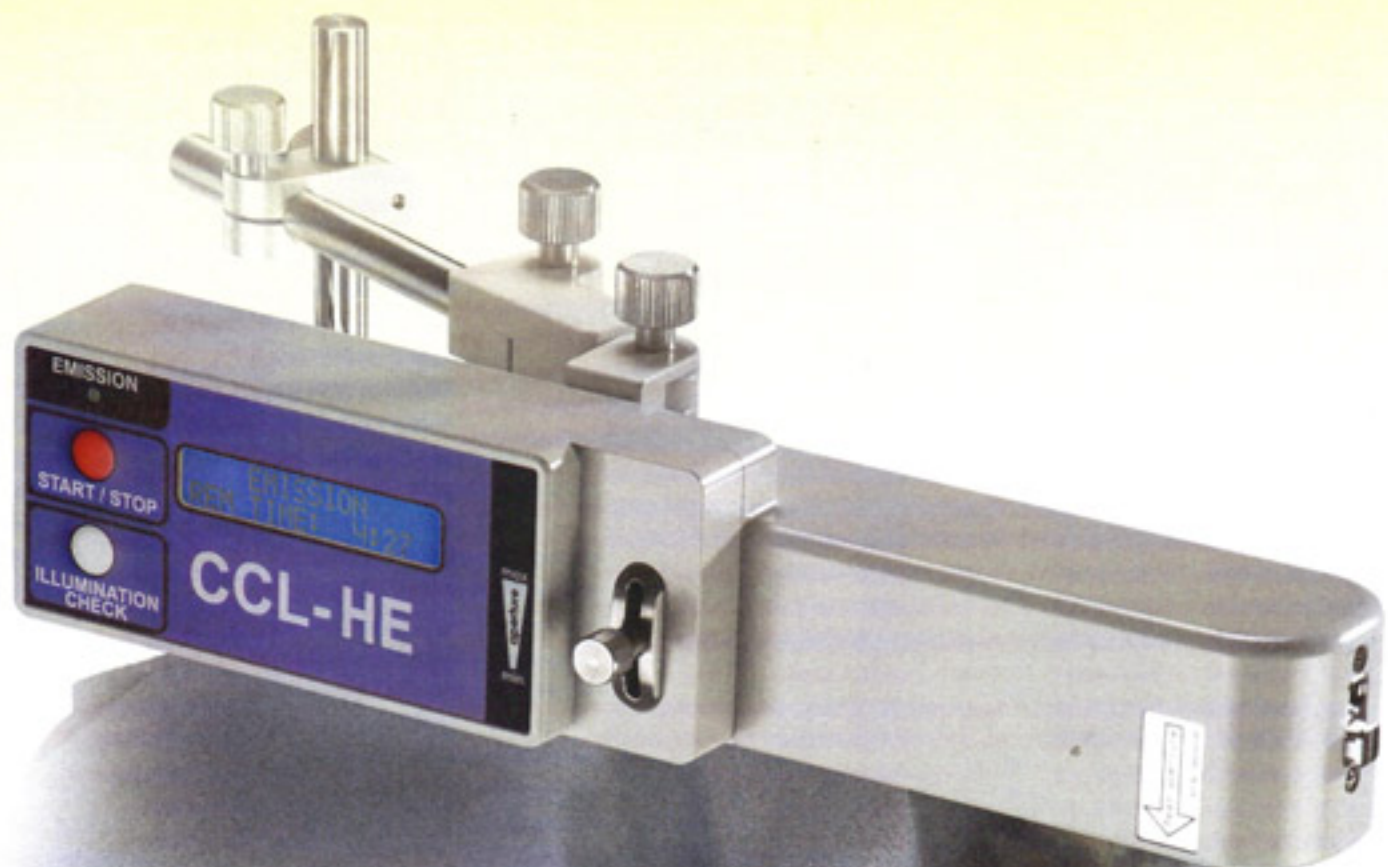


Express Cross-Linking in 5 Minutes



Indications:

- Progressive Keratoconus
- Iatrogenic Ectasia
- Pellucid Marginal Degeneration

CCL-HE

CXL – Corneal Cross-linking

Corneal cross-linking (CXL) is a treatment with the aim at strengthening the stromal tissue of the cornea. This is achieved by the creation of new chemical bonds between stromal fibers.

Until today corneal cross-linking has been the only successful treatment to stop progressive keratoconus and related ectatic diseases such as pellucid marginal degeneration and iatrogenic ectasia. Since its introduction in 2006, tens of thousands of patients around the world have been successfully treated.

Clinical experience

In recent years corneal cross-linking became the standard procedure for treating patients with progressive keratoconus because of its effectiveness and lack of serious side effects.

In a number of clinical studies it was demonstrated that in more than 85% of eyes treated the BCVA increased significantly. Six months after the procedure cylinder was reduced in the majority of all patients. The steepest K-value was reduced by an average of 1 dioptre.

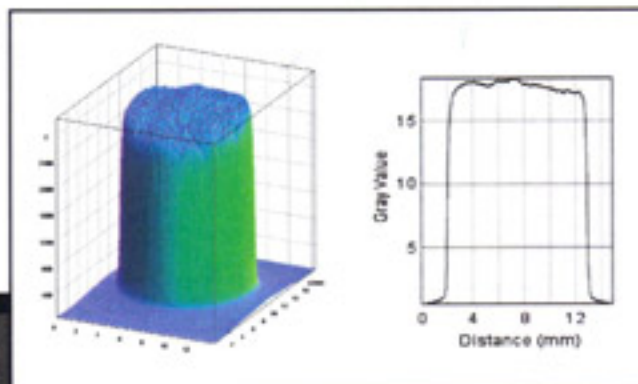
Background

Corneal cross-linking is a process of photopolymerization. During this process of photopolymerization singlet oxygen is being created with the use of riboflavin as a photomediator activated by UV-light. Free radicals lead to physical intra- and interhelical cross-links of stromal collagen fibers. This process takes place mainly in the anterior 150 μ of the stroma. This is important to remember in cases where a refractive procedure is planned post -CXL.

The Device CCL-HE

The **CCL-HE** corneal cross-linking system was designed with a special focus on effectiveness, safety and user friendliness.

It comes with one diode and a special optics which is homogenizing the beam. Thus hot spots are being avoided and the endothelium is sufficiently protected.



CCL-HE

To guarantee the high level of safety the beam of the **CCL-HE** has a wasteline at a distance of 45 mm from the optics and a depth of focus of approx. +/- 5 mm.

To protect the limbal stem cells and to focus the beam on the clear cornea only the **CCL-HE** has a continuously adjustable aperture from 7 mm to 11 mm.

The optional floor mount is recommended to facilitate focusing and treatment.



A small monitor shows the result of the self-test and the remaining treatment time.

The **CCL-HE** is portable and comes with a sturdy transport case allowing the surgeon to be mobile.

Technical Specifications:

Wavelength range:	365 nm
Illumination intensity:	18.0 mW/cm ²
Working distance:	45 mm ± 5 mm
Light emission:	Continuous wave (CW)
Spot sizes (continuously adjustable):	7.0 - 11.0 mm
Timer:	5 min
Electric power:	100 - 240 V
Dimensions Hard case (w,l,h):	37.0 cm x 46.0 cm x 14.0 cm
Weight (total):	7.5 kg



CE 1275

CCL-HE

MEDIO CROSS® Isotonic Solution CE 0482

MEDIO-CROSS® isotonic solution is the standard solution for corneal cross-linking. It is manufactured according to GMP regulations and supplied as a sterile solution, packaged in 3 ml syringes. It can be applied to the eye directly out of the syringe. Because riboflavin is light sensitive it is packaged in black pouches to protect it from light.



MEDIO CROSS® Hypotonic Solution CE 0482

MEDIO-CROSS® hypotonic solution is the back-up solution for corneal cross-linking in case corneal thickness is significantly less than 400 μ . It is used after MEDIO-CROSS® isotonic has been applied and the cornea is less than 400 μ . We recommend to instill one drop every 5 seconds until 400 μ has been reached. By osmotic action MEDIO-CROSS® hypotonic will swell the cornea rapidly. On average it takes about 2 minutes to swell a cornea by about 50 μ .

MEDIO-CROSS® hypotonic comes in sterile syringes of .5 ml and is also packaged in black pouches. We recommend a 24G blunt anterior chamber cannula to apply the solution.

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A detailed list of literature is available on request.

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