

Investigational eye treatment: Corneal collagen crosslinking research study

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The Cornea and Laser Eye Institute, with Principal Investigator, Peter S. Hersh M.D., is conducting a research study to study the safety and effectiveness of corneal collagen crosslinking (CXL) using Riboflavin/Dextran and Hypotonic Riboflavin in patients with progressive keratoconus and corneal ectasia.

Keratoconus is a disease of the cornea, the clear front lens of the eye (like the crystal on a watch), that occurs in the overall population at a rate of about one in 2000. It usually begins in the teens and 20's and can worsen over time. It is often discovered when vision cannot be properly corrected with glasses. Keratoconus results in thinning of the corneal tissues. Consequently, the cornea bulges out of its smooth, clear, dome-like structure, and assumes a more conical and irregular configuration. Because of this change in shape, the cornea loses its ability to form a clear image in the eye and the patient's vision can decrease drastically. Treatments include specialty keratoconus [contact lenses](#) and corneal inlays. However, the keratoconus cornea can continue to bulge over time and some keratoconus patients ultimately may require corneal transplantation to regain vision.

Corneal [collagen](#) crosslinking (CXL) using [ultraviolet light](#) combined with riboflavin (Vitamin B2) is an investigational procedure designed to strengthen the cornea and decrease the progression of keratoconus. CXL is an investigational procedure and is not approved for use in the United States. However, here at the CLEI Center for Keratoconus, we are participating in a research study of CXL. The goal of the study is to

assess the safety and efficacy of crosslinking for the treatment of keratoconus as well as corneal ectasia after LASIK. If successful, CXL may decrease progression of keratoconus and maintain the patient's vision over time.

During the crosslinking procedure, anesthesia drops are administered. The surface epithelial cells of the cornea are then removed and riboflavin drops are administered for 30 minutes. The riboflavin acts both to enhance the crosslinking effect and to protect the rest of the eye from the UV exposure.

The patient then looks at a UV emitting light for 30 minutes. At the conclusion of the procedure, a soft contact lens bandage is applied. The contact lens is left in place to improve healing for approximately 5 days and is then removed. Antibiotic and anti-inflammatory drops are used for two weeks afterwards.

Provided by The Cornea and Laser Eye Institute, P.A.

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