

A vibrant photograph of the Aurora Borealis (Northern Lights) in shades of green and yellow, dancing across a dark night sky. Below the lights, a dark, silhouetted cliff line meets a calm body of water that reflects the celestial display. The overall mood is serene and awe-inspiring.

*RegenSight*

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*a biomedical research company, introduces...*

# **THERANOSTICS**

Transforming **keratoconus** treatment.  
Pioneering **Predictive, Personalized** and **Precision**  
medicine in Ophthalmology.

## ► 20 YEARS OF CORNEAL CROSS-LINKING: TIME FOR A REVIEW...<sup>1-4</sup> *RegenSight*

«CXL may be effective in halting the progression of keratoconus for at least 12 months under **certain conditions**».<sup>1</sup>

Meta-analysis studies,<sup>1-4</sup> have shown a  $K_{\max}$  flattening of  $1.0 \pm 0.8$  D at 1 year follow-up, however with **wide variability** in outcomes between CXL protocols (lower efficacy after epi-on than epi-off).

... the variables involved and the current limits of CXL:

NOT STANDARDIZED  
PROCEDURE

HETEROGENEITY  
OF KERATOCONUS

UNCERTAIN THERAPEUTIC  
OUTCOME

... driving Regensight's research forward and elevating the gold standard:

**KEY FACTORS** TO IMPROVE EFFICACY OF CXL CLINICAL OUTCOMES:

1. Adequate permeation of **riboflavin** into the cornea before UV-A light irradiation.
2. Effective **UV-A light mediated photo-activation** of **riboflavin** in the cornea.

## THERANOSTICS: THE FUTURE... IS NOW WITH EVIDENCE

Improves efficacy and safety, abates the uncertainties

**THERANOSTICS** is a **paradigm shift in the treatment of keratoconus**.

It integrates tailored **THERA**py driven by molecular imaging diag**NOSTICS** into a single, highly sophisticated UV-A instrument: **C4V CHROMO4VIS**.

The theranostic platform allows for the **precise delivery of riboflavin** and **UV-A light energy** tailored to each patient's cornea. This guided process has shown to significantly enhance the biomechanical strength of the human cornea (**pre-clinical validation**)<sup>5-11</sup> and to flatten the anterior corneal curvature (**clinical validation**)<sup>12,13</sup> with **predictive personalization and high precision**.

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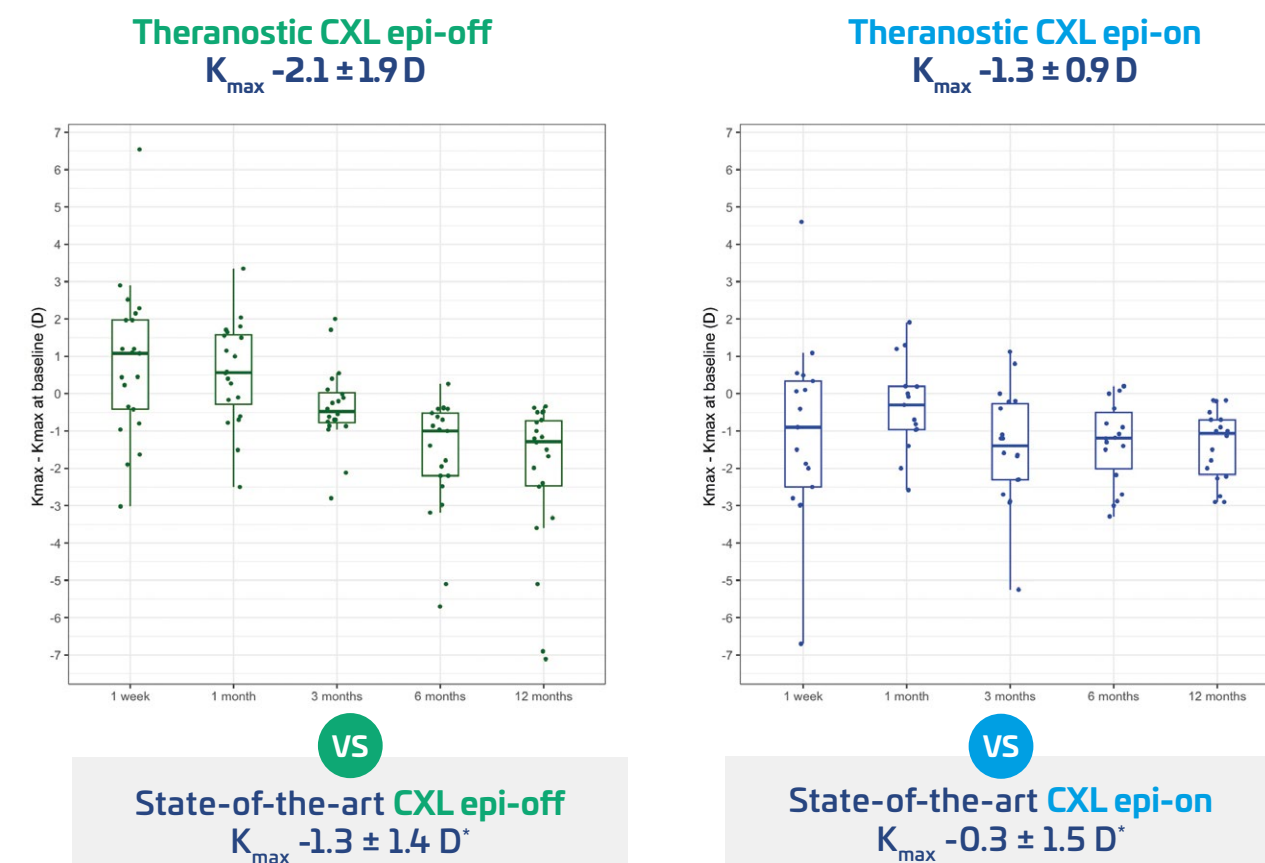
## ► THERANOSTIC-GUIDED CORNEAL CROSS-LINKING<sup>5-13</sup>

**The procedure and the theranostic imaging biomarkers:**

The theranostic imaging biomarkers, **riboflavin score** and **theranostic score**, guide the surgeon in performing a **treatment that accurately predicts the intended clinical outcome with precision**.

## ► THE ARGO STUDY

$K_{\max}$  CHANGE IN TRUE POSITIVES OF STRATIFICATION GROUPS (1 year)



\*Bibliography: 1-4

## STUDY HIGHLIGHTS

- Theranostics predicted the CXL therapeutic benefit with **high accuracy (91%)** and **precision (95%)**.
- The measurement of corneal **riboflavin concentration** and its **UV-A light mediated photo-activation** are the **primary factors** in determining the **therapeutic efficacy** of CXL epi-off and epi-on protocols.
- The ARGO clinical outcome data shows that CXL treatment performed with **C4V CHROMO4VIS** and **RitSight** is **significantly more effective** than state-of-the-art CXL techniques.

## CONCLUSIONS

- THERANOSTICS USHERS IN A NEW ERA IN OPHTHALMOLOGY: **PREDICTIVE, PERSONALIZED AND PRECISION THERAPY**
- THERANOSTICS ENABLES SURGEONS TO PERSONALIZE EACH CXL TREATMENT BASED ON THE **PREDICTED THERAPEUTIC BENEFIT FOR EVERY PATIENT**.



# THE THERANOSTIC PLATFORM



**UV-A MEDICAL DEVICE  
FOR THERANOSTIC GUIDED  
CORNEAL CROSS-LINKING**

**THERANOSTICS: scientifically and clinically validated technology** <sup>5-13</sup>

- **Augmented reality** with integrated Placido disc
- **Internet of Medical Things (IoMT)** for remote maintenance
- **Artificial intelligence (AI)** for the continuous improvement of device performance
- **Integrated interconnection** with **corneal iontophoresis** for **controlled delivery of riboflavin**



**RITSIGHT**

**0.22% RIBOFLAVIN OPHTHALMIC  
SOLUTION FOR CORNEAL CROSS-LINKING**

**FORMULATION OF PROVEN UNIQUENESS AND VERSATILITY** <sup>8-10</sup>

*The only riboflavin validated for theranostic-guided corneal cross-linking*



**DoRSight**

**CORNEAL IONTOPHORESIS  
CONTROLLED DELIVERY SYSTEM**

## UNIQUENESS

DoRSight enables **fast and precise patterned delivery of riboflavin** into the cornea with intact epithelium resulting in selective strengthening of corneal biomechanics and optical quality improvement with theranostic-guided corneal cross-linking procedures.<sup>11</sup>

**FOR EXCLUSIVE USE WITH C4V CHROMO4VIS**



*The theranostic platform is protected by three families of national and international patents.*



**RegenSight**

Delivering life-changing therapies  
to patients with keratoconus



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*This information material  
is intended for healthcare  
professionals only.*