

>

A New Paradigm  
in Light Therapy  
and Digital  
Imaging



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Our MedTech Partner:  
Espansione Group

## — PURPOSE

Helping people, through science.  
That is the privilege we take pride in.

We have the ambition to establish  
new paradigms in light-based  
science, driven by our desire  
to provide our customers and their  
patients with the best, certified  
medical technologies.

Since 1981, Espansione Group has delivered  
the highest standard in the industry—pushed on  
by expert craftsmanship and family-owned values  
coupled with a global mindset and aspiration.  
Every day, we invest heavily in researching  
and developing the Espansione Ecosystem of  
technologies and solutions to achieve our ambition.

## — BENEFITS

Ecosystem is the term we use to describe the synergy between our technologies and the solutions that leverage them. Every interaction within the Espansione Ecosystem has been designed to provide both patients and operators with the best experience possible.

## ① Integration

Our technologies and solutions are seamlessly integrated for operators and patients to benefit from their unique capabilities. We developed our solutions' software and hardware from scratch to work together as one—from diagnosis to treatment, every step is as easy as it gets.

## ② Simplicity

We put great effort and energy in building hassle-free solutions. From how we craft our devices and terminals, to the materials we choose, all the way to the design of our solutions' software. Everything has been done to maximize simplicity in utilization.

## ③ Effectiveness

It's not only about making it simple and easy, though. Our technologies just work. Indeed, the resonance of Espansione technology has been impressive with the scientific community—every day, thought leaders from all over the world leverage the possibilities of the Espansione Ecosystem in their practices.

## ④ Consistency

Our technologies and solutions are consistently reliable in their ability to deliver. In the words of one of our global key opinion leaders in ophthalmology, when asked about what made the Espansione Ecosystem great, he answered "It works, every single time." Consistency is a promise we make to our partners and patients—one that we love to live up to.

— AMBITION

Our ambition is not limited to that of becoming the undisputed thought leader in diagnosing and treating inflammation-related conditions.

Beyond that, we aim at leveraging our know-how and apply it synergistically in other fields beyond dermatology.

We have already delivered great degrees of innovation to the field of dermatology through our patented technologies Optimal Power Energy® Intense Pulsed Light (OPE® IPL) and Light Modulation® Low-level Light Therapy (LM® LLLT).

Thanks to epi-c plus® and its technology, we have set a new medical standard in painlessly and effectively treating a wide array of skin conditions originated in inflammation.

— WHERE WE ARE

Enabling progress through science for the betterment of all is not an easy purpose to work towards—yet it is our North Star, the guiding principle of all our actions.

That is what guided us for over four decades. That is what moved us to develop and patent and certify a unique light-based technology such as Light Modulation® LLLT, our photobiomodulation technology.

We have done all of this by believing in challenging the status quo, innovating with care and ingenuity, and believing in the power of our people.



6<sup>+</sup>

Technology  
Patents

30<sup>+</sup>

Scientific  
Papers

50<sup>+</sup>

Countries

②

# Screening Solutions

—Ophthalmology



## Technologies

Our imaging technologies leverage complex algorithms to provide screening for Meibomian Gland Dysfunction, which is identified in over 80% of dry eye conditions. The imaging is easy to perform and highly repeatable.

- > 3D IMAGING
- > INFRARED IMAGING
- > AUTOMATIC FOCUS DETECTION

## Solution

Our technologies are seamlessly built into all our solutions, from diagnosis to treatment. We design, craft and test with the greatest attention and care in Italy.

- > me-check®

me-check® is registered under 21 CFR 886.1120 as an ophthalmic camera. It is a Class II exempt device.

#### Intended Use

The intended use of the me-check® device is the acquisition and display of images of the eye and its parts.

SOLUTIONS > OPHTHALMIC SCREENING

# Espansione Ecosystem of Solutions

The Espansione Ecosystem of solutions is an end-to-end portfolio of medical devices, designed and manufactured focusing on patients' and operators' needs, whilst preserving the maximum degree of safety and reliability.

We developed me-check<sup>®</sup> and other solutions of the Espansione ecosystem in partnership with valued key opinion leaders.



**HEIKO PULT**  
OD, PHD

## QUALIFICATIONS

Optometrist at College of Optometry Munich, Germany, MSc (Optometry) at PCO Salus University, Philadelphia, USA, PhD (Vision Sciences) at School of Optometry and Vision Sciences, Cardiff University, Cardiff, UK, Hon. – Vis. Prof. at Cardiff University, Cardiff, UK Academic Fellow at Aston University

## MEMBERSHIPS

Fellowship+Founding Member European Academy of Optometry and Optics (EAOO), Fellowship, American Academy of Optometry (AAO), Fellowship, British Contact Lens Association (BCLA), Association of Research in Vision and Ophthalmology (ARVO) Tear Film and Ocular Surface Society (TFOS)



**JAMES WOLFFSOHN**  
OD, PHD

## QUALIFICATIONS

Honors degree in Optometry (first class), University of Manchester Institute of Science and Technology (UMIST), PhD (Cardiff University) Diplomate of American Academy of Optometry, University of Houston: Adjunct Professor, Aston University: Senior Lecturer

## MEMBERSHIPS

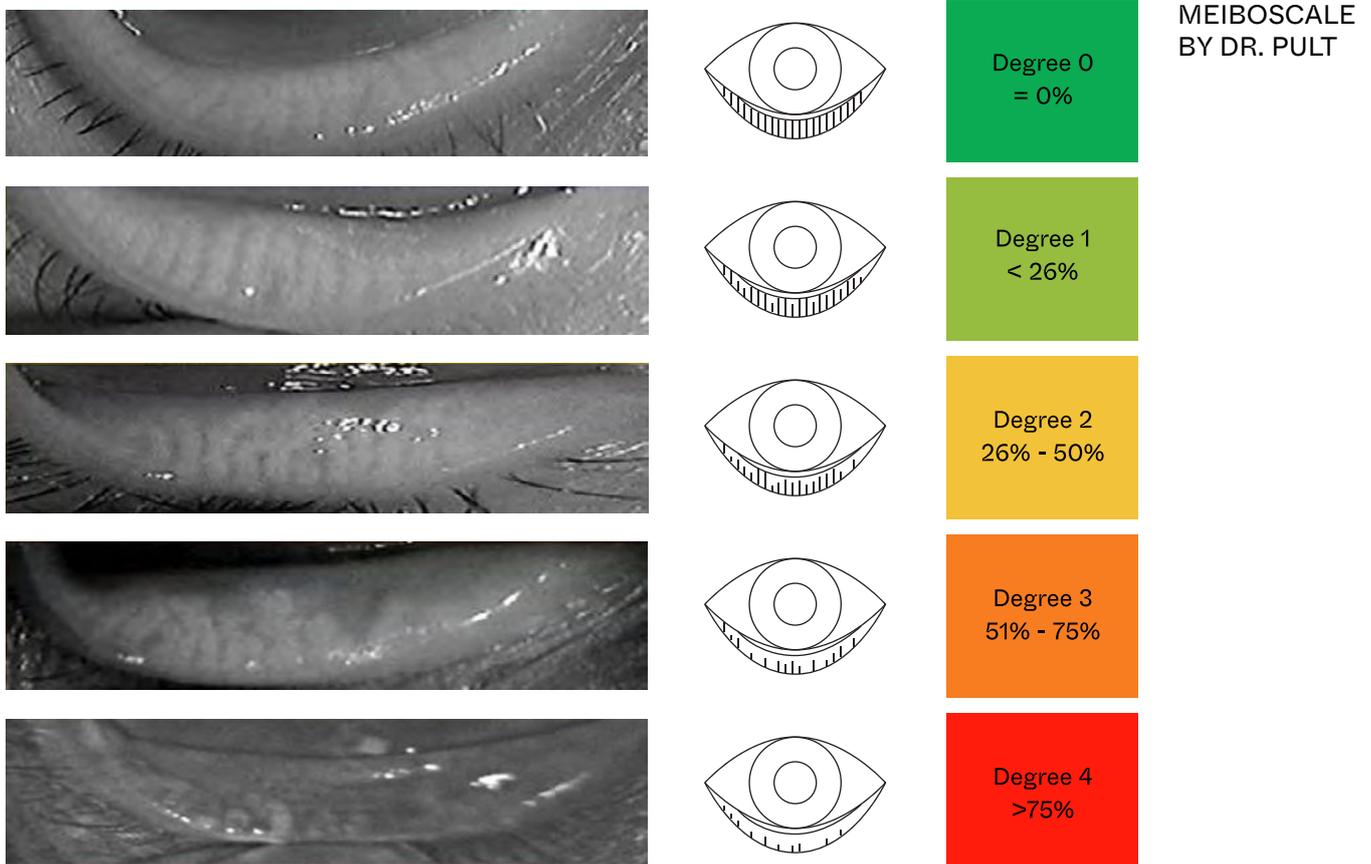
Fellowship, American Academy of Optometry Fellowship, Higher Education Academy Fellowship, International Association of Contact Lens Educators Fellowship, British Contact Lens Association Fellowship of Society of Biology

# Developed with practitioners, for practitioners

me-check® is the ultimate solution for evaluation of the Meibomian glands – where inflammatory dry eye disease often originates.

We developed me-check in cooperation with Dr. Heiko Pult and Prof. James Wolffsohn. It features the Meiboscale developed by Dr. Heiko Pult, alongside the OSDI-6 test developed with Prof. James Wolffsohn.

This means the me-check software was built from scratch through complex mathematical algorithms, yet packaged with a fresh, operator-oriented user interface to provide specialists with the simplest, most effective screening—actionable in under 5 minutes.





## ① Eye Test

Both eyes are tested via 2D/3D meibography. The average eye test is conducted within 5 minutes from start to finish, with no harm or discomfort for the patient.

The result is repeatable and consistent, and a wide variety of tests are available.

## ② OSDI-6

An OSDI-6 questionnaire is conducted to complete the results of the eye test.

The questionnaire is conducted by the practitioner, requires no more than 5 minutes and the results are input straight into the me-check® OS.

## ③ Diagnosis

The me-check® OS provides a comprehensive overview of the patient's conditions leveraging Dr. Pult's Meiboscale.

## ④ Management

Results of the diagnosis set the course for effective treatment of the root causes of inflammatory conditions.

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# Treatment Solutions

—Dermatology



## epi-c plus® An all-in-one powerhouse with both OPE® IPL and LM® LLLT

epi-c plus® is our flagship solution featuring both our core technologies, Light Modulation® LLLT and Optimal Power Energy® IPL, for an optimal, non-invasive treatment of inflammatory conditions in the facial area, including the periorbital area.

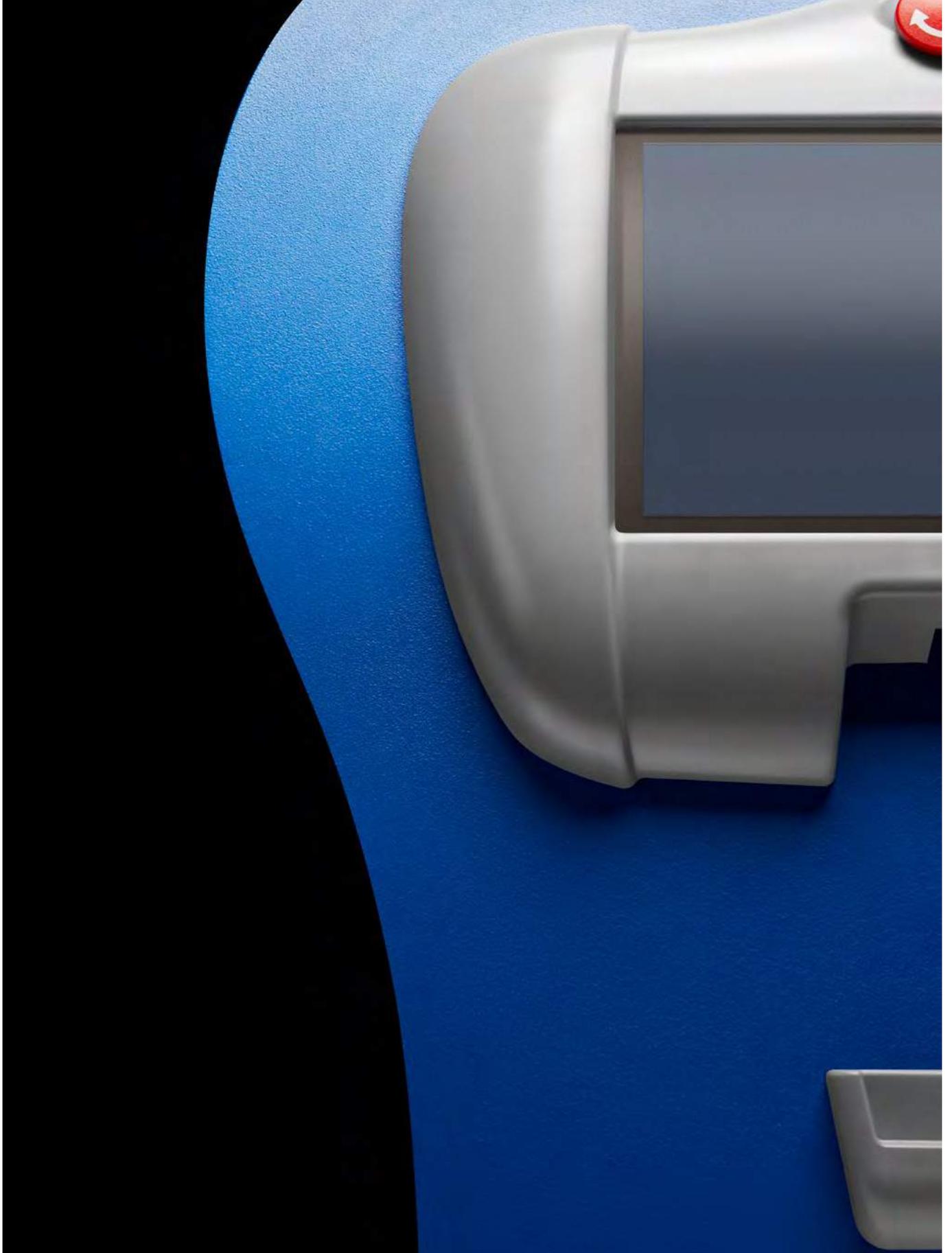
epi-c plus® is an FDA-cleared device as per K070494

#### Device Description

The device is designed and manufactured to emit a high-intensity pulsed light applied to the patient's skin. The light is emitted by a quick discharge of capacitors on a xenon flash lamp with high energy. The lamp delivers a wavelength in the band of 390-1200nm. The three principal parts of the system include: the principal unit that contains all circuitry to control the device as the capacitor charge system, the microcontroller and all the electronic parts; the handpiece that contains part of circuitry to control the lamp and filter group; and the lamp and filter group, a removable box that contains a xenon flash lamp and a filter mounted onto the handpiece.

#### Intended Use

This product is intended for dermatological use by physicians and healthcare professionals for the following: treatment of vascular and benign pigmented lesions, cutaneous lesions including warts, scars, striae and facial and leg veins (from 550 to 1200nm filter); treatment of acne (from 390 to 1200nm filter); removal of unwanted hair in all skin types (from 570 to 1200nm filter).



Our epi-c plus® solution was built to last and to continually deliver value to both practitioners and patients.

A beautifully crafted, durable stainless steel body houses a technological wonder, developed entirely in-house to be obsolescence-proof, thanks to an upgradable operating system.



Hardware and software work hand in hand to provide effective, painless care to patients affected by inflammatory skin conditions such as acne.

The ep-c plus<sup>®</sup> device is extremely easy to program and operate.

## SOLUTIONS &gt; DERMATOLOGY TREATMENT



## About OPE® IPL

Leveraging OPE® IPL on epi-c plus® is as easy as turning on the flashlight on your phone. Based on the patient condition, OPE® IPL flashes can be leveraged to painlessly treat the face, including the periorbital area and malar region.

Our OPE® IPL technology improves blood circulation by dissipating blood vessels, improving the secretion of anti-inflammatory cytokines.

## About Light Modulation® LLLT

The power of our Light Modulation® LLLT technology gets unleashed to the fullest on epi-c plus®. Based on the patient condition, Light Modulation® LLLT can be leveraged to painlessly treat the periorbital area.

On top of our Red Light, epi-c plus® features also Blue and Yellow LM® LLLT wavelengths.

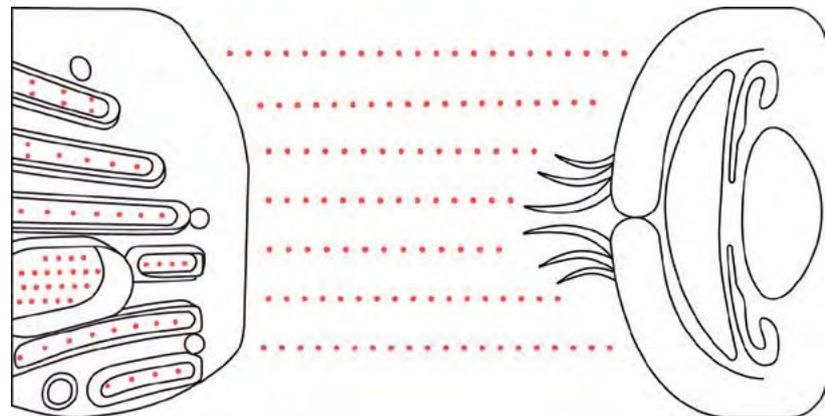




The epi-c plus® Light Modulation® (LM) Low-level Light Therapy (LLLT) is non-invasive, painless and stress-free for patients.

The application of LM® LLLT can be used to treat several dermatological conditions on the upper face, periorbital and eyelids areas, including inflammation, wrinkles and acne.

- > Comfortable, non-invasive periorbital application
- > Triggers endogenous heating of the periocular area
- > Stand-alone or supplemental application to OPE® IPL
- > Safe for most skin types on the Fitzpatrick scale
- > Low cost per patient and fast return on investment (ROI)



## Benefits of LM® LLLT

LM® LLLT utilizes light modulation, a patented photobiomodulation technology where the emission of a specific wavelength of light stimulates the production of ATP (Adenosine Triphosphate). This increases cellular action and emphasizes cellular activity, triggering endogenous heat that stimulates the normalization of glands.

- > LM® LLLT therapy is easy. The automated software calculates the duration of the process.
- > The painless, non-contact 15-minute application provides a comfortable patient experience with no gel required.
- > A unique, patented LED mask covers the entire periorbital area.
- > LM® LLLT is capable of producing results for the patient from the first session. In many cases, 1-2 sessions may be enough.
- > Always have the latest generation of equipment with instrument and software upgrades.
- > Minimal economic commitment and low-per-patient costs make LM® LLLT a great option.

④  
Focus on:  
epi-c plus<sup>®</sup>  
Technologies

TECHNOLOGIES > EPI-C PLUS® / OPE® IPL



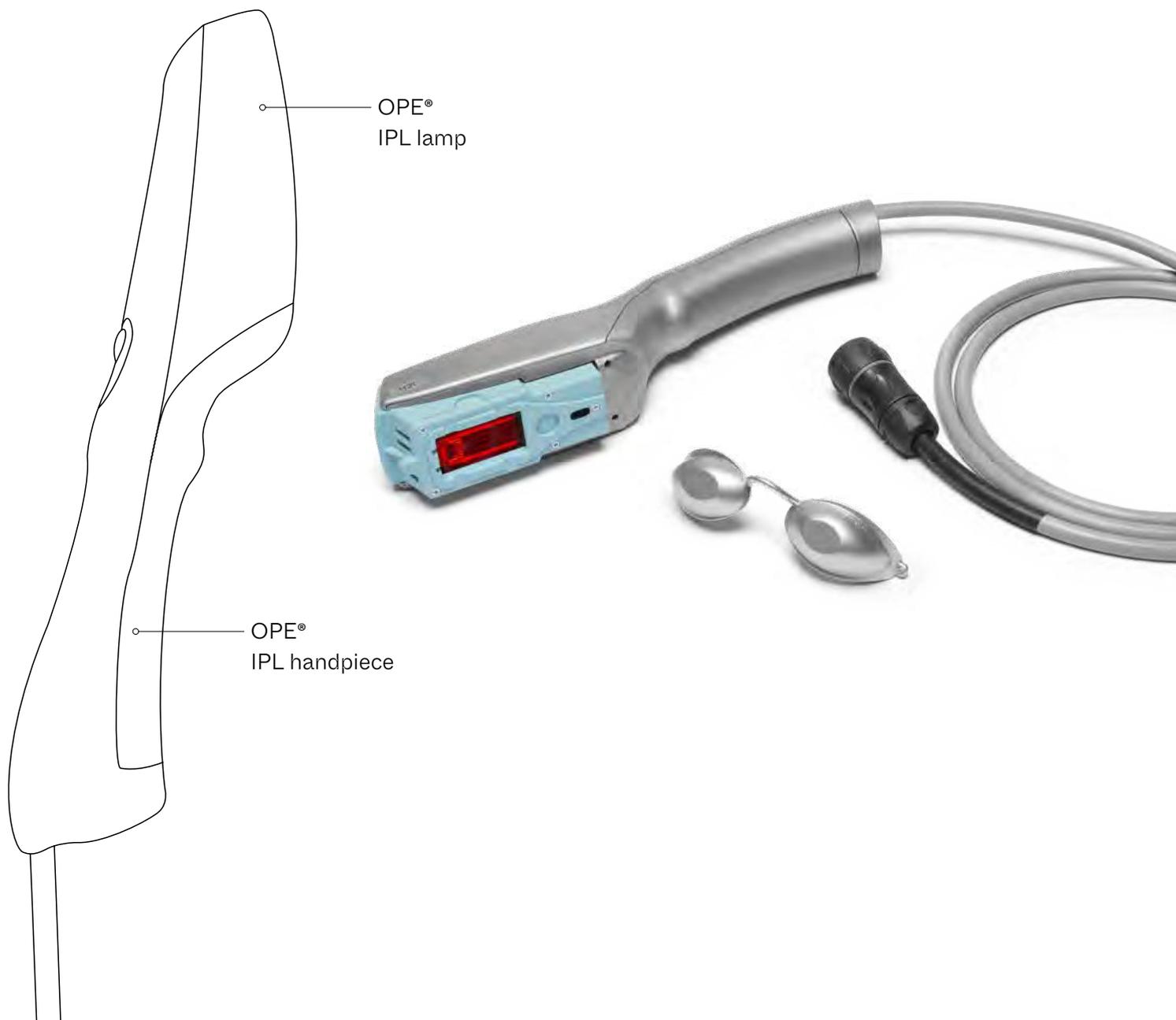
# OPE® IPL

Optimal Power Energy®  
Safe. Convenient. No gel involved.

The epi-c plus® OPE® IPL is our patented Intense Pulsed Light technology. We designed OPE® as polychromatic light whose thermal impulses are calibrated through software to always be emitted at just the right intensity, providing an extremely high degree of safety and effectiveness.

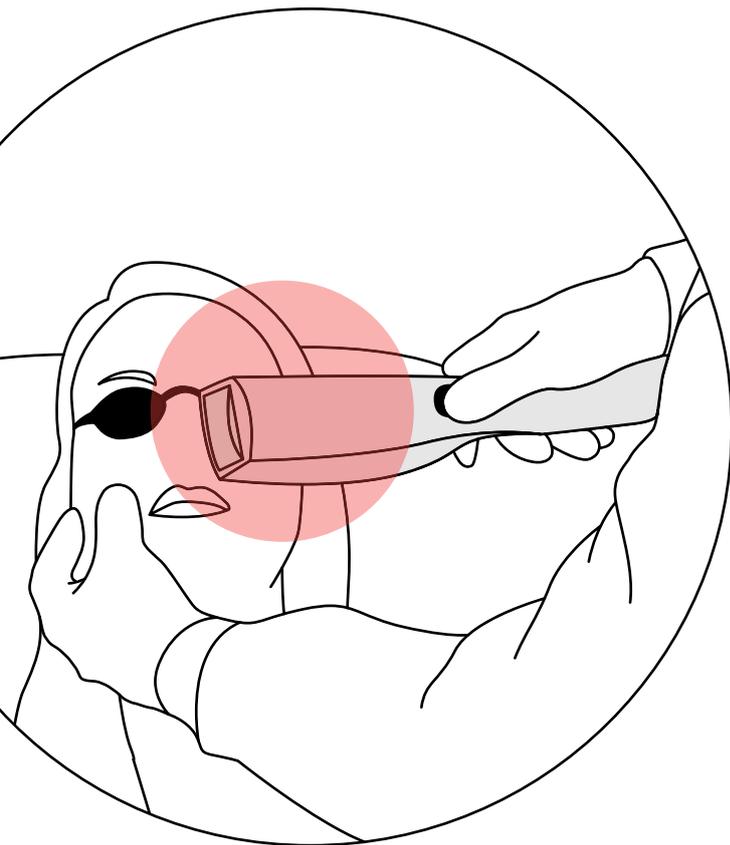
# Safe, quick, convenient.

We invested heavily in designing an IPL technology that could minimize risk during treatment for the patient whilst maximizing ease of use for the operator administering the therapy.



# The Benefits of OPE® IPL

- ① No gel is required; air-cooling provides convenience of use
- ② Pre-installed treatment settings based on the skin type
- ③ It provides homogeneous energy application.
- ④ Can be safely used on the patient's face, including the malar and periocular regions



## Maximum convenience, exceptional ease of use

OPE® IPL is the only pulsed light allowing for usage without any protective gel. This is made possible by our patented, software-enabled technology providing a light impulse that is emitted at just the right frequency, every time and throughout every beam. This provides both operators and patients with an invaluable asset: the convenience of an exceptional, frictionless experience.

TECHNOLOGIES > EPI-C PLUS® / LM® LLLT



## LM® LLLT

Light Modulation® Low-level Light Therapy is a unique, light-based photobiomodulation technology available for epi-c plus®.

Light Modulation®  
The power of light, cubed.

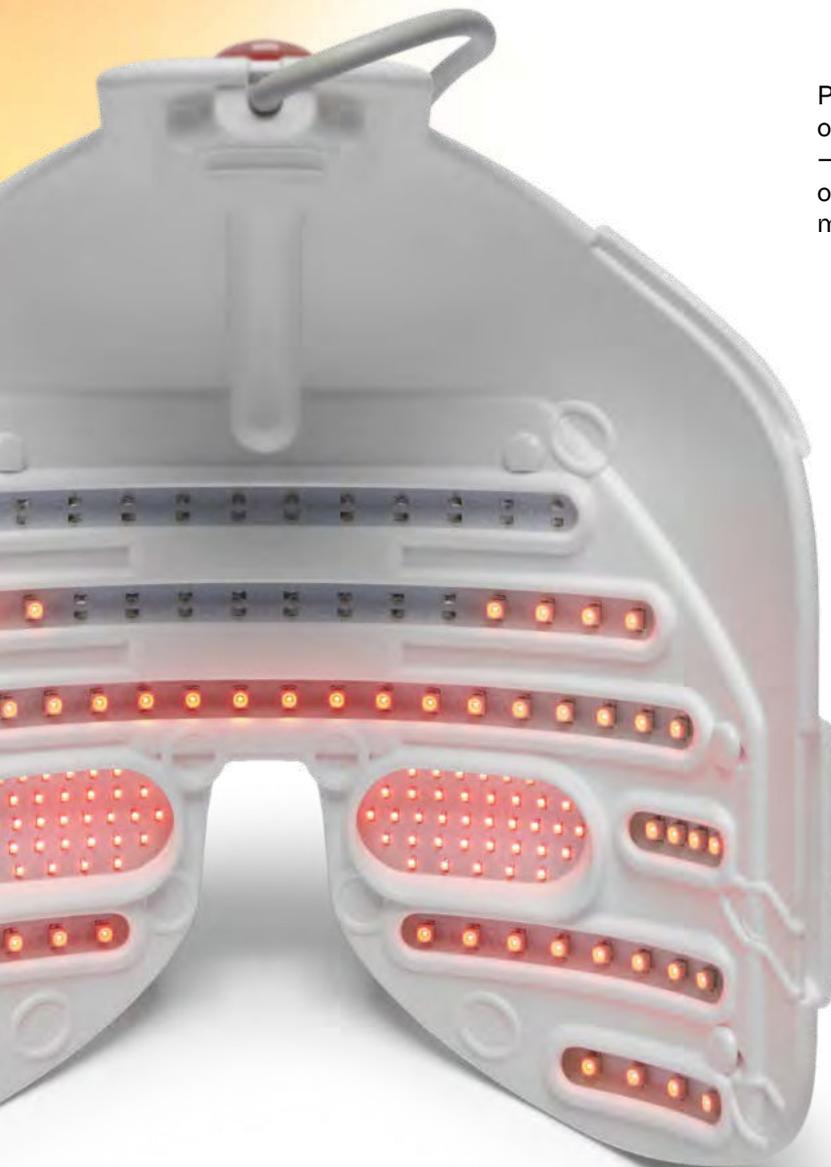
We developed and patented the technology originally used by NASA (Low-level Laser Therapy) to treat astronauts in space for medical use on patients.

LM® LLLT works at the biological level, generating endogenous heat through powerful LEDs stimulating ATP production in cells.

TECHNOLOGIES > EPI-C PLUS® / LM® LLLT

# Discover the Science behind LM® LLLT

No pain,  
Extreme gains.



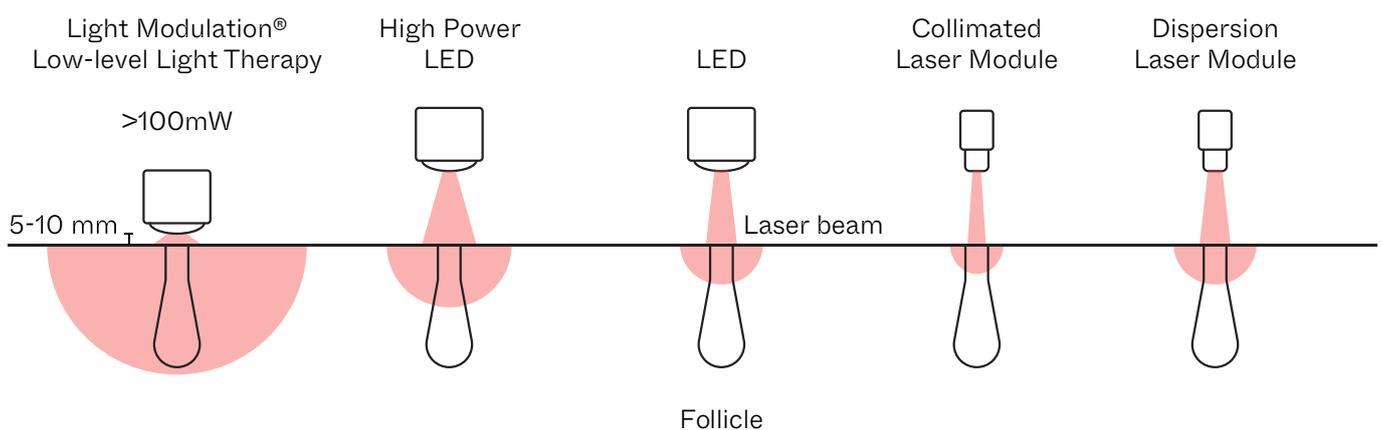
Photobiostimulation therapy enabled by LM® LLLT on epi-c® plus is completely painless for the patient —yet extremely effective in managing inflammation on facial skin, including the eyelids, periorcular and malar areas.

CLEARED FOR  
MEDICAL USE

# Maximum convenience, exceptional value.

The LM LLLT technology offers simplicity to the operator, convenience to the patient and impressive benefits to both.

This technology is exceptionally efficacious in the treatment of the facial skin for inflammation, including the periorcular area.



TECHNOLOGIES > EPI-C PLUS® / LM® LLLT



## Science told us it just works.

We believe that we have surpassed ourselves with LM® LLLT, crafting a technology bound to be deemed superior by the scientific community to our own OPE® IPL.

This applies not only to the safety and convenience of the technology, but also to its efficacy in the treatment of facial and periocular inflammation.

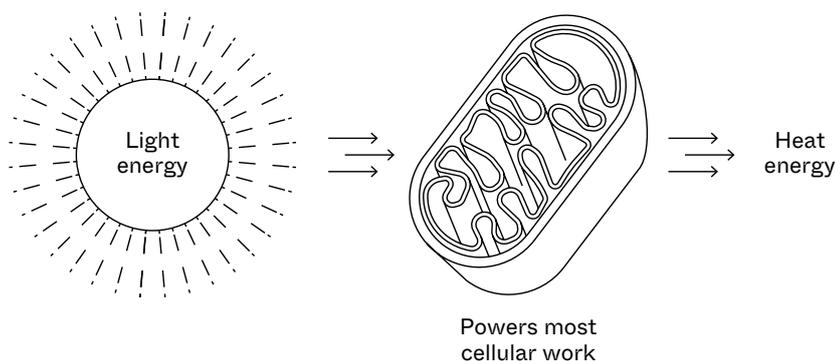
## A technology like no other

Operators and patients can enjoy the unique benefits of LM® LLLT technology on epi-c plus®:

- It is fast—a treatment lasts 15 minutes.
- It is painless.
- It grants immediate relief to the patient.
- It is easy and safe for the operator.
- It is plug-and-play and does not require the operator to be constantly present during the treatment.

# Light Science

LM® LLLT is our patented photobiomodulation technology—it triggers endogenous heating by stimulating ATP production in skin cells.



## Three unique frequencies

Light Modulation® Low-level Light Therapy can be leveraged employing three different light frequencies—each with its own unique benefits and use cases.

### • Red Light

Used for Inflammation Reduction and ATP Production Stimulus

Key facts on Red LM® LLLT:

- ① Improves cell metabolism due to increased ATP production within mitochondria
- ② Reduces inflammation by regulating anti-oxidant defenses and reducing oxidative stress
- ③ Light-induced activation of transcription factors and signaling pathways
- ④ When a 15-minute treatment is applied, the total fluence in the treated area is 100 Joules/cm<sup>2</sup>.
- ⑤ The photobiomodulation device has an emission power of 100 mW/cm<sup>2</sup>.



HAMBLIN MR. MECHANISMS AND APPLICATIONS OF THE ANTI-INFLAMMATORY EFFECTS OF PHOTOBIMODULATION. AIMS BIOPHYS. 2017;4(3):337-362. DOI: 10.3934/BIOPHY.2017.3.337. EPUB 2017 MAY 19. PMID:28748217; PMCID; PMC552387

## • Blue Light

Used for Bacteria Elimination

Key facts on Blue LM® LLLT:

- ① Blue light energy is absorbed by molecules called porphyrins within bacteria and when photosensitization occurs.
- ② Exposure to the light can result in photodynamic inactivation, a process in which bacteria are killed by light.
- ③ The membrane-bound porphyrin molecules generate singlet oxygen radicals that damage or disrupt the cell wall of a variety of gram-positive bacteria and lead to cell death.
- ④ The relatively weak defense mechanism in bacteria against singlet oxygen induces damage, contributing to the high efficiency of the photodynamic inactivation.



SULEK A, PUCELIK B, KOBIELUSZ M, BARZOWSKA A, DABROWSKI JM. PHOTODYNAMIC INACTIVATION OF BACTERIA WITH PORPHYRIN DERIVATIVES: EFFECT OF CHARGE, LIPOPHILICITY, ROS GENERATION, AND CELLULAR UPTAKE ON THEIR BIOLOGICAL ACTIVITY IN VITRO. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2020; 21(22):8716.

## • Yellow Light

Used for Drainage and Swelling Reduction

Key facts on Yellow LM® LLLT:

- ① Yellow light also acts on mitochondrial respiration and increases ATP production.
- ② Promotes the release of nitric oxide to assist in neuro-transmission and tissue repair
- ③ Decreases the inflammatory response by reducing the oedema
- ④ Increases skin elasticity and decreases metalloproteinases activity



MENEZES PFC, URBACZEK AC, MATTA RFD, BAGNATO VS (2020) PHOTOBIO-MODULATION USING AMBER LED AND INFRARED LASER TO CONTROLLING THE PIGMENTATION AND FLACCIDITY FROM SKIN. JOURNAL OF AESTHETIC & RECONSTRUCTIVE SURGERY. VOLUME 6 NO.2:8 DOI: 10.36648/2472-1095.6.2.57

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Focus on:  
equinox<sup>®</sup>

SOLUTIONS > TREATMENT



## equinox®

equinox® is our answer to professionals who want to focus on the unique benefits of our LM® LLLT technology.

equinox® is a 510K-exempt device.

### Intended Use

The device is intended for the generation of dry heat for the treatment of the body surface. The device operates with LED technology and is intended for use by healthcare professionals. The aim is to achieve, through the emission of LED light, surface temperatures of the affected parts of the body between 40°C and 44°C.

## Photobiomodulation champion

equinox® is indicated for the application of localized heat of the facial area, including the eyelids, when recommended by a medical professional.

SOLUTIONS > TREATMENT

# What are the benefits?

Built with the same industrial design of our other solutions, equinox<sup>®</sup> packs a punch when it comes to photobiomodulation technology—enabling patients and operators to benefit from everything Light Modulation<sup>®</sup> Low Level Light Therapy (LM<sup>®</sup> LLLT) has to offer:

## ① Complete + Direct Treatment

equinox<sup>®</sup> enables complete therapy, covering the full periorbital area and beyond into the whole face, to grant maximum efficacy in reducing inflammation.

## ② Totally Painless

equinox<sup>®</sup> and LM<sup>®</sup> LLLT provide patients with an entirely painless therapy.

## ③ Quick

For patients, this means immediate heating of the face skin with only 15 minutes of therapy.

For operators, it means delivering greater value to patients, with much less effort.

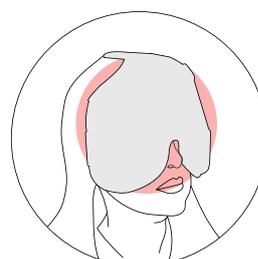
## ④ Easy

No training is needed and there is no set-up time. It just works.



## About Light Modulation<sup>®</sup> LLLT

Our patented photobiomodulation technology solicits mitochondria in cells, triggering biochemical and biophysical reactions that stimulate them to a better protein synthesis.



⑥  
Scientific  
Compendium

# Scientific Community

Our patented technologies have been the subject of a wide array of peer-reviewed scientific papers by many top-tier global KOLs. Our dermatological solutions are currently employed by global KOLs.

FROM THE USA



**PAUL KARPECKI**  
OD, TFOS AMBASSADOR

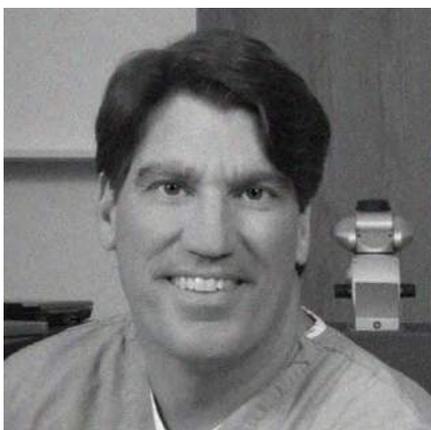


**CRAIG THOMAS**  
MD

AND BEYOND...



**BEATRICE COCHENER**  
MD, PHD, FORMER PRESIDENT ESCRS



**KARL STONECIPHER**  
MD, AAO, ISRS, ASCRS AMB



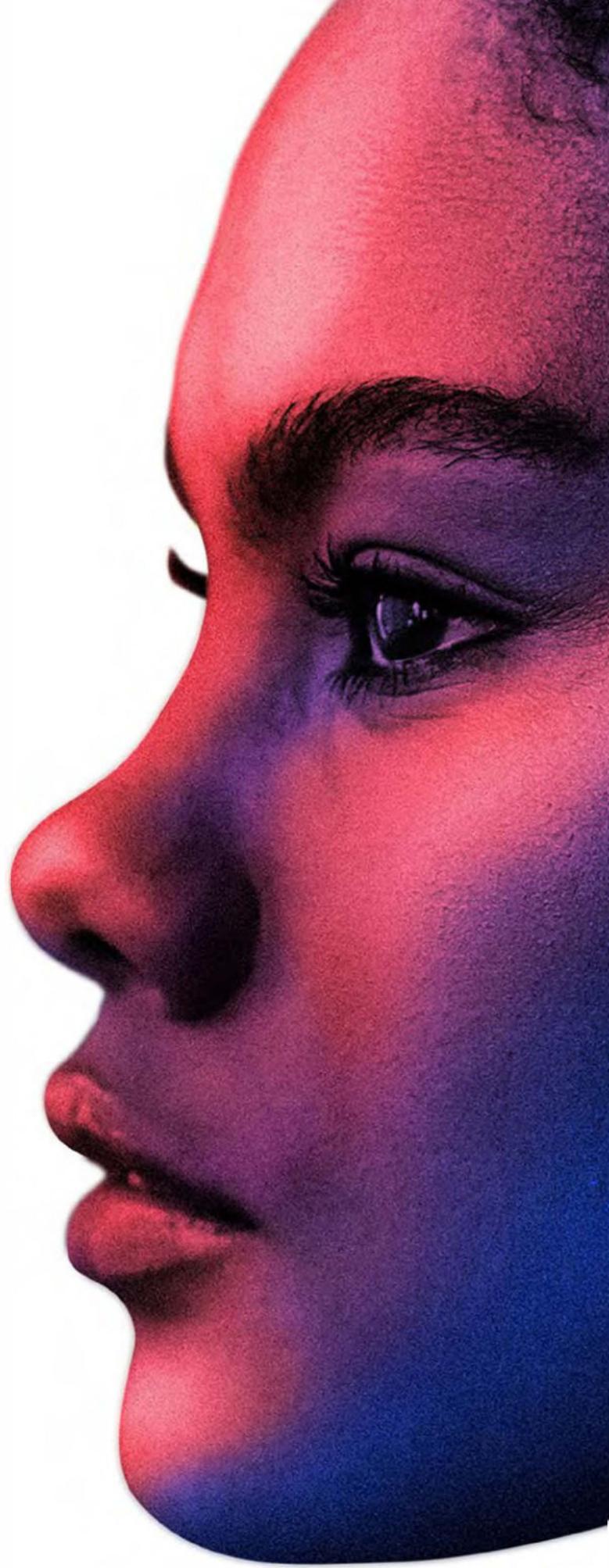
**ALLAN PANZER**  
OD



**GIUSEPPE GIANNACCARE**  
PROFESSOR, MD, PHD, FEBOPHTH







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