

BIOPTRON[®] 
HYPERLIGHT THERAPY SYSTEM By Zepter Group



HYPERLIGHT TECHNOLOGY

PATENTED

**MEDICAL
DEVICE**

Wound Healing
Pain Treatment
Dermatological
Disorders and Skin
Problems
Seasonal Affective
Disorders (SAD)

**NON-INVASIVE
NO SIDE EFFECTS
FOR CHILDREN
AND ADULTS**



MEDICAL DEVICE - (93/42/EEC)
**CLINICALLY
TESTED**

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TECHNICAL CHARACTERISTICS

The three models of Bioptron devices - Bioptron MedAll, Bioptron Pro 1 and Bioptron 2 - differ in size, design and settings, but are featuring identical physical characteristics of light.

- **Polarized:** >95% polarized light ensures optimal body penetration.
- **Polychromatic:** includes all beneficial effects of the whole visible and infrared radiation spectrum (wavelengths from 350 to 3400 nm for MedAll and Bioptron Pro 1 and 480-3400 nm for Bioptron 2 excluding the harmful UV light).
- **Incoherent:** ensures a safe application.
- **Low energy:** allows precise, safe, consistent and steady dosing of light.

BIOPTRON MEDALL



BIOPTRON PRO 1 WITH TABLE STAND



BIOPTRON 2



Filter Diameter Approx.	
Bioptron MedAll	5 cm
Bioptron Pro 1	11 cm
Bioptron 2	15 cm
Power Supply	
Bioptron MedAll	20 W
Bioptron Pro 1	50 W
Bioptron 2	75 W
Rated Power of Halogen	
Bioptron MedAll	Class II, IP 20
Bioptron Pro 1	Class II, IP 20
Bioptron 2	Class II, IP 20
Weight	
Bioptron MedAll (without stand)	0.5 kg
Bioptron Pro 1 (with table stand)	3.4 kg
Bioptron Pro 1 (with floor stand)	7.8 kg
Bioptron 2 (without stand)	4.3 kg
Bioptron 2 (with floor stand)	8.7 kg
Ambient Temperatures	
Operation	+10 °C to +30 °C
Storage	0 °C to +40 °C
Wavelength	
	480-3400 nm with edge filter
	350-3400 nm with HO filter
Degree of Polarization	
	>95% (590-1550 nm)
Light Intensity	
	min. 10 000 lux
Specific Power Density	
	~ 40 mW/cm ²
Light Energy per Minute	
	~ 2.4 J/cm ²
CE Labelling	
	CE 0197



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BIOPTRON HYPERLIGHT THERAPY IN WOUND CARE

Our multiple clinical trials in regenerative medicine show that the use of Biopton Hyperlight therapy greatly enhances the processes of tissue regeneration, resulting in a faster closing of the wounds with minimal scarring. In addition, Biopton Hyperlight Therapy reduces the costs of wound care/dressings, shortens hospital stays and relieves the pain and inflammation during the whole healing process.

- venous leg ulcers^(8, 33, 34, 45, 79)
- pressure ulcers^(6, 8, 12, 13, 19, 31, 42)
- foot ulcers^(21, 48, 78)
- burns^(2, 51, 53, 84, 85)
- grafting⁽⁵¹⁾
- post-surgery wounds^(5, 11, 16, 40, 47, 50, 53, 66, 67)
- injury^(3, 5, 22, 54, 62)

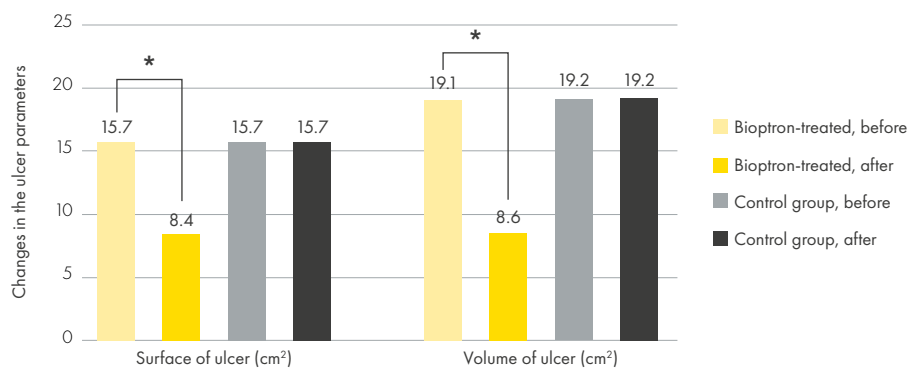


Figure 1. Changes in ulcer parameters in patients treated (n=15) and not-treated (n=15) with Biopton Hyperlight devices (Al-Kader et al., 2015)⁽⁶⁾.

In patients with pressure ulcers treated with Biopton Hyperlight Therapy, the ulcer surface and volume were significantly reduced after 4 weeks, 10 min/session, twice a day.



Photo 1. Pressure chronic ulcer treated with Biopton 10 min/day (Patient testimonial, 2019).



Photo 2. Venous chronic ulcer treated with Biopton 10 min/day. Between day 21 and 42 the treatment was not applied (Patient testimonial, 2019).

BIOPTRON HYPERLIGHT THERAPY IN PAIN RELIEF

RHEUMATOLOGY AND CHRONIC PAIN

Biopton Hyperlight Therapy helps to alleviate pain and disability in patients suffering from various forms of rheumatism, in combination with other pharmacological and physical treatments:

- Decreases or relieves pain or discomfort around one or more joints
- Decreases movement-evoked pain in the affected area(s)
- Decreases the inflammation in the affected area(s)

Biopton Hyperlight Therapy can be used in clinics and hospitals, but it is also supportive for home use to control the pain in patients with rheumatic disease and chronic pain. Patients are able to treat themselves everyday in their own homes, even during their vacations, thus increasing adherence and commitment to treatment.

The multiple clinical trials of Biopton Hyperlight Therapy medically certified its effectiveness in patients with:

- Rheumatoid arthritis^(7, 26, 35)
- Osteoarthritis^(4, 44)

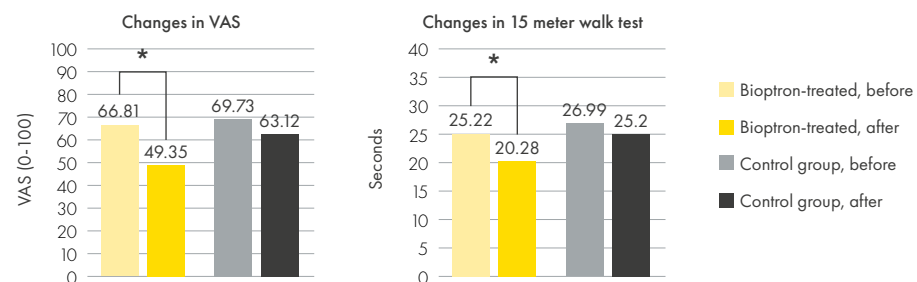


Figure 2. Changes in VAS parameters in patients suffering from osteoarthritis treated (n=34) and not-treated (n=30) with Biopton Hyperlight devices (Abramovich et al., 2020)⁽⁴⁾.

Patients treated with Biopton Hyperlight Therapy reduced their pain values and improved their motion. Treatment during 2 weeks, 6 min/session, 5 times a week.

PHYSIOTHERAPY AND SPORTS MEDICINE

Biopton Hyperlight Therapy is compatible with other treatment protocols, being a part of the integral interdisciplinary therapy to accelerate and optimize the rehabilitation of patients. Thanks to the synergic actions, Biopton devices help patients by promoting their recovery and boosting overall wellness, and support the athletes to shorten the healing time after various sport injuries.

Biopton Hyperlight Therapy helps the patient during the recovery period and accelerates the healing process by:

- Accelerating tendon and muscle regeneration
- Improving muscle tensile strength
- Reducing inflammation and swelling
- Relieving pain or decreasing its intensity
- Increasing the range of motion in the affected body regions

Biopton is used in many hospitals and clinics as a certified medical device for treatment of patients and athletes with:

- Low back pain ^(46, 65)
- Neck and shoulder pain ⁽¹¹⁾
- Carpal tunnel syndrome ^(61, 75)
- Tendinopathies in several joints ^(70, 71, 72, 73, 74, 76)
- Musculoskeletal injuries (sprains, strains) ^(59, 83)
- Post-surgery pain ⁽¹⁰⁾

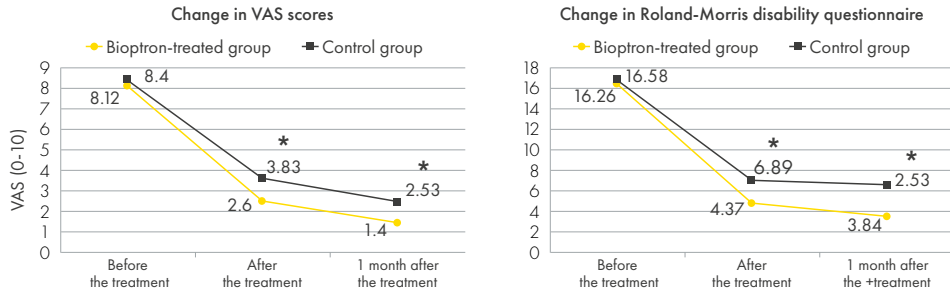


Figure 3. Changes in VAS parameter and Roland-Morris questionnaire (self-rated physical disability caused by low back pain) in patients suffering from low back pain treated (n=30) and not-treated (n=30) with Biopton Hyperlight devices (Myhailova et al, 2017) ⁽⁴⁶⁾.

Patients treated with Biopton Hyperlight Therapy reduced their pain values and improved their quality of life significantly more than patients not treated with Biopton. Treatment during 4 weeks, 10 min/session/day.

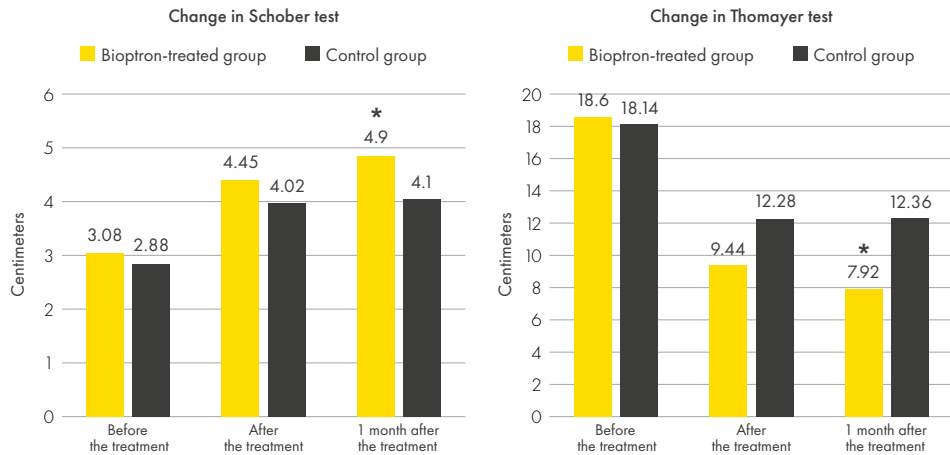


Figure 4. Changes in Schober (measures the flexion of the lumbar spine) and Thomayer tests (declination of the body) in patients suffering from low back pain treated (n=30) and not-treated (n=30) with Biopton Hyperlight devices (Myhailova et al, 2017) ⁽⁴⁶⁾.

Patients treated with Biopton Hyperlight Therapy improved significantly their capacity to flex and declinate the body, improving overall mobility compared with patients not treated with Biopton Therapy during 4 weeks, 10 min/session/day.

BIOPTRON HYPERLIGHT THERAPY IN DERMATOLOGY & SKIN DISEASES

Biopton Hyperlight Therapy is easy, painless and simple, intended to promote skin healing and reduce the pain and discomfort associated with various skin disorders, by:

- Promoting the skin regeneration process by stimulating fibroblast proliferation and migration
- Increasing collagen production
- Improving microcirculation
- Decreasing the inflammation, rashes and redness
- Relieving the pain and discomfort
- Reinforcing the immune system to help the body to fight against external agents

Biopton Hyperlight Therapy can be used alone or in combination with other treatments as a part of integral treatment aiming to improve patients' quality of life.

Biopton Hyperlight devices can be used in clinics, but also by patients themselves in their homes, providing easy treatment and patient adherence that ensures its efficacy. The multiple synergic cellular effects of Biopton Hyperlight Therapy turn Biopton into the perfect ally in treatment of:

- Acne (rosacea) ^(14, 29)
- Psoriasis ^(20, 58, 79)
- Atopic dermatitis/ eczema ^(41, 44, 49)
- Herpes simple & zoster ^(9, 38)



Photo 3. Acne vulgaris (Biopton Hyperlight Therapy 10 min/day) (Patient testimonial, 2019).



Photo 4. Eczema/ dermatitis (before and after 8 weeks of treatment, Biopton Hyperlight Therapy 10/min day (Liguina-Ruzzi et al, 2019) ⁽⁴¹⁾)

BIOPTRON HYPERLIGHT THERAPY IN ANTI-AGING

Biopton Hyperlight has multiple effects that make it unique in the prevention of skin aging, improving skin tone, reduction of wrinkles and maintaining a youthful skin.

Biopton Hyperlight Therapy:

- Promotes the production of collagen
- Improves skin density
- Decreases fine lines and wrinkles
- Increases skin thickness
- Improves skin texture, for firmer and smoother skin
- Restores the natural luminosity of the skin

Biopton Hyperlight Therapy can be used as a part for daily anti-aging routine, in combination with other serums and creams.

Biopton is a powerful tool when combined with other medical anti-aging treatments by decreasing the rash and redness at injection sites, avoiding inflammation, but also potentiating and prolonging the effects of the following techniques:

Facial and Hair Microneedling

- Mesotherapy/Biorevitalization
- Hyaluronic Acid (HA) Fillers
- Botox
- Collagen injections
- Platelet Rich Plasma (PRP) Therapy
- Mesothreads
- Derma rollers
- Various peels

Facial Rejuvenation, Body Treatments

- Fractional CO2 Laser
- Laser varicose vein ablation
- Laser ND-YAG
- Cellulite treatment



Photo 5. Mesotherapy treatment followed by 10 min of Biopton Hyperlight Therapy



Before

After

Biopton Hyperlight Therapy is the perfect ally for post-surgery aesthetic procedures. It will decrease edema and inflammation, promote skin regeneration and relieve the pain during the whole process. The patients will recover faster thanks to Biopton Hyperlight Therapy.



Photo 7. In each pair of images left photo shows one side of the face treated with Biopton for 5 and 7 days respectively (Colic et al., 2004) ⁽¹⁶⁾.

BIOPTRON HYPERLIGHT THERAPY IN SEASONAL AFFECTIVE DISORDER (SAD)

It is accepted by scientific community that SAD is caused by the lack of light, due to shorter days and decrease in sunlight exposure. The decrease in light reception will cause an imbalance in the secretion of specific neurotransmitters in the brain, affecting sleep-wake cycle and other mechanisms.

The main treatment for SAD is bright light therapy, such as Biopton Hyperlight Therapy. The increased light levels may compensate the decrease of sunlight, helping the patients to:

- Decrease their depression symptoms
- Increase motivation
- Improve sleep duration

Biopton Hyperlight Therapy has no side-effects, thus the patients can stop using it during spring and summer without side effects. Biopton Hyperlight Therapy devices provide more than 10,000 lux (indoor light is around 500 lux; midday summer sunlight can reach 50,000 lux), ideally dosed to treat SAD.

Apply Biopton Hyperlight Therapy pointing towards your forehead, while taking breakfast, reading the news or working on your computer, as explained in the flipchart below, to make the most of your winter.

- 20-40 min. = 20 cm distance
- 40-60 min. = 30 cm distance
- 60-120 min. = 40 cm distance

BIOPTRON HYPERLIGHT THERAPY IN CHILDREN AND NEWBORNS

Few medical devices are designed and marketed specifically for children. Children and newborns have special needs and require appropriate healthcare adapted to them. Biopton Hyperlight Therapy is a safe medically certified device to be used in children and newborns, to respond specifically to their needs.

Biopton Hyperlight Therapy can be used in children to reduce the pain and promote healing.

Biopton is especially useful for treatment of:

- Pediatric dermal affections ⁽²⁾
- Endogenous eczema
- Upper respiratory tract infections ^(36, 37)
- Allergic respiratory diseases ⁽⁴⁴⁾
- Pediatric musculoskeletal disorders ^(84, 85)

In newborns

- Dermal problems (e.g. phlebitis, decubitus, intertrigo)



Treatment of children under 6 years old must be performed under supervision of a physician. Do not apply in eye area and use blindfold included with the device.

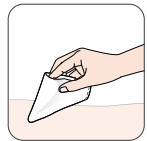
BIOPTRON HYPERLIGHT THERAPY IN MUCOSAL LESIONS

Biopton® Hyperlight Therapy has proven its high effectiveness in a wide range of applications in oral mucosal lesions, alleviating inflammation, swelling and pain. Biopton Hyperlight Therapy is an exceptional technology that offers an effective and economical treatment for different mucosal lesions ^(55, 56, 57, 60).

HOW TO USE IT

Biopton® Hyperlight should be used as it is described in the "Instructions For Use" brochure included with each device. Each session of Biopton Hyperlight Therapy lasts between 4 and 10 minutes, once or twice a day. The therapy is non-invasive. Biopton device should be positioned at 10 cm distance from the area to be treated. Biopton Hyperlight devices can be easily used for several patients within the same day. Biopton Hyperlight Therapy can be used for as long as needed until the medical problem is solved.

BIOPTRON MEDALL



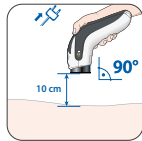
Step 1
Carefully clean the area to be treated.



Step 2
Set the treatment time with +/- buttons.



Step 3
Adjust the device according to your needs.



Step 4
Hold the device at 90°, at a distance of 10 cm from area to be treated.

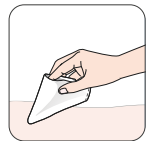


Step 5
Press Start. Relax. Light will switch off automatically at the end of countdown.

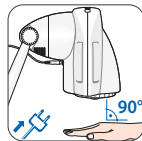


Step 6
Treat target skin areas one by one.

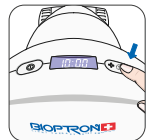
BIOPTRON PRO 1 AND B2



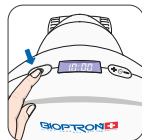
Step 1
Carefully clean the area to be treated.



Step 2
Hold the device at 90°, at a distance of about 10 cm from area to be treated.



Step 3
Set the treatment time with +/- buttons.









Step 4
Press start. Treatment starts. Light will switch off automatically at the end of countdown.

MORE ABOUT THE CELLULAR MECHANISMS TRIGGERED BY BIOPTRON HYPERLIGHT

The unique synergic combination of cellular processes triggered by Biopton offers an effective healing in wound care, pain relief and dermatology disorders:

- Stimulates regenerative processes by increasing collagen production, keratinocyte and fibroblast proliferation ^(31, 63, 77)
- Increases release of growth factors ⁽⁸⁰⁾
- Favors microcirculation and improves local blood supply ^(27, 64)
- Increases anti-inflammatory cytokine secretion and reduces the release of pro-inflammatory ones ^(24, 25, 81, 86, 87)
- Reduces the release of chemical messengers that stimulate nociceptors, boosting the release of the body's natural pain-killing agents ^(15, 64).

BIOPTRON HYPERLIGHT THERAPY TREATMENT

INDICATION FOR USE	SPECIFIC PROBLEMS/SYMPTOMS	TREATMENT	SUGGESTED APPLICATION SITES
WOUND HEALING			
Wounds after trauma or surgery	Cuts Bruises Pain around the area	2-8 min/ session, 10 cm distance 1-2 sessions/day As long as required	At the site of the trauma 
Burns	Pain around the area Tissue healing	2-8 min/session, 10 cm distance 1-2 sessions/day As long as required	At the site of the burn 
Skin grafts	Pain around the area Tissue healing	2-8 min/session, 10 cm distance 1-2 sessions/day As long as required	At the site of the skin graft 
Venous leg ulcers (stasis ulcers)	Pain around the area Tissue healing	2-8 min/session, 10 cm distance 1-2 sessions/day As long as required	At the site of the ulcer. Repeat same treatment on each ulcer if there are several. 
Decubitus (pressure ulcers)	Pain around the area Tissue healing	2-8 min/session, 10 cm distance 1-2 sessions/day As long as required	At the site of the ulcer. Repeat same treatment on each ulcer if there are several. 
Diabetic foot ulcers	Pain around the area Tissue healing	2-8 min/session, 10 cm distance 1-2 sessions/day As long as required	At the site of the ulcer. Repeat same treatment on each ulcer if there are several. 

BIOPTRON HYPERLIGHT THERAPY TREATMENT

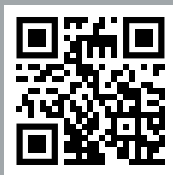
INDICATION FOR USE	SPECIFIC PROBLEMS/SYMPOMS	TREATMENT	SUGGESTED APPLICATION SITES
PAIN RELIEF			
Rheumatoid arthritis	Pain in any joint of the body	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the painful site. Repeat same treatment on each affected joint.
Arthritis	Pain in any joint of the body	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the painful site. Repeat same treatment on each affected joint.
Osteoarthritis	Pain in any joint of the body	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the painful site. Repeat same treatment on each affected joint.
Low back pain	Pain and stiffness on the back	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the painful site.
Shoulder and neck pain	Pain and stiffness on the shoulder or neck	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the painful site.
Scar tissue	Pain	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the scar tissue site.
Musculoskeletal injuries	Pain	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	At the painful site
Carpal tunnel syndrome	Pain, tingling	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	On the wrist
DERMATOLOGY			
Atopic dermatitis (Eczema)	Alleviate eczema patches	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	On the affected region

BIOPTRON HYPERLIGHT THERAPY TREATMENT

INDICATION FOR USE	SPECIFIC PROBLEMS/SYMPOMS	TREATMENT	SUGGESTED APPLICATION SITES
Acne vulgaris	Alleviate acne lesions	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	On the affected region
Psoriasis	Alleviate psoriasis lesions	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	On the affected region
Herpes simplex (cold sores)	Alleviate discomfort	4-10 minutes 10 cm distance 1-2 sessions/day As long as required	On the affected region
Herpes zoster	Alleviate discomfort	4-10 minutes, 10 cm distance 1-2 sessions/day As long as required	On the affected region
Superficial bacterial infections	Alleviate discomfort	4-10 minutes, 10 cm distance 1-2 sessions/day As long as required	On the affected region
Mucosal lesions (skin or oral mucosa)	Alleviate discomfort Oral mucosa: mucositis, oral pain, peri-implantitis	4-10 minutes, 10 cm distance 1-2 sessions/day As long as required	On the affected region
SEASONAL AFFECTIVE DISORDER (SAD)			
SAD	Low mood Anhedonia Increased need for sleep Severe tiredness	20-40 min. exposure at 20 cm distance or 40-60 min. exposure at 30 cm distance or 60-120 min. exposure at 40 cm distance.	With the light spot on the forehead or side of the skull. Avoid the eyes and surroundings areas
PEDIATRICS BLINDFOLD USE MANDATORY. ASK YOUR DOCTOR BEFORE USE			
Dermatological disorders	Such as atopic dermatitis, psoriasis, superficial bacterial infections, acne, mucosal lesions, Herpes simplex and Herpes zoster	2-4 minutes, 10 cm distance 1-2 sessions/day	At the lesion site
Allergic respiratory diseases	Such as asthma	2-4 minutes, 10 cm distance 1-2 sessions/day	On the chest

COMPANY PROFILE

Biopton AG is a Swiss company that develops and manufactures medically certified light therapy devices. Over the past 30 years, Biopton has become a global brand that stands for innovative non-invasive medical healthcare products, unrivalled in treatment of many medical conditions. BIOPTRON AG continues to invest in sophisticated research and new product development that is necessary to achieve optimal clinical effectiveness in light therapy treatments. Our vision is to empower people to self-care by taking charge of their health and the health of those they love. We provide safe, easy and effective health solutions to treat illness and improve lives. With our innovative products, we contribute to finding solutions for some of the major challenges of the modern healthcare.



For further information
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