KC Lenses: Small Studies Seek New Options

Researchers continue to develop new contact lenses options for keratoconus:

**Soft Mini-sclerals for early post CXL**

In a recent study, Israeli researchers evaluated the performance of a novel silicone hydrogel mini-scleral contact lens (SHmS) for vision correction in the early weeks after corneal collagen cross-linking (CXL). Like RGP scleral lenses, these soft lenses were designed to rest on the sclera and vault over the central cornea protecting the area treated by CXL. They analyzed the improvement in visual acuity and corneal adaptation in nine patients fitted with these soft lenses one to three months after corneal collagen cross-linking and found that this new soft contact lens design avoided contact with the area of the cornea treated and provided successful visual rehabilitation shortly after corneal collagen cross-linking. In this small study, 90% of the patients were successfully fitted and able to wear the lenses for 10 hours per day or longer. Mean wearing time was 11.7 hours (range six to 14) per day.


Silicone hydrogel mini-scleral contact lenses in early stage after corneal collagen cross-linking for keratoconus: a retrospective case series.

By Severinsky B, Wajnsztajn D, Frucht-Pery J.
Department of Ophthalmology, Hadassah University Hospital, Jerusalem, Israel

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**Wavefront-Guided Scleral Lens Prosthetic Device for Keratoconus**

A group of researchers are investigating the feasibility of correcting ocular higher order aberrations (HOAs) in keratoconus using wavefront-guided optics in a scleral lens prosthetic device (SLPD) developed by the Boston Foundation for Sight. Eleven eyes of six advanced KC patients were fitted with an SLPD with conventional spherical optics. Then a custom-made Shack-Hartmann wavefront sensor was used to measure aberrations through a dilated pupil wearing the SLPD. The horizontal and vertical decentration relative to the pupil and rotation were measured and incorporated into the design of the wavefront-guided optics for the customized SLPD. They then used a submicron-precision lathe to create the designed irregular profile on the front surface of the lens. The customized SLPD with wavefront-guided optics corrected the HOA of advanced KC patients to normal levels and improved their vision significantly.
Audios, Videos and Interviews on NKCF.org

If you haven’t been able to attend one of the NKCF Patient Education Seminars you can now watch and listen to many of the presentations on your computer at your convenience. If you did attend, this is an opportunity to hear the information again or share it with your family members. All the videos, presentations and interviews are available under the RESOURCES tab on the NKCF website.

Visit the NKCF website to watch presentations about various aspects of keratoconus from experts in the field.

- Understanding Keratoconus- What makes KC corneas different than normal corneas? By M. Cristina Kenney, MD, PhD (30 minutes)
- Introduction to Keratoconus by Dr. Peter Hersh (24 minutes)
- Non-Surgical Rehabilitation for Person Living with Keratoconus by Dr. Clark Chang (46 minutes)
- Corneal Crosslinking Update by Dr. Peter Hersh (23 minutes)

On the website you will also find short (2-3 minute) videos explaining:

- Keratoconus
- Corneal Topography
- Corneal Crosslinking
- Corneal Transplant Surgery

On the AUDIO page you can also listen to (15-20 minute) audio presentations:

- FDA Trials: Crosslinking by Dr. Sam Garg
- Corneal Crosslinking by Dr. Ron Gaster
- KC Research by James Jester, PhD
- Surgical Options for KC by Marjan Farid, MD

(Note: The audios are easiest to listen to on Chrome, Safari or Firefox. The Explorer browser requires they first be downloaded)

You can also listen to short interviews with experts in the field on various topics related to keratoconus on the NKCF’s INTERVIEW page.
New Discovery Eye Foundation website launched!

Discovery Eye Foundation (DEF), the NKCF’s parent organization, is a nonprofit 501 (c) (3) organization that provides funding for eye research and provides information and support for people with age-related macular degeneration and keratoconus. Research funding is provided for eye diseases such as age-related macular degeneration, diabetic retinopathy, glaucoma, keratoconus, ocular herpes and retinitis pigmentosa. Visit their new website to learn more about these eye diseases and the DEF supported researchers and programs.

I hope you find this month’s E-Update informative. To learn more about keratoconus visit the NKCF website.

Sincerely,

Catherine Warren
Executive Director
National Keratoconus Foundation