

# LED TECHNOLOGY



# WHAT IS LED?

LED = PHOTOTHERAPY

TREATMENT WITH LIGHT

LIGHT = ENERGY

A BEAM OF LIGHT IS MADE UP OF PHOTONS

PHOTONS = ENERGY

LOW LEVEL LIGHT THERAPY – LLLT

Direct cell transfer of low incident levels of photon energy

Viable clinical effect

Athermal (no heat) Atruamatic (no damage)

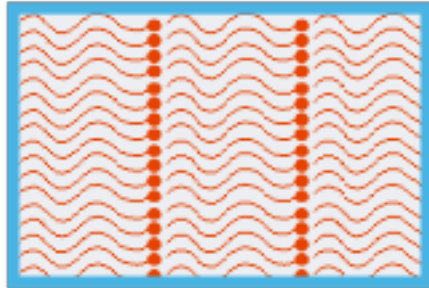
W?

THE FIRST LAW OF PHOTOBIOLOGY

NO Absorption

....NO Reaction

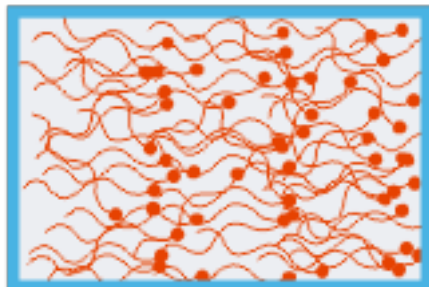
## LASER, IPL, LED?



Lasers –  
Monochromatic  
Coherent  
Collimated



IPL –  
Polychromatic  
Noncoherent



LED –  
Quasimonochromatic  
Noncoherent

## ADVANTAGES OF LED?

Little power/ high power vers. Lasers

No flashlamps, filaments etc

Can be arranged in large panels

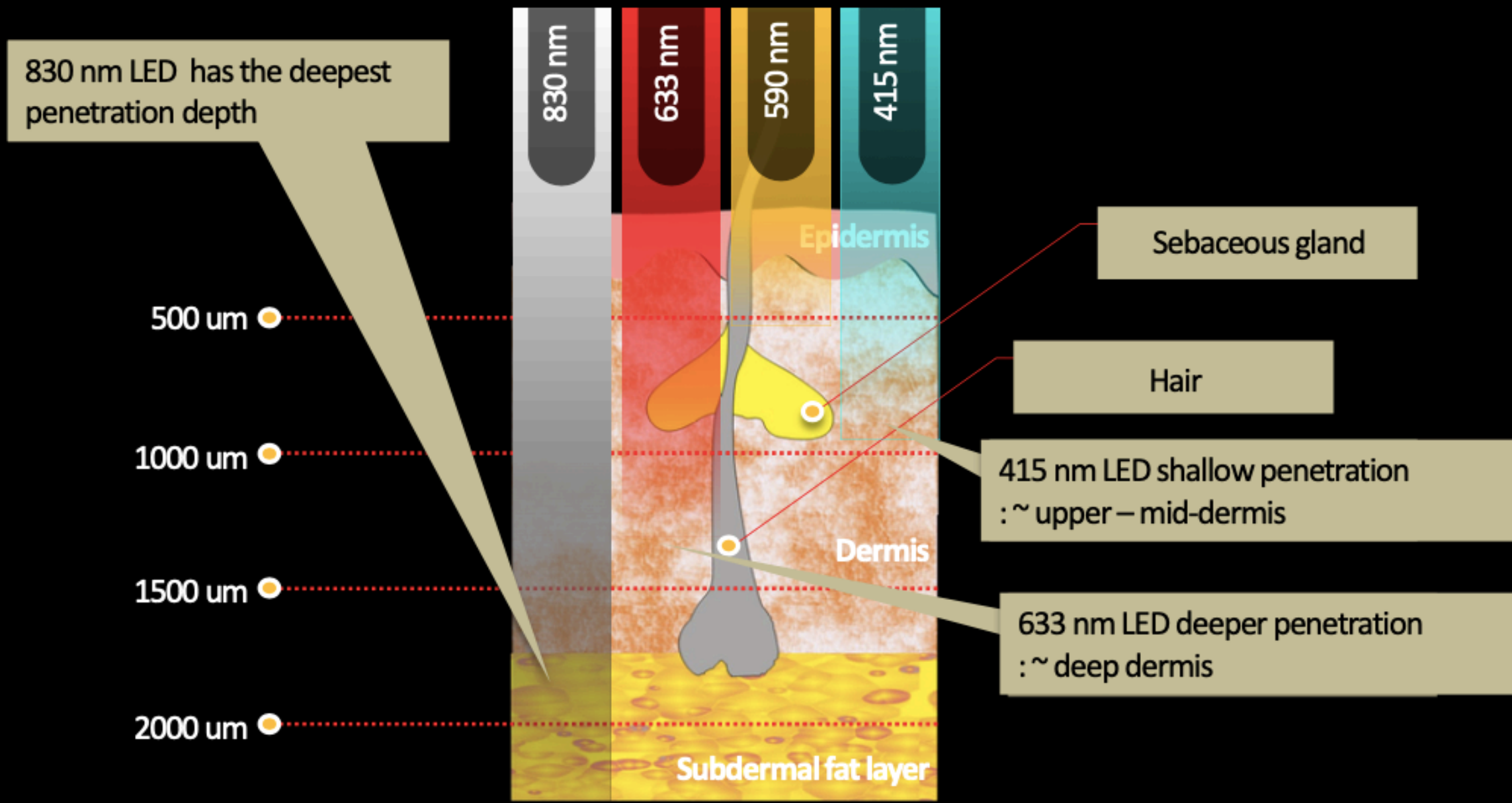
Inexpensive

Pain free, hands free

Side effect free

Easily patient tolerated

# PENETRATION DEPTH



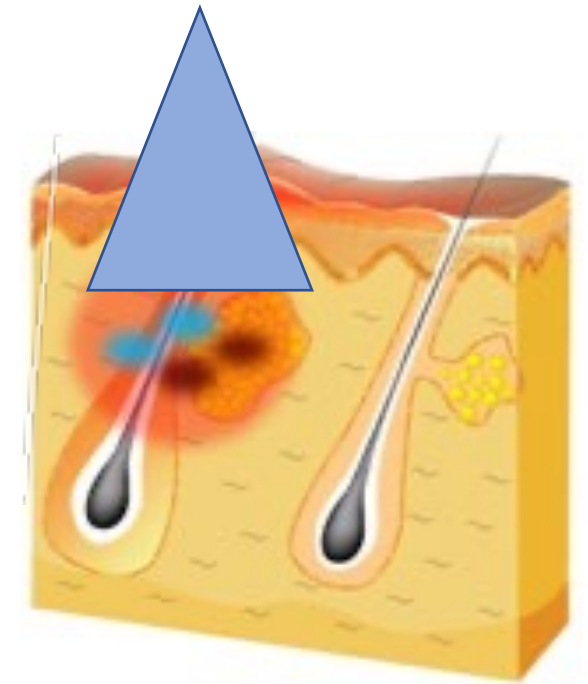
## INDICATIONS OF LED?

**415 nm +/- BLUE LIGHT**  
**40j/cm<sup>2</sup> - must wear goggles**

Active Acne (Endogenous PDT)

Acts through endogenous PDT (Activation of porphyrins in *P. acnes*).

When *Propionibacterium acnes* (*P. acnes*), the causative bacterium in acne lesions, are active, they produce substances called porphyrins, and when these substances are exposed to blue light energy at 415 nm, the porphyrins produce free radical singlet oxygen ( $^1O_2$ ) which will eventually selectively kill the *P. acnes*.



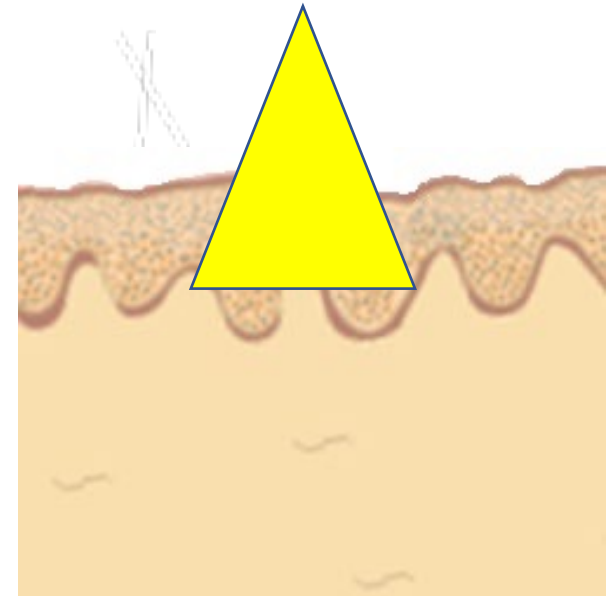
## INDICATIONS OF LED?

### 590 nm +/- YELLOW LIGHT

Penetrates to the dermodepidermal junction and extremely superficial dermis.

Targets are keratinocytes and Merkel cells.

*Release neuropeptides and neurotransmitters (pain control)*





## INDICATIONS OF LED?

**633 NM +/- RED LIGHT**  
**60j/cm<sup>2</sup> - goggles optional**

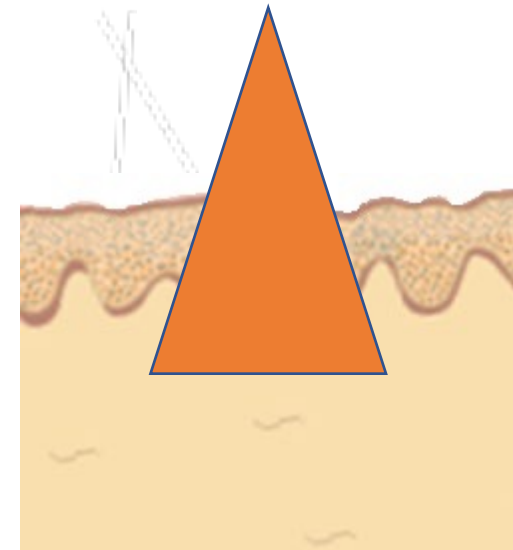
Penetrates to the deeper reticular dermis.

Targets are activated keratinocytes, fibroblasts, endotheliocytes, and blood vessels.

Non-melanoma Skin Cancer (Exogenous PDT with 5-ALA)

Skin Rejuvenation

Hair Regrowth



## INDICATIONS OF LED?

### 830 NM +/- NEAR INFRA LIGHT

Combined with 590nm 60j/cm<sup>2</sup>-

goggles optional

Penetrates to the deeper reticular dermis , and beyond Targets are activated keratinocytes, mast cells, neutrophils, macrophages, fibroblasts.

Wound Healing

Pain Relief

Muscle and Joint Pain

Arthritis

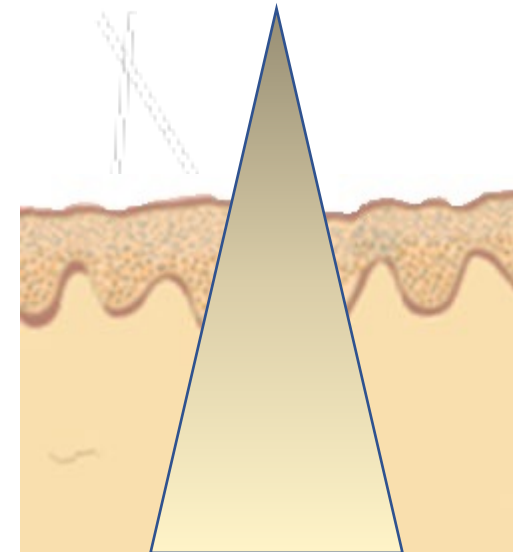
Muscle Spasm

Temporary Increase of Blood Circulation

Hair Regrowth

Active Acne

Skin Rejuvenation



Accelerates wound healing post laser or post surgery

Reduces pain, bruising, Oedema and erythema

Offers prophylaxis against scar formation

Reduces PIH

Improves the clinical results

DR CALDERHEAD – EX OMNILUX

CLINICAL PAPERS – ON HEALITE NOT LED GENERAL TECH

MARKET LEADING

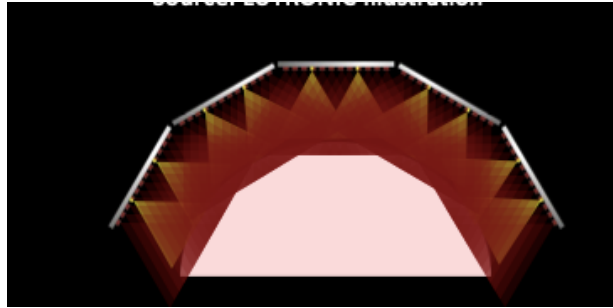
POWER – 2 WAVELENGTHS ONLY PER HEAD

13 MIN 830NM 7 633NM TX TIME

OLAT & PHOTSEQUENCING UNIQUE TO HEALITE

\$23 850 EX GST (*LOWEST SALE \$19 990 EX GST*) 2 WAVELENGTHS

# HEALITE LED - FEATURES



## Photosequencing Technology (PST)

Preconditions epidermis using 590 nm, enhances dermal tissue interaction with 830 nm.

1min 590nm, then 830nm



## Optical Lens Array Technology (OLAT)

Limits beam divergence to improve photon intensity, maximizes clinical effects with shorter operation time.

Lenses over LED's like a IPL filter



## Ergonomic Design

Easily adjustable panels for focused intensity for maximum results. Stylish and slim design easily fits into any clinic environment.

## Healing Time Comparison

Tx /Indication	W/O HEALITE II™	W/ HEALITE II™
After Facelift	Up to 13 Wks	Up to 6 Wks ( 53% reduction)
Bruising	1 WK	1 – 2 Days (78 % reduction)
Erythema	15- 16 Wks	2 Wks ( 87% reduction)
Edema	5 Days to 1 WK	2 – 3 Days ( 58% reduction)

### Standalone

- Aesthetic spa/salon
- Dermatology clinic

### Adjunctive Therapy

Add-value to current procedure

- Plasticsurgery
- Derms after laser Tx
- Orthopedics
- OB/GYN

PANEL TO BE POSITIONED 10-15CM FROM FACE – for led to focus to optimal density

830NM FOR ALL HEALING, POST TREATMENT, PAIN, BRUISING ETC

PROTOCOLS –

ACNE - 2 TX PER WEEK FOR 4 WEEKS -  $40\text{j}/\text{cm}^2$

HEALING/POST SURGERY – 2 TX PER WEEK FOR 4 WEEKS -  $60\text{j}/\text{cm}^2$

MAINTAINENCE 1 TX PER MONTH

12-24HRS PRE SURGERY TO START HEAING PROCESS – IR 830nm  $60\text{j}/\text{cm}^2$

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