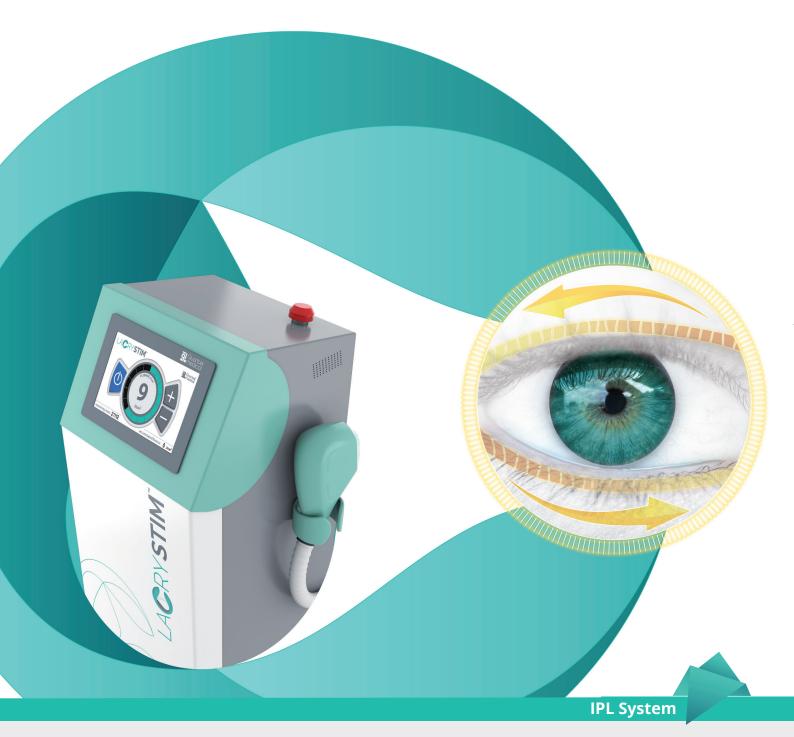


LACRYSTIM

TREATMENT OF

DRY EYE





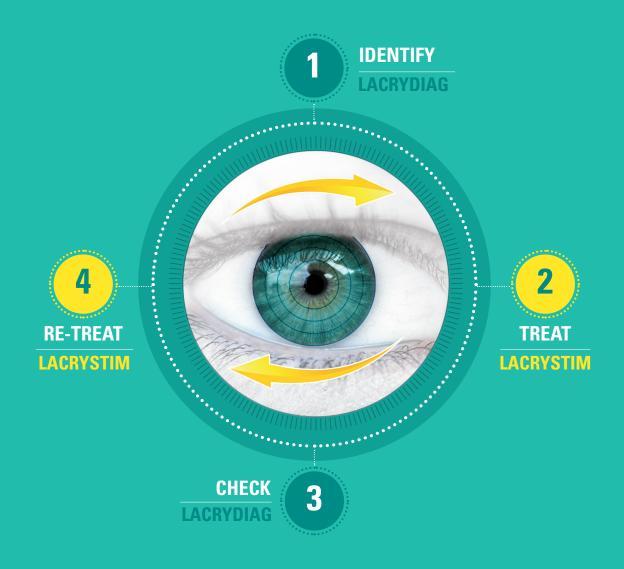


DIAGNOSIS LACRYDIAG Eye surface analyser



TREATMENT LACRYSTIM

IPL System





ADDED VALUE FOR YOUR CLINICAL PRACTICE

- Extend your clinical offering from diagnosis to treatment.
- Diagnose and treat the cause of dry eye earlier.
- Understand the origin of dry eye to offer a more targeted and effective treatment.
- Assess post-treatment results.
- Improve the compliance of patients under topical treatment for glaucoma.



IMPROVE YOUR PATIENT'S UNDERSTANDING OF DRY EYE

- Perform a complete, fast contactless examination.
- Offer your patients painless and effective IPL treatment (< 5 min).
- Provide evidence for diagnosis and treatment
- Provides patient care.
- Satisfy your patients, customised post treatment analysis.



Dry eye is a particularly common disease that affects the **health and well-being** of millions of people worldwide. **Meibomian gland dysfunction** (MGD) is the leading cause of dry eye syndrome, known as evaporative dry eye, because it causes excessive tear evaporation.

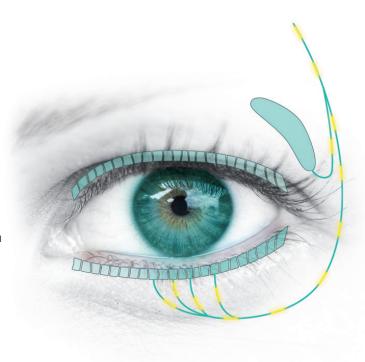
The **IPL LacryStim system** (Intense Pulsed Light) helps stimulate and reactivate the meibomian glands in order to treat dry eye. Intense Pulsed Light technology is one of a series of innovative technologies **acknowledged in the DEWS II Report.**

TREATS THE CAUSES OF DRY EYE OPTIMISING LONG-TERMS RESULTS.

MECHANISMS OF ACTION

Several studies detail the mechanisms of action of IPL systems:

- Neurostimulation of the parasympathetic nerve pathways.¹⁻² Tear production is stimulated by the nervous system, via the parasympathetic nerve³, which is linked to both the lacrimal gland³⁻⁴ and the meibomian glands^{3,5}.
- Faster meibomian gland metabolism!-5
- Increased meibum expression due to heat!
- Small vessel coagulation: acts against inflammation of the skin (rosacea) and evelids (blepharitis)?-9
- Reduces Demodex mites.



CLINICAL RESULTS

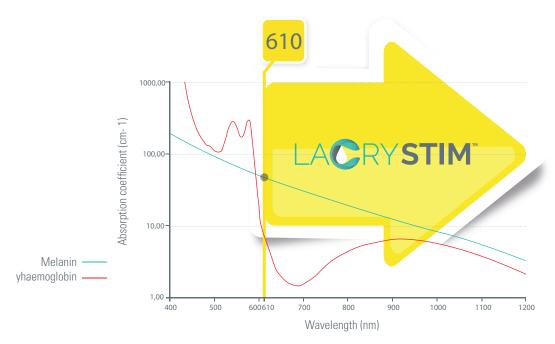
The expected results of IPL treatment may include⁶:

- Improved tear film quality.
- Patient-reported improvement in the following symptoms: dryness, sensation of foreign body in the eye, itching, burning, eye fatigue, blurred vision, sensitivity to light, watery eyes, impaired secretion, pain.
- Additional effects of IPL treatment may be observed:
 - Pain relief
 - Anti-inflammatory action (blepharitis, conjunctivitis, rosacea)
 - Reduction in inflammatory markers (cytokines) in the tears¹⁰
 - Antimicrobial action (bacteria and Demodex mites).

IPL System

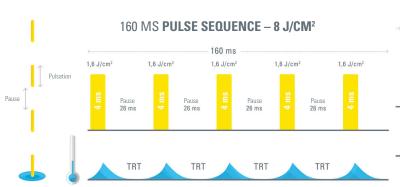
LIGHT SPECTRUM

- An IPL device is a generator of polychromatic intense pulsed light.
- The LacryStim light spectrum extends from 610 nm to 1200 nm.
- LacryStim uses a 610 nm filter that blocks UVA, UVB and UVC rays.
- Thanks to this 610 nm filter:
 - The melanin in the skin absorbs less light [11]
 - No phototyping is required
 - All types of skin can be treated, including black skin (Fitzpatrick scale phototype VI).



■ SETTINGS AND PULSE SEQUENCE

- The total energy is between 8 and 12 J/cm² and is delivered in a sequence of pulses.
- The time between each pulse respects the thermal relaxation time (TRT) of the skin, thus limiting:
 - The increase in tissue temperature
 - Thermal damage to the skin
 - Inflammatory reactions
 - The phototyping required.



>>> EFFECTIVE TREATMENT FOR ALL SKIN TYPES

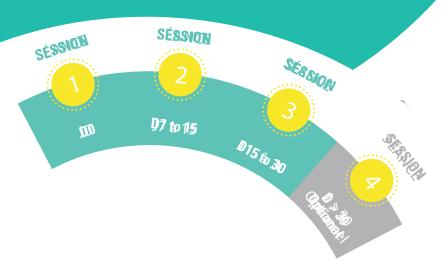


COMFORT AND **EASE** OF USE

- A single handpiece, no additional kit required.
- Integrated water cooling.
- Does not burn the skin.
- Applies a thin layer of gel during treatment.
- Long-lasting flash lamp.
 - Delivers the **same energy level** from first to last shot.



SIMPLE AND F
SIMPLE AND FAST
TREATMENT









TECHNICAL SPECIFICATIONS

LACRYSTIM"

Technology IPL (Intense Pulsed Light)

 $\begin{tabular}{lll} Wavelength & 610-1200 \ nm \\ Energy & 1 \ to \ 14 \ J/cm2 \end{tabular}$

Dimensions 580 (H) x 275 (W) x 280 (D) mm

Weight 25 kg

Filter 610 nm, anti UVA, UVB and UVC filter

Cooling system Water

Replace water every 7000 shots
Flash lamp Xenon lamp
Power supply 230 VAC or 110 VAC

Power supply 230 VAC or 110 VAC
Temperature for use +5°C to +35°C
Treatment duration 3 to 4 sessions

Accessories Operator safety glasses, patient eyeshields

CE marking Class IIb medical device

The company reserves the right to modify the technical specifications without prior warning.
© 2019. Quantel Medical, LacryStim is a registered trademark of Quantel Medical. All rights reserved.

BIBLIOGRAPHY

- Parasympathetic Innervation of the Meibomian Glands in Rats Mark, S. LeDoux, Qihong Zhou, R. Bryan Murphy, Melissa, L Greene y Patrick Ryan - Investigative Ophthalmology & Visual Science, octubre de 2001, Vol. 42, No. 11
- Neurotransmitter Influence on Human Meibomian Gland Epithelial Cells. Wendy R. Kam y David A. Sullivan Investigativ Ophthalmology & Visual Science, noviembre de 2011, vol. 52, No. 12
- TFOS DEWS II Rapport Physiopathologie, Anthony J. Bron, FRCOph, FMedSci, Cintia S. de Paiva, MD, PhD1, Sunil K Chauhan, DVM, PhD1, Stefano Bonini, MD, Eric E. Gabison, MD, Sandeep Jain, MD, Erich Knop, MD, PhD, Maria Markoull, PhD, MOptom, Yoko Ogawa, MD, Victor Perez, MD, Yuichi Uchino, MD, PhD, Norihiko Yokoi, MD, PhD, Driss Zoukhri, PhD David A, Stillian, PhD, The Opular Striken. 2017, pp. 441–515.
- Vasoactive Intestinal Polypeptide and the Innervation of the Human Lacrimal Gland, Patrick A. Sibony, MD; Benjami, Websett Phili Circum McCoop, Evolution A. Jakobino, MD, Arch Onthodoxid, 1999-1969, pp. 1995, 1999.
- 5. The neurobiology of the meibomian glands, Cox SM, Nichols JJ, Ocular Surface, julio de 2014
- Arita R. et al. Multicenter Study of Intense Pulsed Light Therapy for Patients With Refractory Meibomian Gland Dysfunction.
 - Reiko Arita, MD, PhD, Takanori Mizoguchi, MD, Shima Fukuoka, MD, and Naoyuki Morishige, MD, PhD Cornea, volumer.
 37. número 12. diciembre de 2018
- Rosacea: Molecular Mechanisms and Management of a Chronic Cutaneous Inflammatory Condition, Yu Ri Woo, Ji Hong Lin
 Dae Ho Cho and Hyun, Jeong Park, International, Journal of Molecular Sciences, sentiembre de 2016
- 8. Rosacea: Epidemiology, pathogenesis, and treatment, Barbara M. Rainer, Sewon Kang, and Anna L. Chien, DERMATC FNDOCRINOLOGY 2018 VOL 9 NO. 1 e1361574 (10 páginas)
- 9. Update on the management of rosacea, Allison P Weinkle, Vladyslava Doktor, Jason Emer, Clinical, Cosmetic and
- Analysis of Cytokine Levels in Ioars and Clinical Correlations After Intense Pulsed Light Treating Meitomian Glant Dysfunction - RUIXING LIU, BEI RONG, PING TU, YUN TANG, WENJING SONG, ROLANDO TOYOS, MELISSA TOYOS Y XIAOMING YAN - Am J Ophthalimol. 2017 en AJO.com.
- 11. Theory of lasers and lamps S. Mordon, T. Michaud Annales de dermatologie (2009) 136, suplemento 6, S3066s310

