

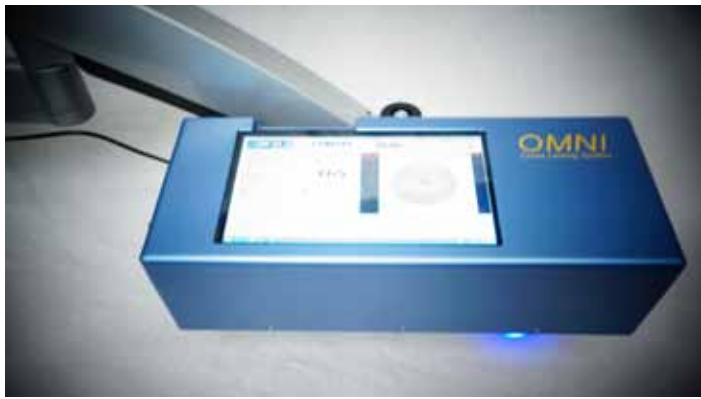
PalmScan

## **OMNI** *Corneal Cross Linking System*

- Variable settings from 3 mW to 45 mW with simultaneous radiation time adjustment
- Continuous, pulsed and LASIK radiation mode
- Self calibrating and self adjusting
- Eye tracking
- Integrated pachymeter optional



*Solutions that Fit*



## Omni Corneal Cross Linking

Corneal Cross Linking is a treatment whose goal is to strengthen the corneal stromal tissue through the formation of new chemical bonds between stromal collagen fibrils.

Cross Linking is the only effective treatment to stop progressive keratoconus as well as related ectatic disorders (such as PMD and iatrogenic ectasia) and has a regularization effect on corneal topography.

The basis for the currently employed corneal collagen cross-linking techniques were developed in Europe by researchers at the University of Dresden in the late 1990's by Prof. Theo Seiler, MD, PhD and Prof. Eberhard Spoerl. Human studies of UV-induced corneal crosslinking began in 2003 in Dresden and early results were promising. The initial pilot study enrolled 16 patients with rapidly progressing keratoconus and all of the patients stopped progressing after treatment.

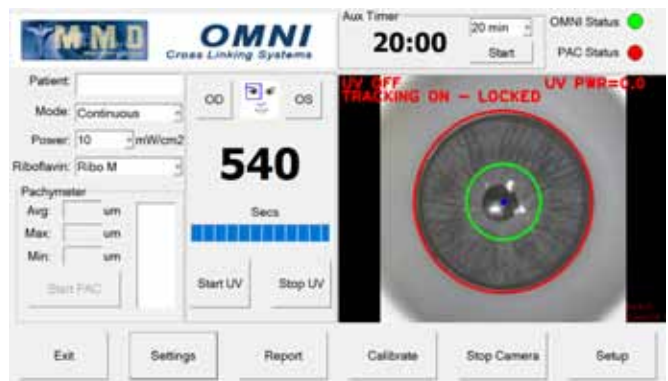
Additionally, 70% had flattening of their steep anterior corneal curvatures (decreases in average and maximum keratometric values), and 65% had an improvement in visual acuity. There were no reported complications. It received CE mark in 2006.

Today our Cross Linking systems are in clinical use in more than 100 countries around the world.

## Background

Corneal collagen cross-linking is a technique which uses UV light and a photosensitizer to strengthen chemical bonds in the cornea. The goal of the treatment is to halt progressive and irregular changes in corneal shape known as ectasia. These ectatic changes are typically marked by corneal thinning and an increase in the anterior and/or posterior curvatures of the cornea, and often lead to high levels of myopia and astigmatism. The most common form of ectasia is keratoconus and less often ectasia is seen after laser vision correction such as LASIK.

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 200 $\mu$  to 250 $\mu$  of the stroma. This is important to remember in cases where a refractive procedure is planned post-XL.



## Clinical Experience

A large number of major clinical studies has proven the effectiveness of Cross Linking and the lack of serious side effects. More than 85% of eyes treated with Cross Linking showed a significant increase of BVCA. Six months after the procedure, cylinder was reduced in the majority of patients.

## The Device

The OMNI Cross Linking System was designed with a special focus on effectiveness, safety and user friendliness incorporating the latest clinical experiences.

It enables the user to fine tune the required energy from 3 mW to 45 mW per cm<sup>2</sup> in 1 mW intervals with automatic time adjustment. Furthermore it allows pulsed radiation in connection with the latest experience in treating infectious keratitis.

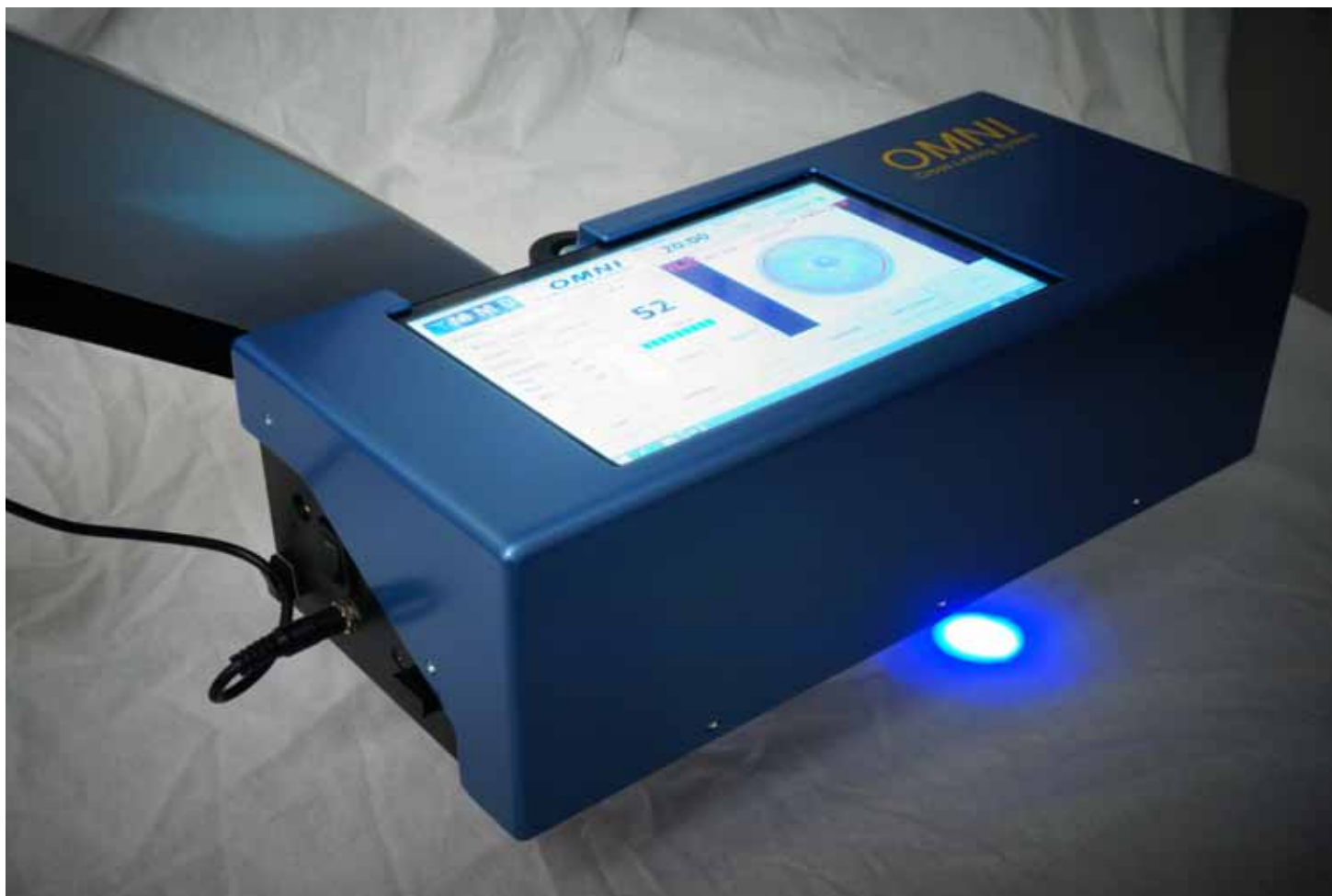
The system has an integrated infrared camera for eye tracking which also ensures proper distance. The tracking area as well as the threshold can be individually set.

If the eye moves outside the parameters, the system will pause. It includes a built in calibration verification to continuously measure emitted light intensity.

An integrated pachymeter is optionally available with automatic Riboflavin selection recommendation.

For documentation, the patient data and treatment settings can easily be exported in .pdf format via Wi-Fi or BlueTooth or can be printed directly on an external printer.

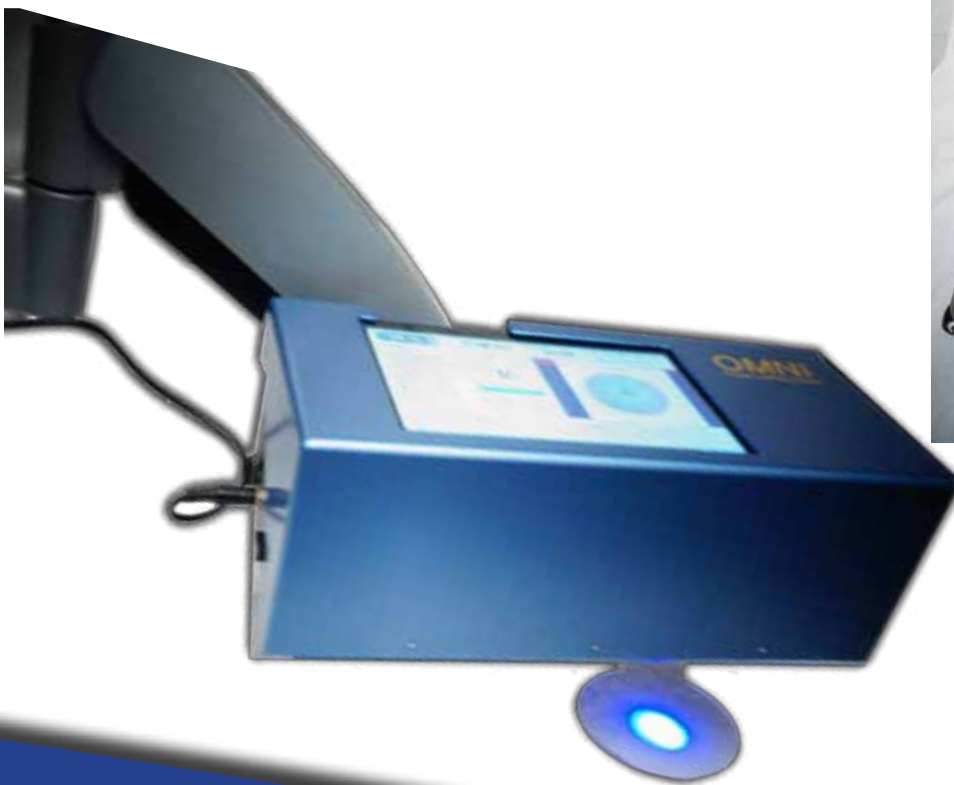
A 7 inch color touch screen display shows all relevant information: Eye monitoring, treatment settings and remaining treatment time.





# SAFE EFFECTIVE FLEXIBLE

TECHNICAL DATA	
Wavelength:	365 nm
Illuminating intensity:	Continuously adjustable from 3 - 45 mW/cm <sup>2</sup>
Working distance:	50 mm ± 5 mm Fixation light with adjustable brightness
Light emissions	Continuous, interval or pulsed
Aperture (Electronically Adjusted):	1 - 11 mm
Timers	<ul style="list-style-type: none"> <li>● Automatic time adjustment with audible alarm</li> <li>● Auxiliary timer for Riboflavin installation</li> </ul>
Electric power:	100 - 240 V, 50/60 Hz
Dimension:	28.5 x 12.5 x 10 cm
Weight:	1.8 kg



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