

KERALUX

disposable

The new dimension of Corneal Crosslinking:

- ✓ optimized intensity distribution,
- ✓ available without investment,
- ✓ automated treatment procedure,
- ✓ easy handling,
- ✓ international patent



Medical aspect

- ✓ optimized radiation distribution due to a closed irradiation channel
- ✓ consistent effective intensity across the entire treatment area, independent of the current corneal geometry
- ✓ energy transfer to the cornea is independent from eye movements
- ✓ protects environment from scattered radiation
- ✓ small dimensions, easy to carry - therefore usable everywhere
- ✓ independent form external power supply - therefore usable everywhere
- ✓ suitable for all treatment protocols
- ✓ beam diameter: 7 - 11 mm
- ✓ intensity range: 3 - 30 mW/cm²
- ✓ centering selectable
- ✓ radiation direction selectable
- ✓ safe and easy handling due to „Magic Touch Technology“
- ✓ easy to learn and to perform
- ✓ automated procedure
- ✓ state-of-the-art microelectronics and micro-computer technology

Economic benefits

- ✓ disposable device – therefore no investment in large equipment
- ✓ immediately wholly tax deductible
- ✓ no fixed costs
- ✓ payment per procedure
- ✓ applicable in low volume centers
- ✓ easy to learn and applicable in all practice
- ✓ effective order and delivery service
- ✓ no service or maintenance needed
- ✓ small dimensions and independent from external power supply – therefore applicable anywhere

Technical Specifications

Wavelength	365 nm
Intensity	3 - 30 mW/cm ²
total energy	5.4 J/cm ²
light emission	continuous
beam diameter	7 - 11 mm
energy source	battery
Size	9 - 14 cm
Diameter	2.4 cm



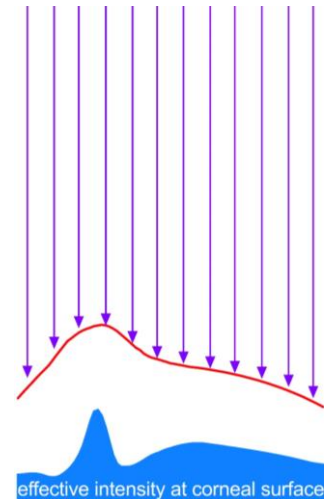
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In addition to the economic benefits for doctors and patients and the important contribution to health economics, health policy and public health, there are also important medical aspects which speak for the use of KERALUX.

In conventional crosslinking treatment failure rates of up to 15 % are reported. In these cases the keratoconus progresses despite therapy. One reason for the high treatment failure rates is probably that the energy transfer to the cornea is often



insufficient. Due to the irregular shape of the keratoconus cornea (red curvature in the right picture), the energy transfer to the cornea varies across the irradiated area (blue area in the right picture). The desired intensity only occurs at the apex of the cone. The effective intensity in the pathologic area, i.e. on the steep slopes of the cone is reduced.



KERALUX has a closed irradiation channel. This irradiation channel rests right on the eye and is lined inside with a diffuse UV-A reflector. The UV-A light source emits light rays with a defined opening angel. As a result,



diffuse multiple reflections occur on the inner wall of the irradiation channel. Because of these, the cornea is irradiated from all sides. The result is a homogeneous intensity distribution over the irradiated area of the cornea, which is independent from the local steepness (blue intensity area in the right picture). As KERALUX moves with the eye the treatment is also independent from eye movements. The closed tubular irradiation channel protects also the environment e.g. second eye of the patient or medical staff from scattered radiation.

