

## Eye Light ; A Step further in the Treatment of Dry Eye

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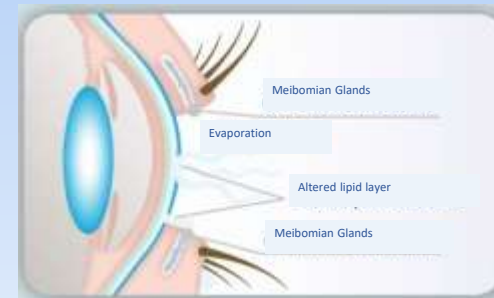
## WHAT IS THE DRY EYE ?

The Dry Eye is a tear film disorder due to reduced production or excessive evaporation of tears, which causes damages to the exposed ocular surface and is associated to a sensation of eye discomfort.

Excessive evaporation of tears (cause of 86% of Dry Eye cases)

Meibomian Gland Dysfunction (MGD) causes Insufficient or absent lipid layer, which can cause tear evaporation up to 16 times faster.

➤ Over **300 million people** worldwide suffer for the **Dry Eye Syndrome**. More cfequent in women specially after menopause



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## INTRODUCTION

### Dry evaporative syndrome (MGD)

- – 30% of the general population
- – Reference treatment = Eyelids care



### After Cataract & Refractive surgery

- – Dry eye syndrome in post-op by MGD decompensation
- – Dry eye syndrome in post-op = Source of non-satisfaction

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## NEW THERAPIES

### Intense Pulsed Light :

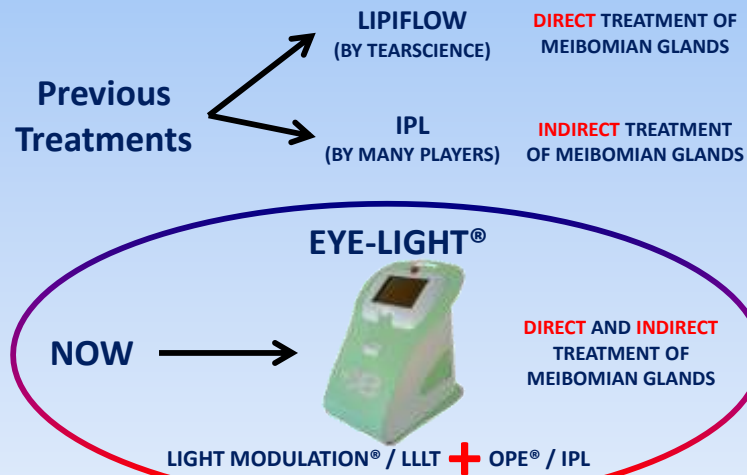
- Proven effective in the treatment of MGD
- Good tolerance

### EYE-LIGHT® :

- COMBINED treatment
- IPL + Photobiomodulation

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## SOLUTIONS FOR DRY EYE



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## LM LIGHT MODULATION / LLLT



- LED MATRIX LIGHT TRIGGERS CELL ATP PRODUCTION AND SO PRODUCES EYELIDS **ENDOGENOUS HEAT**
- The emission of light requires a specific wavelength and a proper distance to obtain a deep impact on the treated tissue. Cells absorb light photons and transform their energy into bio-chemical energy producing this way the metabolic processes required to repair and regenerate cells. Light modulation is a photobiomodulation technology, a strong metabolic enhancer that stimulates the production of ATP (Adenosine Triphosphate) to increase cellular action and emphasize cells activities. The Light-emitting diode/LED emitting matrix trigger eyelids endogenous heat, directly stimulating the normalization of glands and supporting the thermal impact of the OPE technology.



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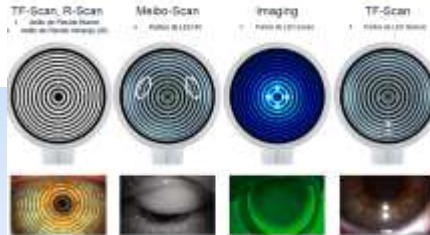
## Dry Eye Diagnosis Keratograph K5

### Keratograph 5M

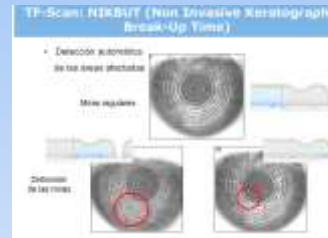
Sistema de Medición y Evaluación para Topografía Corneal  
y Screening de Ojo Seco



### Sistema de Iluminación




## Dry Eye Diagnosis Keratograph K5



## Dry Eye Diagnosis Keratograph K5

**Meibo-Scan: Meibografía de los párpados superior e inferior**

El párpado normal



**Meiboscale – Upper Eyelid**

Area of Loss	Degree	Percentage
0%	Degree 0	<0%
25%	Degree 1	<25%
26% - 50%	Degree 2	26% - 50%
51% - 75%	Degree 3	51% - 75%
>75%	Degree 4	>75%

**Meiboscale – Lower Eyelid**

Area of Loss	Degree	Percentage
0%	Degree 0	<0%
25%	Degree 1	<25%
26% - 50%	Degree 2	26% - 50%
51% - 75%	Degree 3	51% - 75%
>75%	Degree 4	>75%

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## Dry Eye Diagnosis Keratograph K5

OSDI<sup>®</sup> Score

# 56

Severe

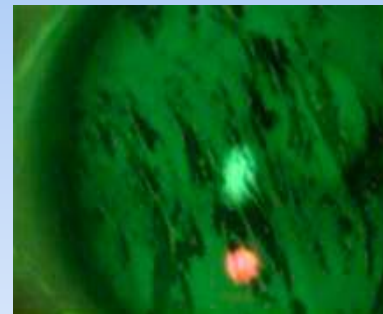
Normal Mild Moderate Severe

Overview Detail

Symptoms

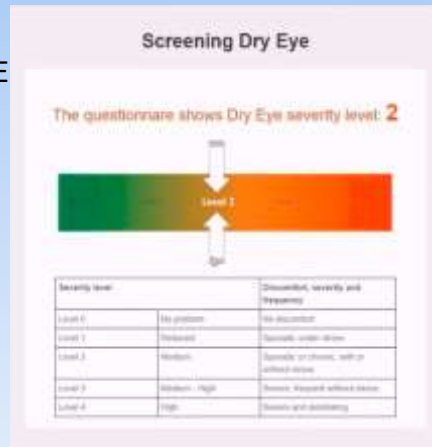
Most Frequent Issues\*

- Sensitive to light
- Eyes feel gritty



## Dry Eye Diagnosis Keratograph K5

- OCULAR SURFACE DISEASE INDEX (OSDI 6 )
- NORMAL 0-12
- MILD 13-22
- MODERATE 23-32
- SEVERE 33-100



## INDICATIONS FOR EYE-LIGHT

### Dry evaporative syndrome (MGD)

- Before and/or after Refractive surgery Before and/or after Cataract surgery
- Working environment with low humidity
- Glaucoma patients undergoing treatment
- Contact lens users
- PC, Smartphones, Tablets extensive users
- Long hours drivers

## TEAR FILM ANALYSIS



**ATENCIÓN !!!!!**

Una película lagrimal  
insuficiente hace  
imposible obtener una  
buena calidad visual



KERATOGRAPH-5M  
Análisis de la calidad y de la  
cantidad de la lágrima

Deficient Tear quality makes it impossible to obtain good quality of vision

## POST-BLEPHAROPLASTY TREATMENT



EYE WATERING, ITCHING,  
BURNING, EYELID SWELLING  
OR ANOMALOUS SCARRING  
ARE COMMON SYMPTOMS  
AFTER BLEPHAROPLASTY

EYE-LIGHT CAN HELP SOLVING THESE PROBLEMS DUE TO ITS LIGHT  
MODULATION TECHNOLOGY

## POST BLEPHAROPLASTY PROTOCOL

Two wavelengths in 3 steps : D0, D1 and D3 post-op.

- **YELLOW MASK:**
  - Stimulation of cellular metabolism and lymphatic system
  - Detoxifying action to relieve swelling and post- operative edema.
- **RED MASK :**
  - Accelerates and optimizes palpebral healing process by stimulating collagen and elastin production.

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## POST CATARACT & LASER REFRACTIVE SURGERY PROTOCOL

- **OPE/IPL Optimal Power Energy Intense Pulsed Light**

Application of OPE/IPL module 1 week before surgery,  
1 week & 1 month postoperatively



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## CONTRAINDICATIONS

- Epilepsy
- Pregnancy
- Metal implants
- Photosensitivity or photosensitizing treatments
- Active eye infection or inflammation

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## EYE-LIGHT® – Phase 1

- **OPE®/IPL Optimal Power Energy**
- **Intense Pulsed Light**
- Polychromatic Light
- Thermal pulses
- The interaction of OPE/IPL technology with tissue is essentially thermal, and it allows to optimize heat emission
- Stimulation of neurotransmitters
- Increased contraction and secretion of meibomian glands it improves the lipid stream and so reduces tear evaporation and improves tear film stability



## EYE-LIGHT® – Phase 1

Application on periorbital areas and cheekbones

- Fast and easy : 5 flashes ≈ **2-3 min** minutes
- Integrated protection Filter
- ⇒ **no gel needed**
- Power determined according to the MGD grade and skin pigmentation thanks to a management software
- Treatment surface of 12 cm<sup>2</sup>



## EYE-LIGHT® – Phase 2

- **LIGHT MODULATION®/LLT**

- **Low Level Light**
- **Therapy**
- Red wavelength (Photobiomodulation)
- Endogenous heat on upper and lower eyelids
- Stimulation of cellular metabolism (ATP)
- Facilitates flow and increases cellular activity



## EYE-LIGHT® – Phase 2

- Easy: the mask is placed on patient's face (eyelids to be kept closed)
- Treatment of both eyelids
- Duration of 15 minutes
- **Not invasive**
- **No anaesthesia**



## LM® LIGHT MODULATION / LLLT

### LIGHT MODULATION® / LLLT ADVANTAGES:

- **DIRECT** TREATMENT OF MEIBOMIAN GLANDS
- TREATMENT OF **LOWER** AND **UPPER EYELIDS**
- LED MATRIX TRIGGER EYELIDS **ENDOGENOUS HEAT** AND ATP PRODUCTION
- THIS **PATENTED** TECHNOLOGY APPLIES ENDOGENOUS HEAT **INSIDE** THE EYELIDS, REMOVING THE BLOCKAGE OF THE GLANDS. SO IT ALLOWS LIPIDS TO FLOW AND TO COMPLETE TEAR COMPOSITION. ITS PRESENCE AVOIDS FAST EVAPORATION OF TEARS

## OPE® OPTIMAL POWER ENERGY / IPL

### OPE® / IPL ADVANTAGES:

- A HIGHLY **INTUITIVE SOFTWARE** ALLOWS THE OPERATOR TO WORK AT BEST AND SAFELY SINCE THE VERY FIRST TREATMENT, WITH AUTOMATIC POWER ADJUSTMENT AND DURATION OF EACH LIGHT IMPULSE
- THE INTERACTION OF OPE TECHNOLOGY WITH TISSUE IS **ESSENTIALLY THERMAL**, AND THANKS TO THE EMBEDDED MANAGEMENT SOFTWARE, IT ALLOWS TO OPTIMIZE HEAT EMISSION, STIMULATING THE MEIBOMIAN GLANDS TO RESUME NORMAL FUNCTIONALITY
- **GEL IS NOT REQUIRED**: NO RISK TO BURN THE TREATED SKIN
- THERMAL SPOT STIMULATES THE NEUROTRANSMITTERS WHICH LEADS THE MEIBOMIAN GLANDS TO **INCREASE** THE LIPID FLOW
- THANKS TO **SPOT DIMENSIONS** (12 CM<sup>2</sup>) THE PERIORBITAL AREA IS **COMPLETELY** AND **DEEPLY** TREATED

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## DIAGNOSIS & TREATMENT PROTOCOL

The diagnostic approach involves the complete medical history collection, diagnostic tests and the clinical ophthalmological evaluation. This approach establishes the dry eye category and the severity of the disease.

Dry Eye severity level	Reduced	Medium	Medium High	High
Discomfort, severity and frequency	Sporadic under stress	Sporadic or chronic, with or without stress	Severe, frequent without stress	Severe and debilitating
Conjunctival coloration	None	Slight	Moderated - marked	Marked
Visual symptoms	None or mild sporadic fatigue	Annoying and/or sporadic with activity limitation	Annoying and/or sporadic with activity limitation	Constant and/or possibly debilitating
Eyelid glands/ Meibomian Glands	Variable MGD	Variable MGD	Frequent MGD	Continuous MGD
TFBUT (sec)	Variable	≤ 10	≤ 5	
Schirmer Score (mm/5min)	Variable	≤ 10	≤ 5	≤ 2
Lacrimal signs	None – slight	Minor detritus	Filamentary keratitis, Mucus lumps, lacrimal debris	Trichiasis, keratinization
Corneal coloration	None	Variable	Marked	Severe dotted erosions
<b>EYE-LIGHT® Protocol: OPE® + LIGHT MODULATION®</b>	1/2 TREATMENTS 00-15 DAYS	2/3 TREATMENTS 00-15-30 DAYS	3 TREATMENTS 00-15-30 DAYS	4 TREATMENTS 00-15-30-45 DAYS

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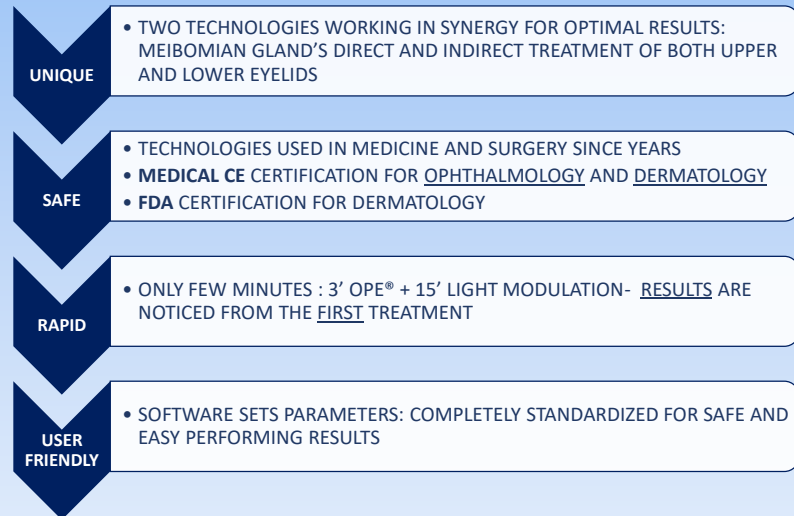
## OPE/IPL + LLLT (LOW LEVEL LIGHT THERAPY)

EYE-LIGHT®	IPL
<b>LIGHT MODULATION</b> LIGHT MODULATION® TREATS UPPER AND LOWER EYELIDS AT THE SAME TIME	NO
<b>DIRECT MEIBOMIAN GLAND TREATMENT</b> UPPER AND LOWER EYELIDS	NO
<b>MULTIPLE TREATMENTS OPPORTUNITIES</b> Post blepharoplasty, dermatological tts...	NO

**SPOT SIZE**  
12,5 cms covers larger area with less impacts

**SPOT SIZE**  
2,5-3 cms more impacts, risk of leaving untreated areas

## OPE/IPL + LLLT (LOW LEVEL LIGHT THERAPY)

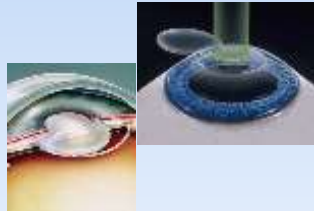


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## OPE/IPL + LLLT (LOW LEVEL LIGHT THERAPY)

- Could be a useful, safe and easy method to improve quality of vision and decrease or eliminate annoying symptoms of dryness & MGD after cataract and refractive surgery procedures, helping us to achieve more patient satisfaction and comfort.
- At present we are realizing a clinical study to evaluate outcomes of this application post cataract and refractive surgery
- Preliminary results are very promising



Muchas Gracias

