Corneal Collagen Cross-Linking

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The cornea focuses light on the retina to provide clear vision. A smooth, regular shape is critical for the cornea to focus light effectively. Keratoconus is a condition that makes the cornea thinner and weaker, causing it to bulge into an irregular shape. This interferes with its ability to properly focus light. Keratoconus often worsens over time and can cause blurry vision or difficulty with bright lights. Previously, there was no treatment to prevent this condition from getting worse. Eye care professionals could only offer glasses or contact lenses while watching their patients' vision decline. When glasses and contacts no longer provided adequate vision, patients would undergo a corneal transplant to receive a new cornea.

Corneal collagen cross-linking is the first and only procedure available to prevent progression of keratoconus. Cross-linking was approved for use in the United States in 2016 and has been safely and effectively performed in other countries since 2003. The cornea's structure consists primarily of protein fibers called collagen. During this outpatient procedure, a combination of riboflavin (vitamin B2) drops and ultraviolet light is used to thicken corneal collagen fibers and form additional bonds ("cross-links") between them. These changes make the cornea stronger and more rigid.

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The primary goal of cross-linking is to prevent the cornea from becoming thinner, weaker, and more irregular in shape. The procedure is highly effective in reaching this goal with over 90% of patients attaining long-term stability post-operatively. Many patients also experience improvements in vision quality and corneal shape after cross-linking.

The primary indications for cross-linking include conditions that weaken the cornea, such as keratoconus. The ultraviolet light and cross-linking reaction also kill bacteria and other organisms. For this reason, cross-linking is also used to treat corneal infections that are unresponsive to medical therapy.

Corneal cross-linking has revolutionized the treatment of keratoconus and similar diseases. With this state-of-the-art procedure, we are now able to stabilize progressive conditions that previously had no effective treatment. When combined with glasses or specialty contact lenses, patients are often able to maintain excellent vision throughout their lifetimes.

What should you do if you are interested in corneal cross-linking?

We are pleased to offer corneal cross-linking at Associated Eye Care. A corneal evaluation visit is required to assess candidacy for the procedure and can be scheduled by calling **651-275-3000**. Treating pre-existing dry eye is recommended to assure that your pre-operative measurements are reliable.