduce tissue damage and risk of scarring and other complications associated with trabeculectomy and drainage implant surgery.

**Corneal Collagen Cross-Linking**

**Keratoconus and Ectasia**

Keratoconus is a bilateral dystrophy characterized by progressive ectasia (paracentral steepening and stromal thinning) that impairs visual acuity. While frequently diagnosed at a young age, the progression of keratoconus is variable. Results from a longitudinal study with 7 years of follow-up showed that, over the study period, there was a decrease of 2 high- and 4 low-contrast letters in best-corrected visual acuity (BCVA). About 1 in 5 patients showed a decrease of 10 or more letters in high-contrast visual acuity and one-third of patients showed a decrease of 10 or more letters in low-contrast visual acuity. Over 8 years of follow-up, there was a mean increase of 1.44 diopters (D) in First Definite Apical Clearance Lens (a rigid contact lens to measure corneal curvature) and 1.6 D in flatter keratometric reading.

Ectasia (also known as keratectasia, iatrogenic keratoconus, or secondary keratoconus) is a serious long term complication of laser in situ keratomileusis (LASIK) surgery and photorefractive keratectomy. It is similar to keratoconus, but occurs postoperatively and primarily affects older populations. It may result from unrecognized preoperative keratoconus or, less frequently, from the surgery itself. Similar to keratoconus, it is characterized by progressive thinning and steepening of the cornea, resulting in corneal optical irregularities and loss of visual acuity.

**Treatment**

The initial treatment for keratoconus often consists of hard contact lenses. A variety of keratorefractive procedures have also been attempted, broadly divided into subtractive and additive techniques. Subtractive techniques include photorefractive keratectomy or laser in situ keratomileuses, although generally, results of these techniques have been poor. Implantation of intrastromal corneal ring segments is an additive technique in which the implants are intended to reinforce the cornea, prevent further deterioration, and potentially obviate the need for penetrating keratoplasty. Penetrating keratoplasty (i.e., corneal grafting) is the last line of treatment. About 20% of patients with keratoconus will require corneal transplantation. All of these treatments attempt to improve the refractive errors but are not disease-modifying.

Treatment options for ectasia include intraocular pressure-lowering drugs and intracorneal ring segments. Frequently, penetrating keratoplasty is required.

None of the currently available treatment options for keratoconus and corneal ectasia halt the progression of the disease, and corneal transplantation is the only option available when functional vision can no longer be achieved.

Corneal collagen cross-linking has the potential to slow the progression of the disease. It is performed with the photosensitizer riboflavin (vitamin B2) and ultraviolet A irradiation. There are 2 protocols for corneal collagen cross-linking:

1. Epithelium-off corneal collagen cross-linking (also known as “epi-off”): In this method, about 8 mm of the central corneal epithelium is removed under topical anesthesia to allow better diffusion of the photosensitizer riboflavin into the stroma. Following de-epithelialization, a solution with riboflavin is applied to the cornea (every 1-3 minutes for 30 minutes) until the stroma is completely penetrated. The cornea is then irradiated for 30 minutes with ultraviolet A 370 nm, a maximal wavelength for absorption by riboflavin, while the riboflavin continues to be applied. The interaction of riboflavin and ultraviolet A causes the formation of reactive oxygen species, leading to additional covalent bonds (cross-linking) between collagen molecules, resulting in stiffening of the cornea. Theoretically, by using a homogeneous light source and absorption by riboflavin, the structures beyond a 400-mm thick stroma (endothelium, anterior chamber, iris, lens, retina) are not exposed to an ultraviolet dose that is above the cytotoxic threshold.
2. Epithelium-on corneal collagen cross-linking (also known as “epi-on” or transepithelial): In this method, the corneal epithelial surface is left intact (or may be partially disrupted) and a longer riboflavin loading time is needed.

Currently, the only corneal collagen cross-linking treatment approved by the U.S. Food and Drug Administration (FDA) is the epithelium-off method. There are no FDA approved corneal collagen cross-linking treatments using the epithelium-on method. Corneal collagen cross-linking is being evaluated primarily for corneal stabilization in patients with progressive corneal thinning, such as keratoconus and corneal ectasia following refractive surgery. Corneal collagen cross-linking may also have anti-edematous and antimicrobial properties.

### Regulatory Status

In 2016, riboflavin 5’-phosphate in 20% dextran ophthalmic solution (Photrexa Viscous®; Avedro) and riboflavin 5’-phosphate ophthalmic solution (Photrexa®; Avedro) were approved by the U.S. Food and Drug Administration for use with KXL System in corneal collagen cross-linking for the treatment of progressive keratoconus and corneal ectasia after refractive surgery.

## IV. RATIONALE

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### Transciliary Filtration

The limited literature suggests poor acceptance of this procedure by the ophthalmologic community; the reasons for this are not clear. While this procedure is similar to other filtration procedures commonly performed for the surgical treatment of glaucoma, further studies with longer term follow-up are needed. Overall, the data are insufficient to determine the long-term health outcomes of transciliary fistulization for the treatment of glaucoma.

**Corneal Collagen Cross-Linking**

**Summary of Evidence**

For individuals who have progressive keratoconus who receive corneal collagen cross-linking using riboflavin and ultraviolet A, the evidence includes multiple randomized controlled trials (RCTs), systematic reviews, and nonrandomized studies. Relevant outcomes are change in disease status, functional outcomes, and treatment-related morbidity. In both pivotal RCTs, the primary endpoint (an intermediate outcome) of reducing maximum corneal curvature by 1 diopter (D) was achieved at month 3 and maintained at months 6 and 12 in corneal collagen cross-linking treated patients compared with sham controls. In both RCTs, the difference in mean change in maximum corneal curvature from baseline to 12 months was 1.9 D and 2.3 D, respectively, favoring the corneal collagen cross-linking treated patients. Several other studies measured visual acuity and found significant and lasting improvements in corrected visual acuity and other measures with corneal collagen cross-linking. Long-term follow-up for visual acuity outcomes is needed. The adverse events associated with corneal collagen cross-linking include corneal opacity (haze), corneal epithelial defects, and other ocular findings. Most adverse events resolved in the first month but continued in a few (1%-6%) patients for 6 to 12 months. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have corneal ectasia after refractive surgery who receive corneal collagen cross-linking using riboflavin and ultraviolet A, the evidence includes multiple RCTs and nonrandomized studies. Relevant outcomes are change in disease status, functional outcomes, and treatment-related morbidity. In both pivotal RCTs, the primary endpoint (an intermediate outcome) of reducing maximum corneal curvature by 1 D was achieved at month 3 and maintained at months 6 and 12 in the corneal collagen cross-linking treated patients compared with sham controls. In both RCTs, the difference in mean change in maximum corneal curvature from baseline to 12 months was 2.0 D and 1.1 D, respectively, favoring corneal collagen cross-linking treated patients. Other trials showed significant improvements not only in maximum corneal curvature but also visual acuity measures in the corneal collagen cross-linking groups compared with the control groups. The first and longest trial followed patients up to 3 years and saw continued improvement in visual acuity with corneal collagen cross-linking. Long-term follow-up for visual acuity outcomes is needed. The adverse events associated with corneal collagen cross-linking were the same for the ectasia trials as for the keratoconus. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

## V. DEFINITIONS

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**APHAKIA** refers to the absence of the lens of an eye, occurring congenitally or as a result of trauma or surgery.

**AMBLYOPIA** refers to reduced vision in an eye not correctable by a manifest refraction and with no obvious pathologic or structural cause.

**CORNEA** refers to the transparent anterior portion of the sclera (the fibrous outer layer of the eyeball), about one sixth of its surface: the first part of the eye that refracts light.

**CORNEAL PACHYMETRY** is a measurement of the thickness of the cornea. A pachymeter is most often used to measure the central cornea.

**ENDOTHELIUM** refers to the layer of simple squamous epithelial cells that line the heart, the blood and the lymph vessels, and the serous cavities of the body.

**EYE EXAMINATION** is a medical examination (e.g., office visit) performed by a physician when the reported symptom/diagnosis is, or could be, related to the eye.

**INTRAOCULAR LENS** is a mechanical transplant used in ophthalmology to replace the natural lens of the eye that has ceased to function due to disease (e.g., cataract) or otherwise functionally disrupted.

**ORTHOPTICS** is the science of correcting defects in binocular vision resulting from defects in optic musculature.

**PSEUDOPHAKIA** is a condition in which the natural lens of the eye is replaced with an intraocular lens.

**REFRACTION** is a routine test used by eye specialists to measure refractive errors of the eye.

**REFRACTIVE ERRORS** are eye conditions correctable with eyeglasses (e.g., myopia, astigmatism).

**ROUTINE EYE CARE** consists of eye examinations or refractions reported without a symptomatic condition, disease, injury, or defect related to the eye.

**ROUTINE VISION SCREENINGS** are periodic examinations to detect eye or vision problems and conditions such as macular degeneration, cataracts, and glaucoma, which can cause blindness if left untreated.

## VI. BENEFIT VARIATIONS

TOP

The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member's health benefit plan for information or contact Capital Blue Cross for benefit information.

## VII. DISCLAIMER

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*Capital Blue Cross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice, and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.*

## VIII. 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.

**Investigational; therefore, not covered when used for transciliary fistulization for the treatment of glaucoma:**

| Procedure Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| 66999 | | | | | | | |

**Covered when medically necessary; corneal pachymetry for the following indications. All other indications are considered not medically necessary:**

***Considered medically necessary only once per lifetime per eye except for those patients undergoing corneal surgery, corneal transplant, and those being followed for ongoing corneal endothelial dystrophies and status-post corneal transplant.*

| Procedure Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| 76514 | | | | | | | |

| ICD-10-CM Diagnosis Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| H18.51 | H18.52 | H18.53 | H18.54 | H18.55 | H18.59 | H18.891 | H18.892 |
| H18.893 | H40.011 | H40.012 | H40.013 | H40.021 | H40.022 | H40.023 | H40.031 |
| H40.032 | H40.033 | H40.041 | H40.042 | H40.043 | H40.051 | H40.052 | H40.053 |
| H40.061 | H40.062 | H40.063 | H40.1111 | H40.1112 | H40.1113 | H40.1114 | H40.1121 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| H40.1122 | H40.1123 | H40.1124 | H40.1131 | H40.1132 | H40.1133 | H40.1134 | H40.1211 |
| H40.1212 | H40.1213 | H40.1214 | H40.1221 | H40.1222 | H40.1223 | H40.1224 | H40.1231 |
| H40.1232 | H40.1233 | H40.1234 | H40.1311 | H40.1312 | H40.1313 | H40.1314 | H40.1321 |
| H40.1322 | H40.1323 | H40.1324 | H40.1331 | H40.1332 | H40.1333 | H40.1334 | H40.1411 |
| H40.1412 | H40.1413 | H40.1414 | H40.1421 | H40.1422 | H40.1423 | H40.1424 | H40.1431 |
| H40.1432 | H40.1433 | H40.1434 | H40.151 | H40.152 | H40.153 | H40.211 | H40.212 |
| H40.2211 | H40.2212 | H40.2213 | H40.2214 | H40.2221 | H40.2222 | H40.2223 | H40.2224 |
| H40.2231 | H40.2232 | H40.2233 | H40.2234 | H40.231 | H40.232 | H40.233 | H40.241 |
| H40.242 | H40.243 | H40.31X1 | H40.31X2 | H40.31X3 | H40.31X4 | H40.32X1 | H40.32X2 |
| H40.32X3 | H40.32X4 | H40.33X1 | H40.33X2 | H40.33X3 | H40.33X4 | H40.41X1 | H40.41X2 |
| H40.41X3 | H40.41X4 | H40.42X1 | H40.42X2 | H40.42X3 | H40.42X4 | H40.43X1 | H40.43X2 |
| H40.43X3 | H40.43X4 | H40.51X1 | H40.51X2 | H40.51X3 | H40.51X4 | H40.52X1 | H40.52X2 |
| H40.52X3 | H40.52X4 | H40.53X1 | H40.53X2 | H40.53X3 | H40.53X4 | H40.61X1 | H40.61X2 |
| H40.61X3 | H40.61X4 | H40.62X1 | H40.62X2 | H40.62X3 | H40.62X4 | H40.63X1 | H40.63X2 |
| H40.63X3 | H40.63X4 | H40.811 | H40.812 | H40.813 | H40.821 | H40.822 | H40.823 |
| H40.831 | H40.832 | H40.833 | H40.89 | H42 | H44.511 | H44.512 | H44.513 |
| T86.840 | T86.841 | Z94.7 | | | | | |

**Covered when medically necessary, corneal endothelial microscopy (also known as endothelial cell photography, endothelial microscopy, or anterior segment photography):**

| Procedure Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| 92286 | | | | | | | |

| ICD-10-CM Diagnosis Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| H17.11 | H17.12 | H17.13 | H18.011 | H18.012 | H18.013 | H18.051 | H18.052 |
| H18.053 | H18.061 | H18.062 | H18.063 | H18.51 | H18.52 | H18.53 | H18.54 |
| H18.55 | H18.59 | H18.891 | H18.892 | H18.893 | L12.0 | L12.1 | L12.2 |
| L12.31 | L12.35 | L12.8 | Z01.818 | Z46.0 | Z94.7 | Z96.1 | |

**Covered when medically necessary, corneal collagen cross linking:**

| Procedure Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0402T | J2787 | | | | | | |

| ICD-10-CM Diagnosis Codes | | | | | | | |
|---|---|---|---|---|---|---|---|
| H18.611 | H18.612 | H18.613 | H18.621 | H18.622 | H18.623 | H18.711 | H18.712 |
| H18.713 | | | | | | | |

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22. *National Institute for Health and Care Excellence (NICE). Photochemical corneal collagen cross-linkage using riboflavin and ultraviolet A for keratoconus and keratectasia [IPG466]. 2013.*
23. *Blue Cross Blue Shield Association Medical Policy Reference Manual. 9.03.28 Corneal Collagen Cross-Linking. April 2023*

## X. POLICY HISTORY

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|---|---|
| **MP 2.028** | **CAC 12/14/2004** |
| | **CAC 02/22/2005** |
| | **CAC 09/13/2005** |
| | **CAC 11/29/2005** |
| | **CAC 07/25/2006** |
| | **CAC 02/27/2007** |
| | **CAC 04/24/2007** |
| | **CAC 07/31/2007** |
| | **CAC 07/29/2008** |
| | **CAC 09/29/2009 Consensus review.** |
| | **CAC 11/30/2010 Consensus review.** |
| | **CAC 01/26/2011 Minor revision**. Ocular photography of the external eye considered not medically necessary was removed from the policy. |
| | **CAC 06/26/2012 Consensus review**. No change to policy statements |
| | **07/18/2013 Administrative update.** Review complete |
| | **CAC 09/24/2013 Consensus review**. No change to policy statements; references updated. |
| | **CAC 03/25/2014** Medicare variation revised to refer to new combined LCD L34344 Cataract Extraction including Complex Cataract Surgery). References updated. No changes to the policy statements. |
| | **CAC 03/24/2015 Consensus review**. No change to policy statements. References updated. |

| POLICY TITLE | EYE CARE |
|---|---|
| POLICY NUMBER | MP 2.028 |

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| | **11/02/2015 Administrative update**. LCD number changed from L34344 to L35091 due to Novitas update to ICD-10. |
| | **01/21/2016 Administrative update.** Added new 2016 code 99177. |
| | **05/24/2016 Administrative.** Removed 99177; added in error |
| | **CAC 03/29/2016 Minor review**. Changes include the following<br>• Removed information on ocular exercises (orthoptics). Addressed in MP 4.007 Vision Therapy<br>• Deleted policy statement "surgery for medical condition (e.g. glaucoma, cataracts, diabetes) symptomatic conditions (e.g. blurred vision, headaches, possible retinopathy), or trauma of the eye (e.g. injury due to an accident)".<br>• Removed statement on prosthetic appliances<br>• Removed statement on ocular photoscreening.<br>• Added additional indications for corneal endothelial microscopy<br>• Updated references for Medicare variations<br>• Added the following indications for amniotic membrane transplant<br>o Pemphigoid,<br>o Severe non healing ptygerium<br>o Alkali burns<br>o Stevens-Johnson syndrome.<br>Coding reviewed/updated |
| | **01/01/2017 Administrative update.** Product variation section reformatted. New Diagnosis codes added effective 10/1/16 |
| | **01/01/2018 Administrative update.** Medicare variations removed from Commercial Policies |
| | **12/29/2017 Minor revision**. Criteria for amniotic membrane transplants removed and moved to MP-4.042 Amniotic Membrane and Amniotic Fluid Injections. BCBSA medical necessity criteria and information for corneal collagen cross-linking adopted and added to the policy. Corneal collagen cross-linking using riboflavin and ultraviolet A may be considered medically necessary as a treatment of progressive keratoconus or corneal ectasia after refractive surgery in patients who have failed conservative treatment. References reviewed. Coding reviewed. Effective 4/1/18. |
| | **10/12/2018 Consensus review**. No changes to the policy statements. Background and references updated. Rationale revised. Added new code J2787 to policy effective 1/1/19. |
| | **07/22/2019 Consensus review**. No change to policy statements. Background, references, and rationale reviewed. |
| | **06/15/2020: Consensus Review:** No change to Policy Statement. Product Variation updated. Coding reviewed, no changes. References reviewed and updated. |
| | **07/14/2021: Consensus review.** Updated FEP, Background, Rationale, and References. No changes to coding. Updated coding tables for ICD-10 and HCPCS. |

| POLICY TITLE | EYE CARE |
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| POLICY NUMBER | MP 2.028 |

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| | **06/06/2022 Consensus review.** No change to policy statement. Product Variations updated. Coding table format updated. References reviewed and updated. |
| | **4/14/2023 Consensus review.** No change to policy statement. References reviewed and updated. Coding reviewed. |

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