

Corneal Collagen Cross-linking for Treatment of Keratoconus

Date of Origin: 06/2018

Last Review Date: 06/28/2023

Effective Date: 07/01/2023

Dates Reviewed: 06/2018, 06/2019, 06/2020, 06/2021, 05/2022, 06/2023

Developed By: Medical Necessity Criteria Committee

I. Description

Keratoconus is a noninflammatory disorder of the cornea of unknown etiology. It is characterized by progressive thinning and cone-shaped protrusion of the cornea leading to visual impairment. Patients present with blurry vision or a sudden decrease in visual acuity.

Treatment options include spectacle correction if visual acuity is functional. Rigid gas-permeable contact lenses can be used for extended periods of time that smooth out the irregularity of the cornea. These become intolerable to wear for the patient. Surgical interventions include the placement of intrastromal corneal ring segments or keratectomy. Keratoplasty is the most common surgical procedure with a success rate of greater than ninety percent.

Corneal collagen cross-linking is recommended for the management of keratoconus or ectasia after refractive surgery. It has been shown to slow the progression by strengthening collagen fibers. It is a procedure that uses riboflavin drops, ultraviolet light, and a photosensitizer to strengthen bonds in the cornea. In a prospective randomized controlled study of over 200 patients comparing collagen cross-linking to riboflavin drops alone, improvements in maximum keratometry value and directed and uncorrected distance visual acuity were improved in the treatment group at one year. Earlier trials and cohort studies of collagen cross-linking demonstrated flattening of the cornea and improvement in visual, topographic, and wavefront parameters that were maintained up to seven years.

II. Criteria: CWQI HCS-0231

- A. Moda Health considers **corneal collagen cross-linking (CXL)** medically necessary with **ALL** of the following:
 - a. The patient has a diagnosis of progressive keratoconus or corneal keratectasia following refractive surgery.
 - b. The requested procedure is for epithelium-off photochemical collagen cross-linkage using riboflavin (HCPC: J2787- Avedro's Photrex) and ultraviolet A.
 - c. The requested procedure is **NOT** for epithelium-on collagen cross-linkage. This is considered experimental and investigational for all indications.
 - d. The requested procedure is **ONLY** indicated for the above diagnoses. All other indications are considered experimental and investigational.

III. Information Submitted with the Prior Authorization Request:

1. Chart notes with documentation of diagnosis
2. Description of procedure and type of collagen cross-link to be used.

IV. CPT or HCPC codes covered:

Codes	Description
0402T	Collagen cross-linking of cornea (including removal of the corneal epithelium and intraoperative pachymetry when performed)
J2787	<i>Avedro's Photrexa</i>

V. Annual Review History

Review Date	Revisions	Effective Date
06/2018	New criteria	07/01/2018
06/2019	Annual Review: Updated permanent code J2787	07/01/2019
06/2020	Annual Review: No content change	07/01/2020
06/2021	Annual Review: No content change	07/01/2021
05/2022	Annual Review: No content change	06/01/2022
06/2023	Annual Review: Grammar updates, update wording 'progressive' keratoconus, 'corneal keratectasia following refractive surgery'.	07/01/2023

VI. References

1. WebMD: Corneal Cross-Linking (CXL) Treatment for Keratoconus Explained; <https://www.webmd.com/eye-health/corneal-cross-linking-for-keratoconus>
2. Celia Vimont, Devin A Harrison MD; Corneal Collagen Cross-linking Approved to Treat Keratoconus in U.S.; © American Academy of Ophthalmology 2018; Aug.01, 2016; <https://www.aao.org/eye-health/news/cross-linking-approved-keratoconus-united-states>
3. American Optometric Association, 243 N. Lindbergh Blvd., St. Louis, MO 63141
4. Sykakis E , Karim R, Evans JR, Bunce C, Amisssah-Arthur KN, Patwary S, McDonnell PJ, Hamada S.; Corneal collagen cross-linking for treating keratoconus. Cochrane Database Syst Rev. 2015 Mar 24;(3):CD010621. doi: 10.1002/14651858.CD010621.pub2; <https://www.ncbi.nlm.nih.gov/pubmed/25803325>
5. Centers for Medicare & Medicaid Services (CMS), Healthcare Common Procedure Coding System, (HCPCS), Public Meeting Agenda, Drugs, Biologicals and Radiopharmaceuticals, Wednesday, May 17, 2017 9:00 am – 5:00 pm, CMS Auditorium, 7500 Security Boulevard, Baltimore (Woodlawn), Maryland 21244-1850
6. American Academy of Ophthalmology, Practice Management/Coding/Aske the Coding Experts/News; How to Bill for Corneal Cross-Linking, February 23, 2018 ; <https://www.aao.org/practice-management/news-detail/how-to-bill-corneal-cross-linking>

7. Liz Hillman EyeWorld, Current Issue Educational Events Ophthalmology news - OPTHALMOLOGY BUSINESS - Crosslinking paperwork: Clearing up confusion August 2017; Source: <https://www.eyeworld.org/>
8. Keratoconus. Retrieved 2023 from https://www.uptodate.com/contents/keratoconus?search=corneal%20collagen%20cross%20linking&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1

Appendix 1 – Applicable Diagnosis Codes:

Codes	Description
H18.60	Keratoconus, unspecified
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
H18.62	Keratoconus, unstable
H18.621	Keratoconus, unstable, right eye
H18.622	Keratoconus, unstable, left eye
H18.623	Keratoconus, unstable, bilateral
H18.629	Keratoconus, unstable, unspecified eye
H18.7	Other and unspecified corneal deformities
H18.70	Unspecified corneal deformity
H18.71	Corneal ectasia
H18.711	Corneal ectasia, right eye
H18.712	Corneal ectasia, left eye
H18.713	Corneal ectasia, bilateral
H18.719	Corneal ectasia, unspecified eye
H18.79	Other corneal deformities
H18.791	Other corneal deformities, right eye
H18.792	Other corneal deformities, left eye
H18.793	Other corneal deformities, bilateral
H18.719	Corneal ectasia, unspecified eye

Appendix 2 – Centers for Medicare and Medicaid Services (CMS)

Medicare coverage for outpatient (Part B) drugs is outlined in the Medicare Benefit Policy Manual (Pub. 100-2), Chapter 15, §50 Drugs and Biologicals. In addition, National Coverage Determination (NCD) and Local Coverage Determinations (LCDs) may exist and compliance with these policies is required where applicable. They can be found at: <http://www.cms.gov/medicare-coverage-database/search/advanced-search.aspx>. Additional indications may be covered at the discretion of the health plan.

Medicare Part B Covered Diagnosis Codes (applicable to existing NCD/LCD):

Jurisdiction(s): 5, 8	NCD/LCD Document (s):
NA	

NCD/LCD Document (s):
NA

Medicare Part B Administrative Contractor (MAC) Jurisdictions		
Jurisdiction	Applicable State/US Territory	Contractor
F (2 & 3)	AK, WA, OR, ID, ND, SD, MT, WY, UT, AZ	Noridian Healthcare Solutions, LLC