

# The New Standard in Regenerative Podiatry

Science, Simplicity,  
and Smart Integration

Rahul N. Desai, MD

## REDVIVE PHOTOBIO-MODULATION TREATMENT STACK FOR REGENERATIVE PODIATRY

REGENERATIVE  
INJECTIONS

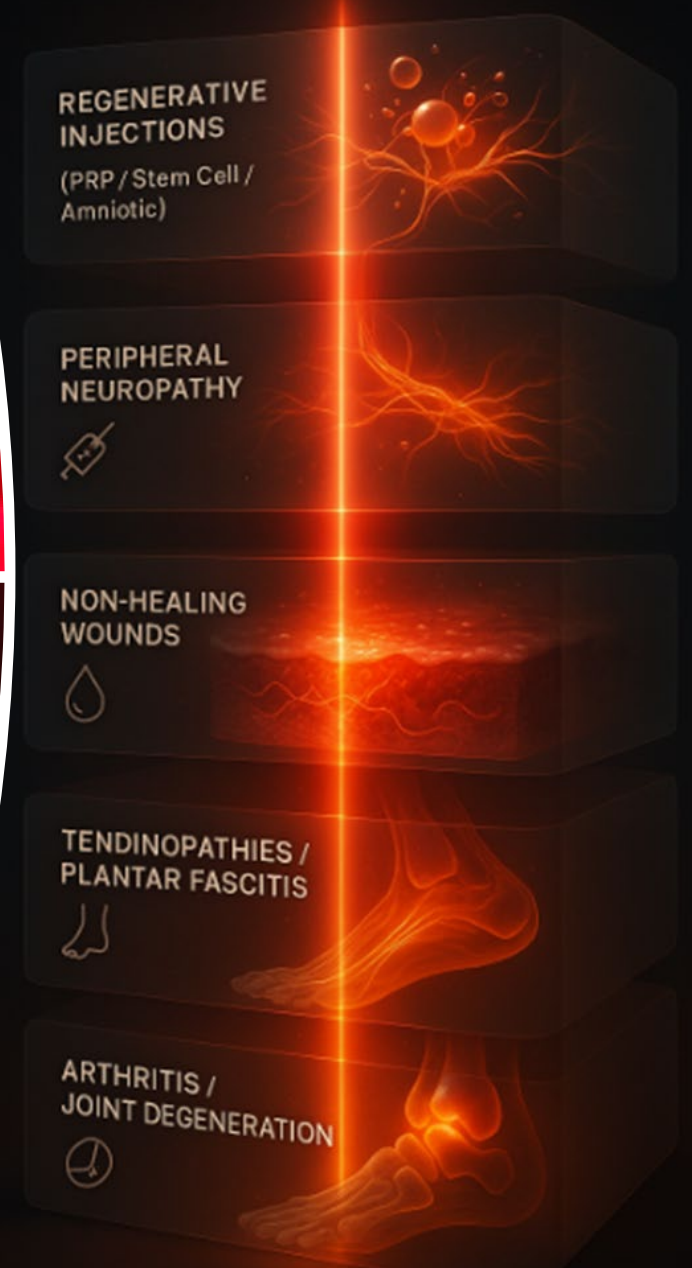
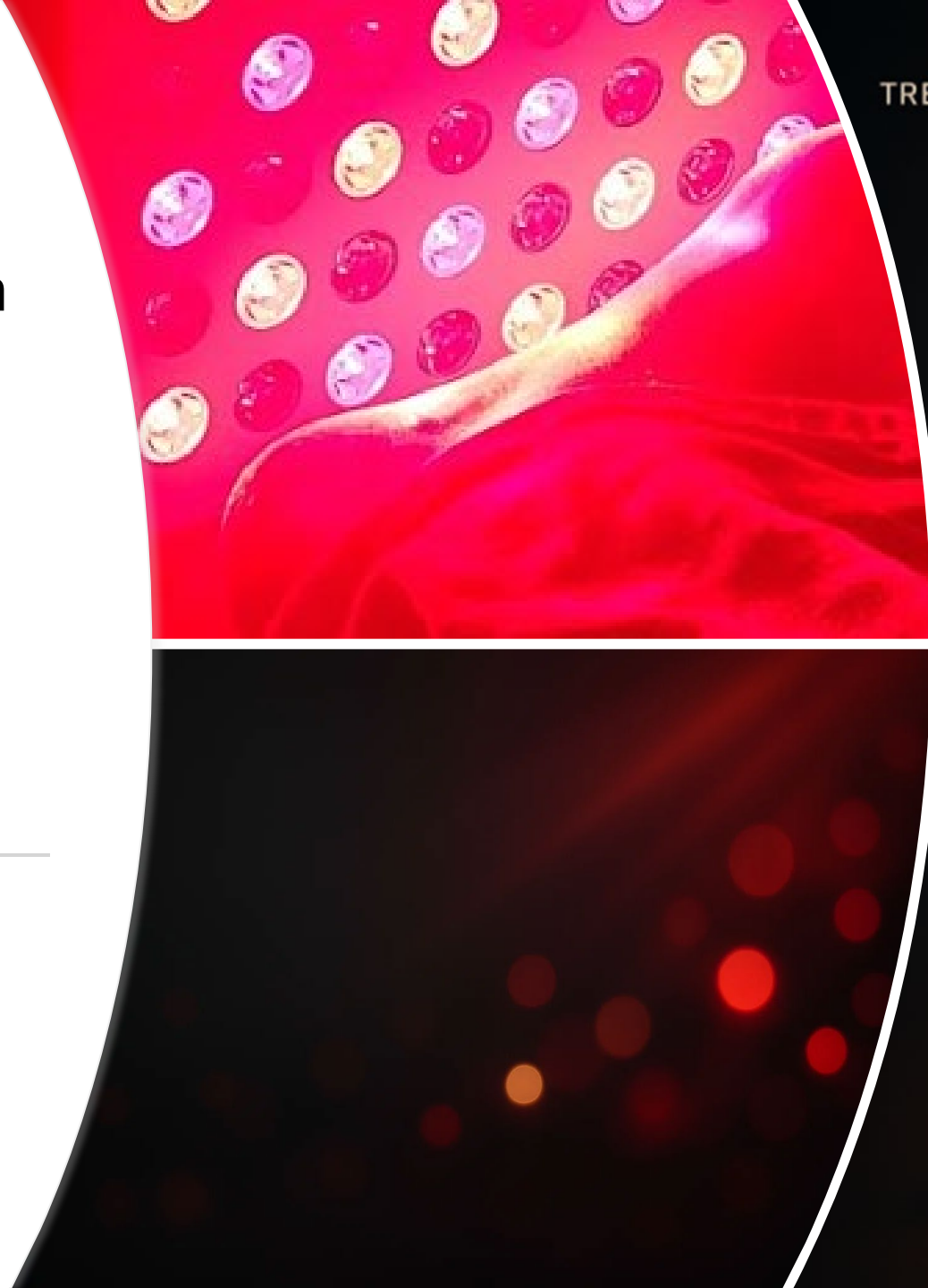
(PRP / Stem Cell /  
Amniotic)

PERIPHERAL  
NEUROPATHY

NON-HEALING  
WOUNDS

TENDINOPATHIES /  
PLANTAR FASCITIS

ARTHRITIS /  
JOINT DEGENERATION



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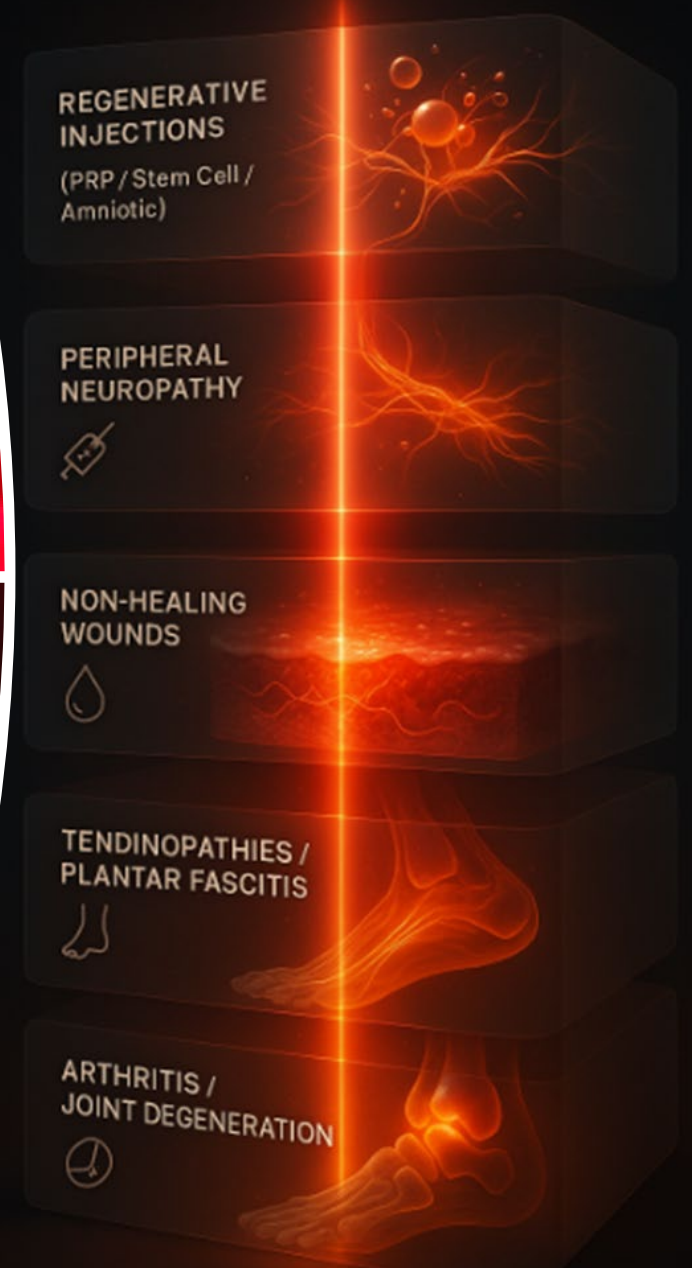
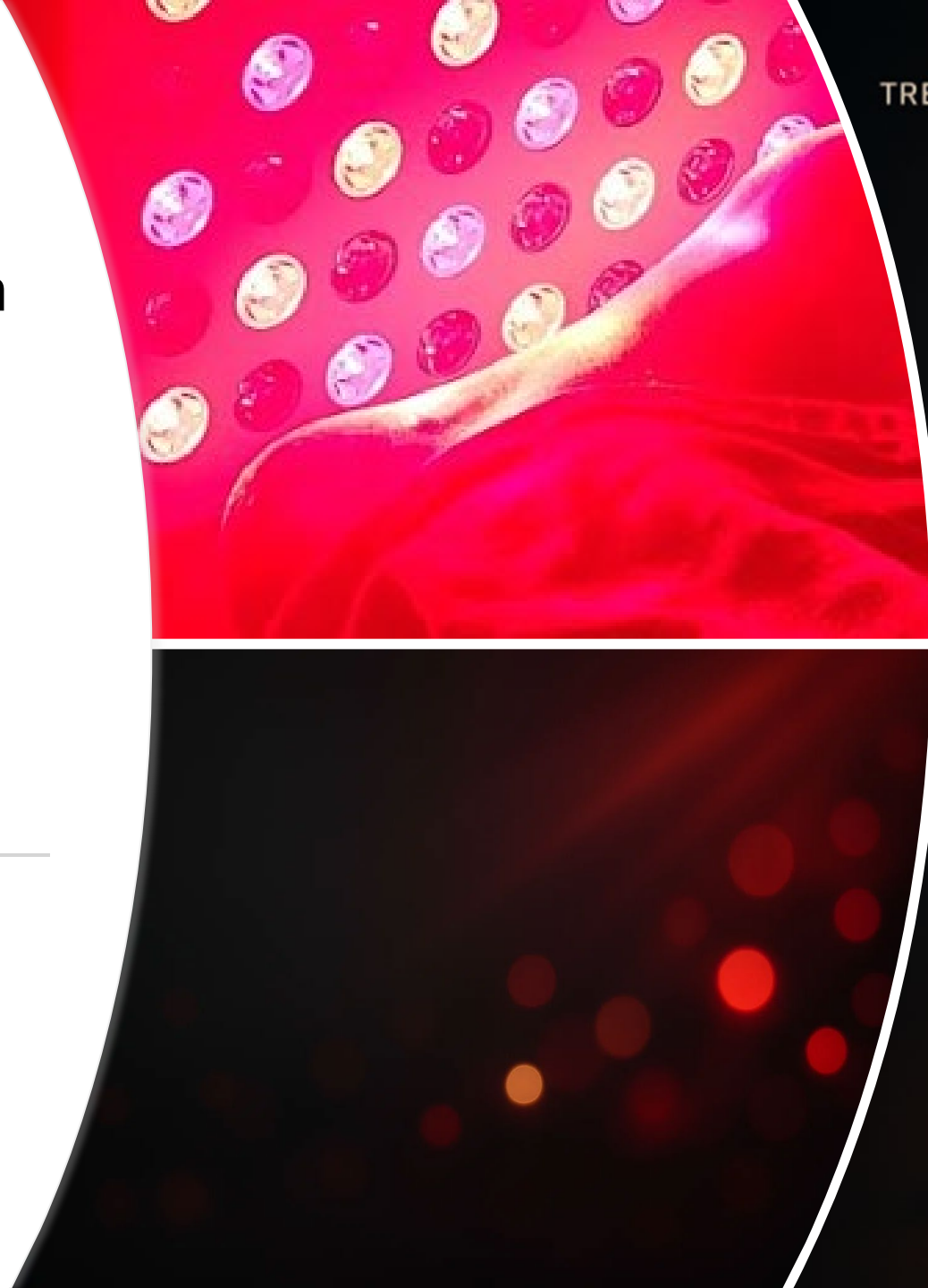
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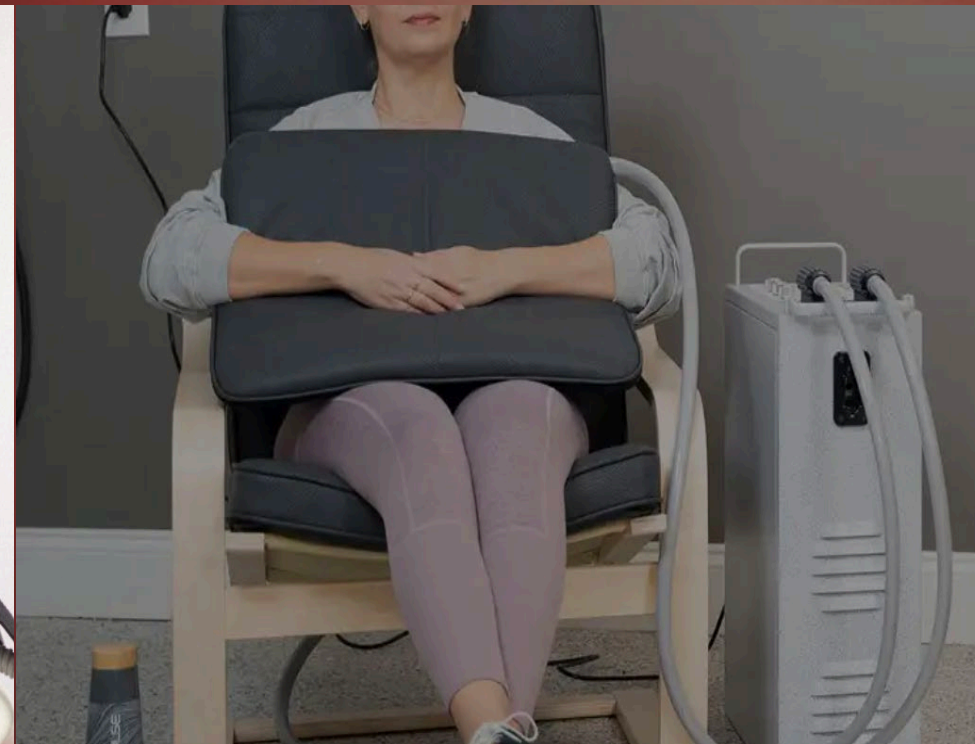
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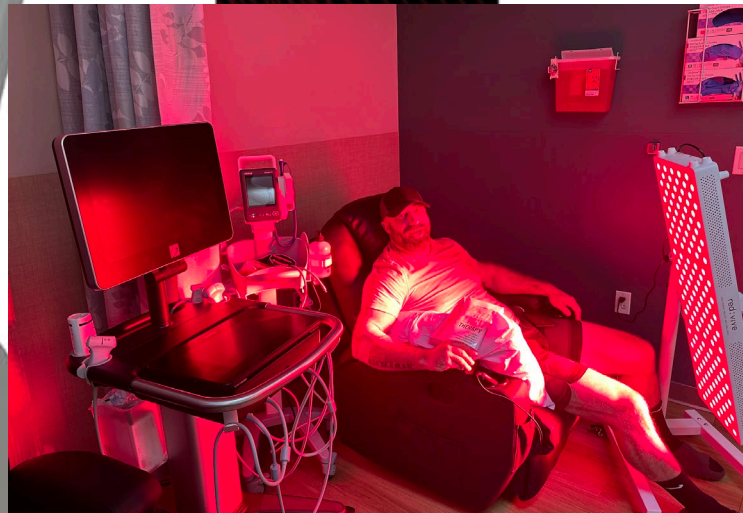


# ENERGY BASED MEDICINE





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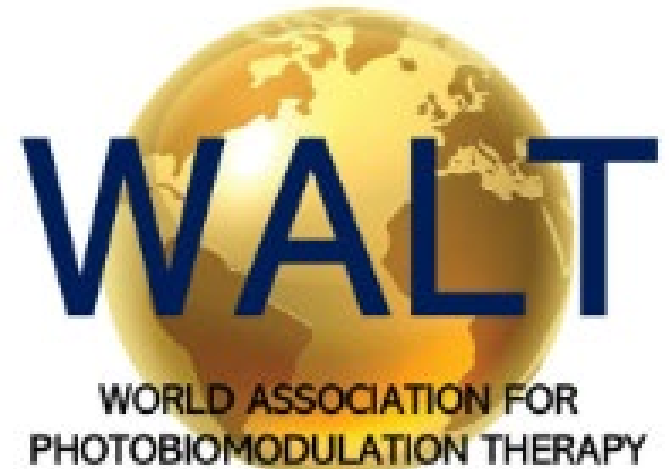


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## PBM2024 ABSTRACTS

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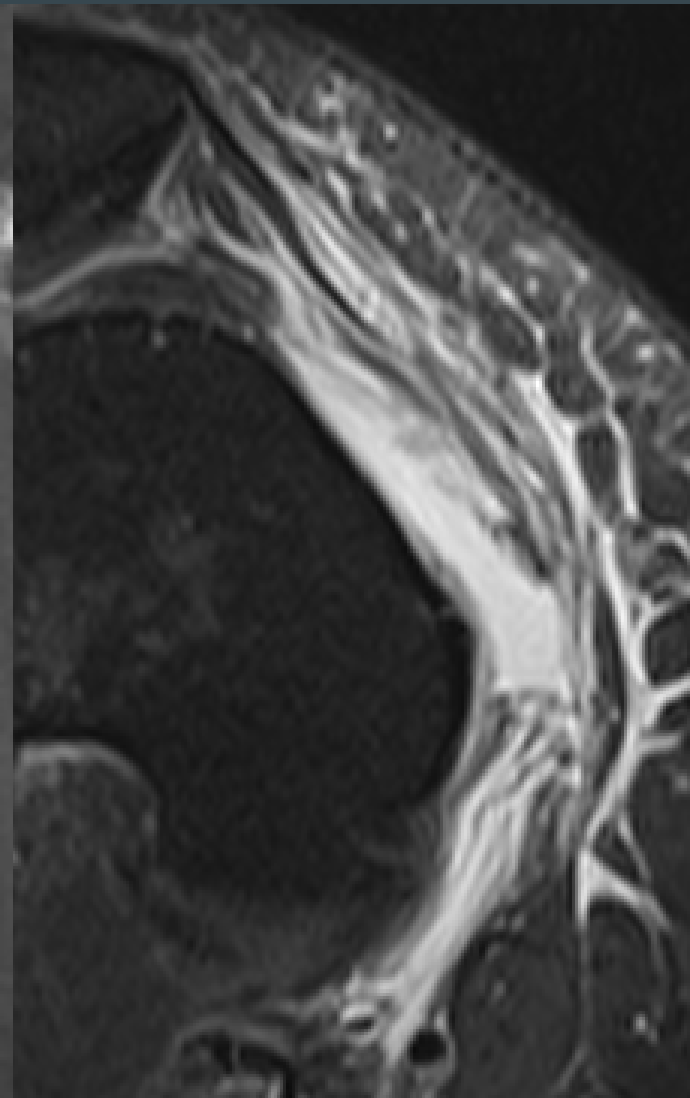
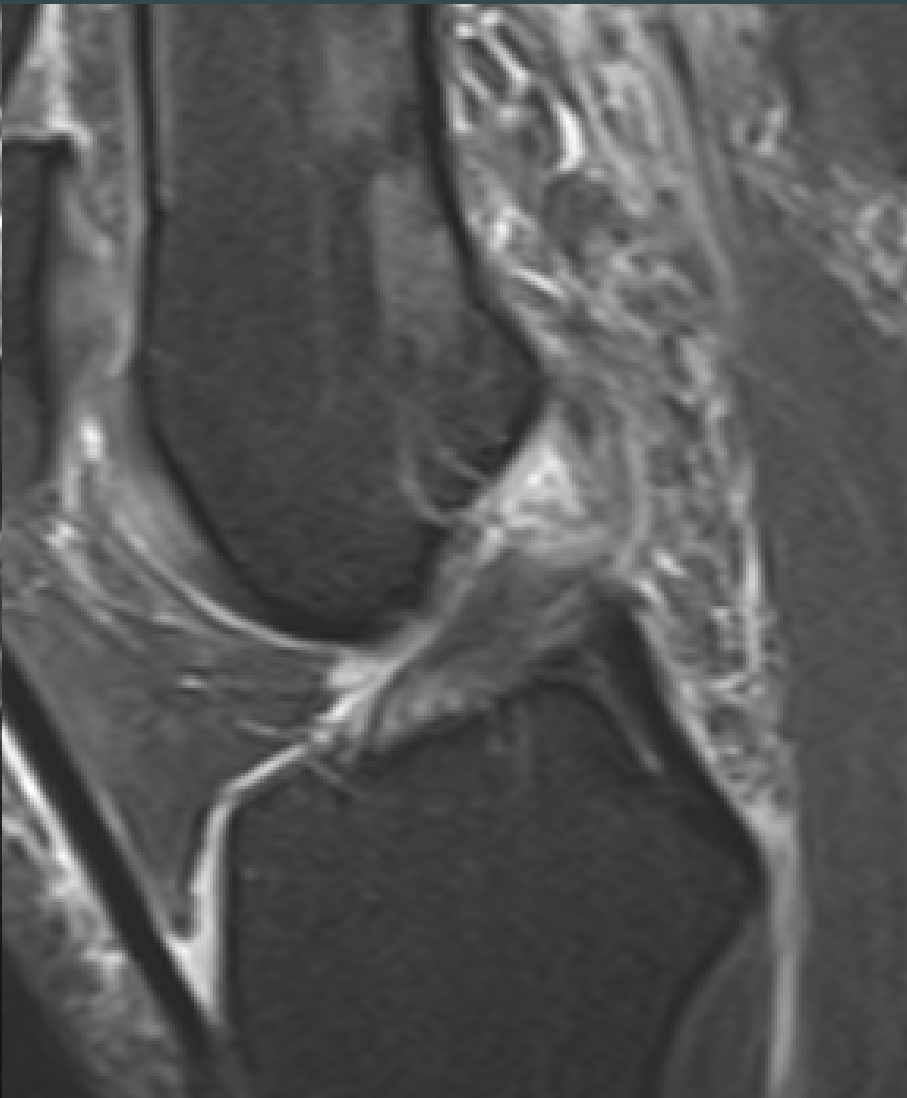
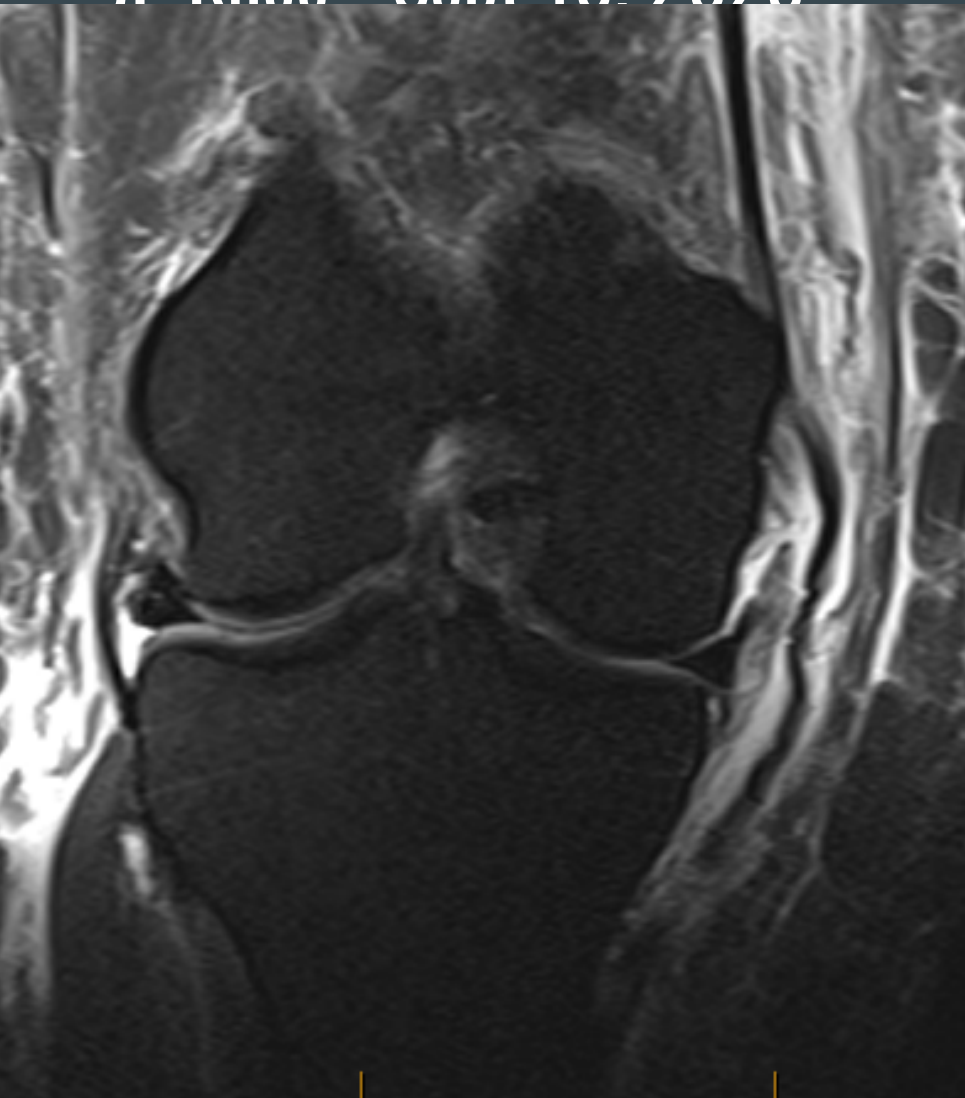
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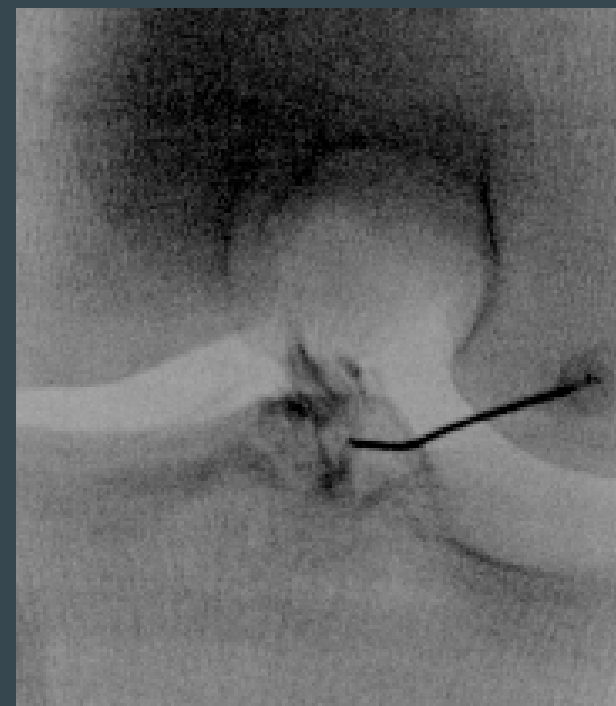


# Horse Kick

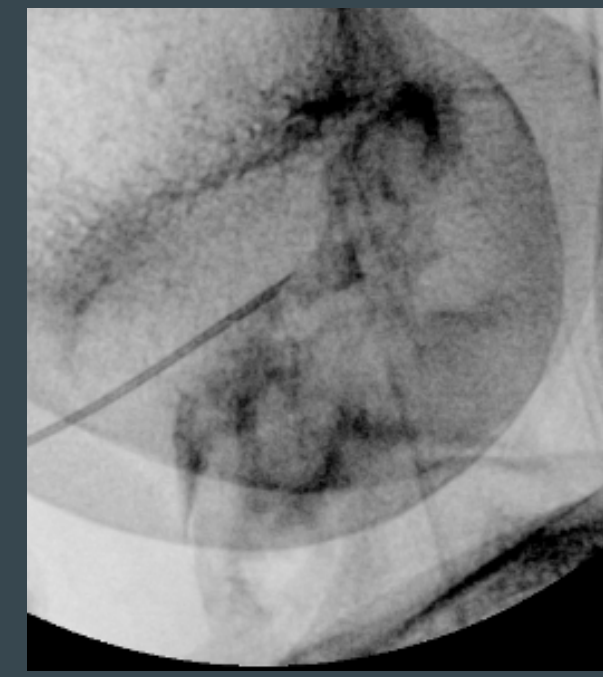
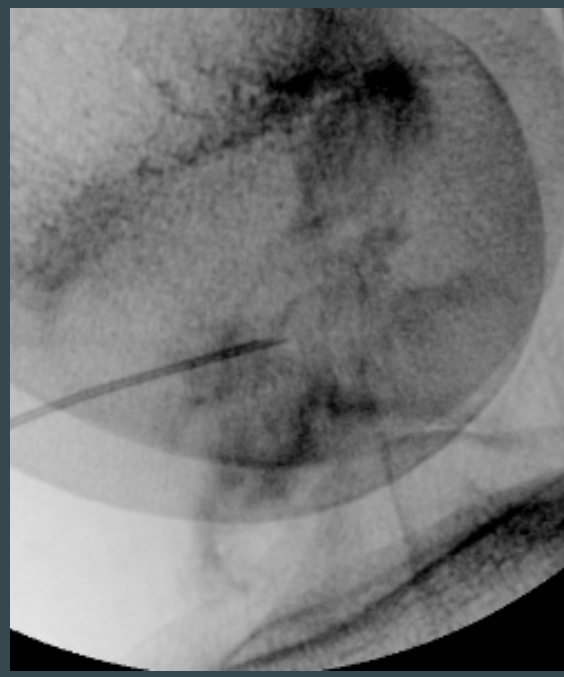


IP Knee - Sent 10 2023

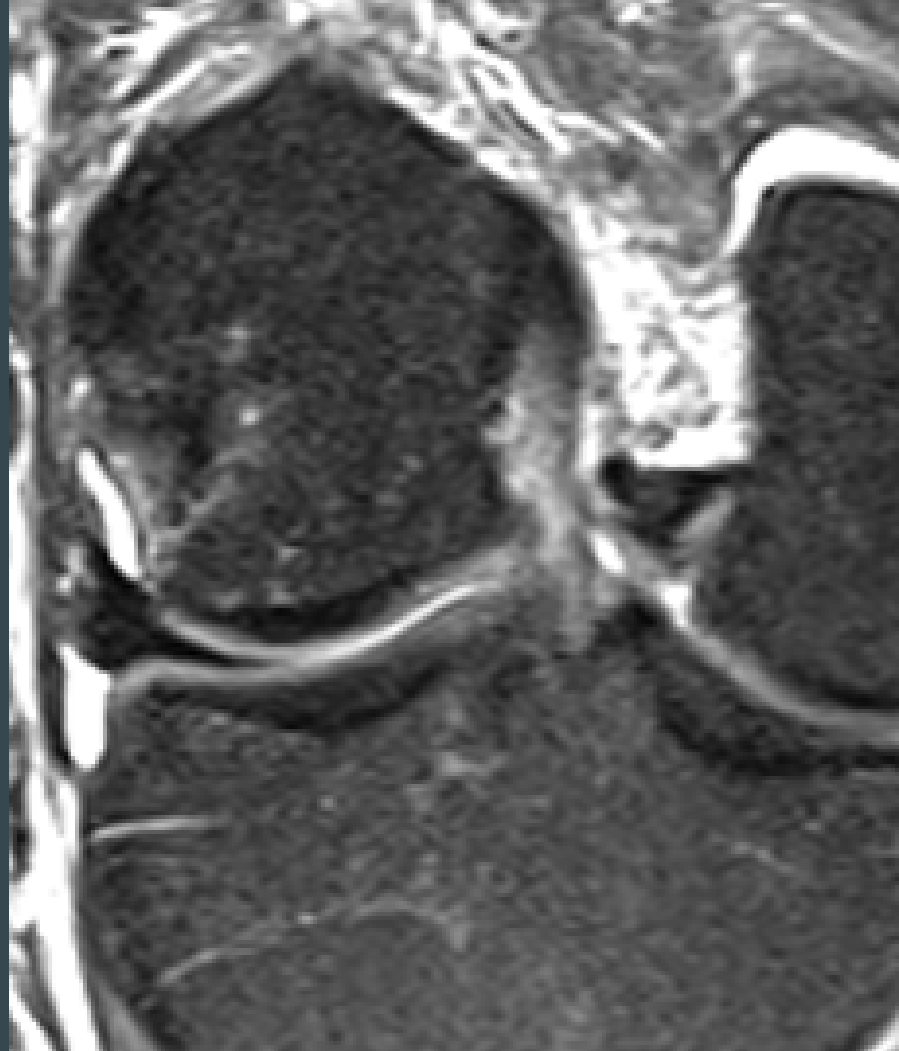




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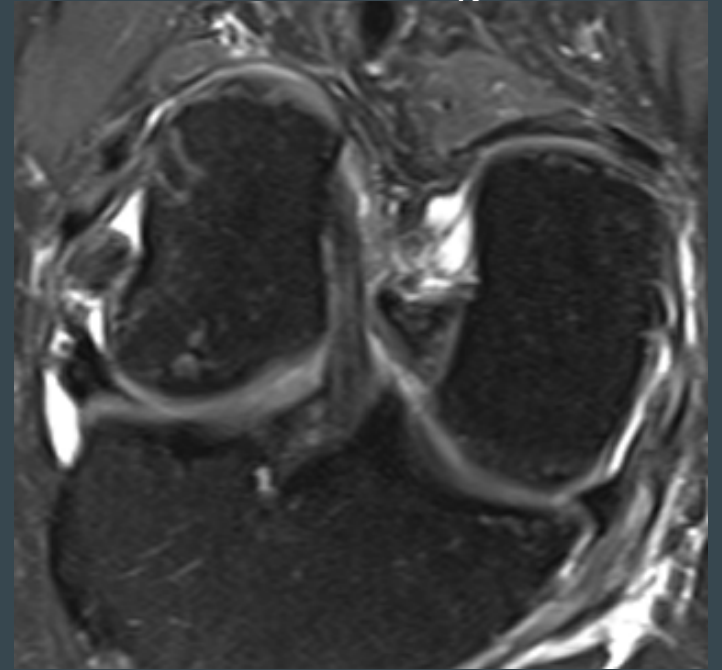
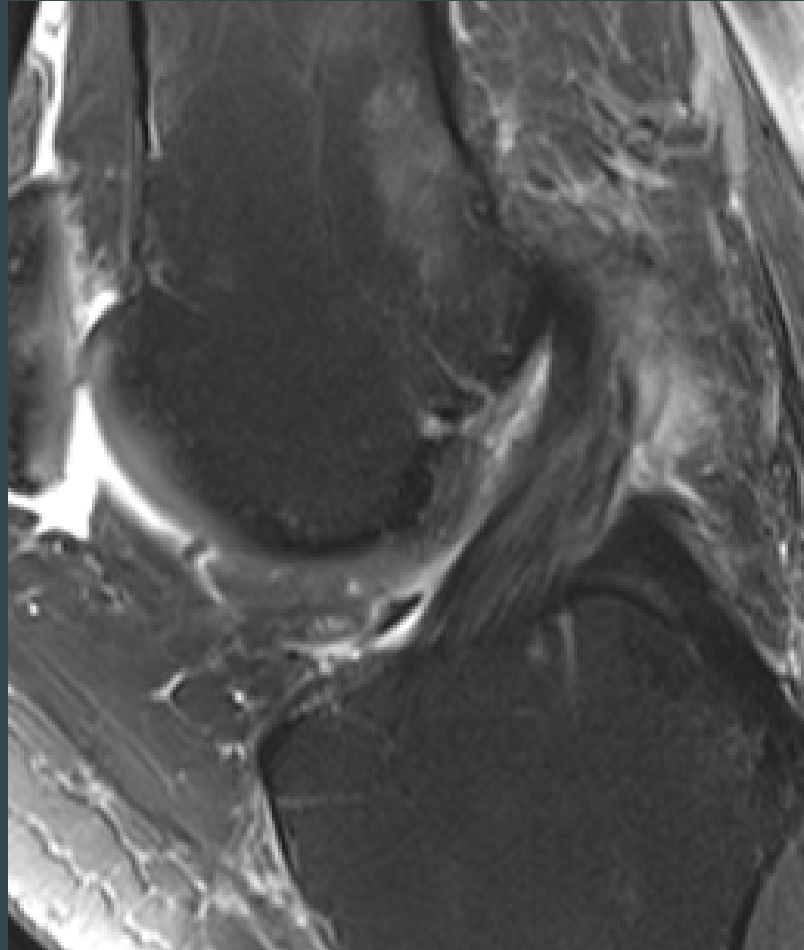
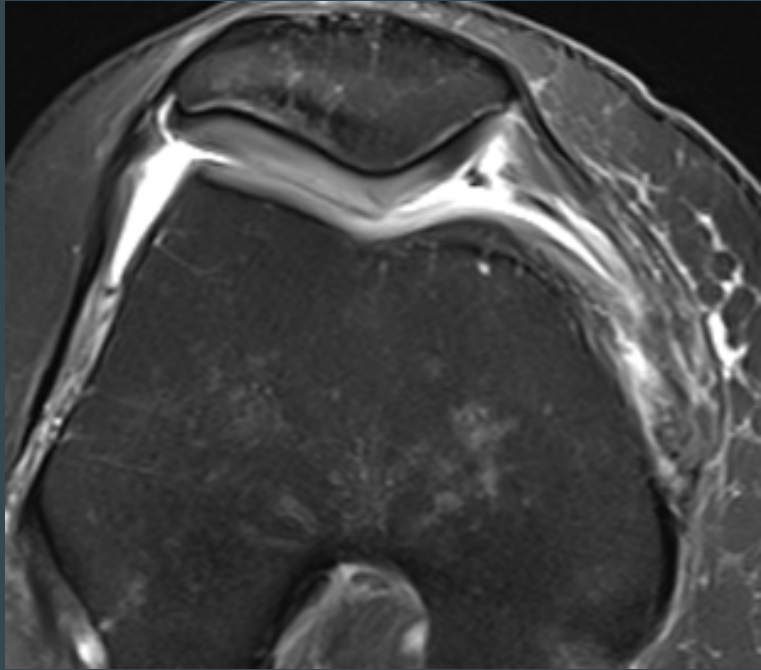


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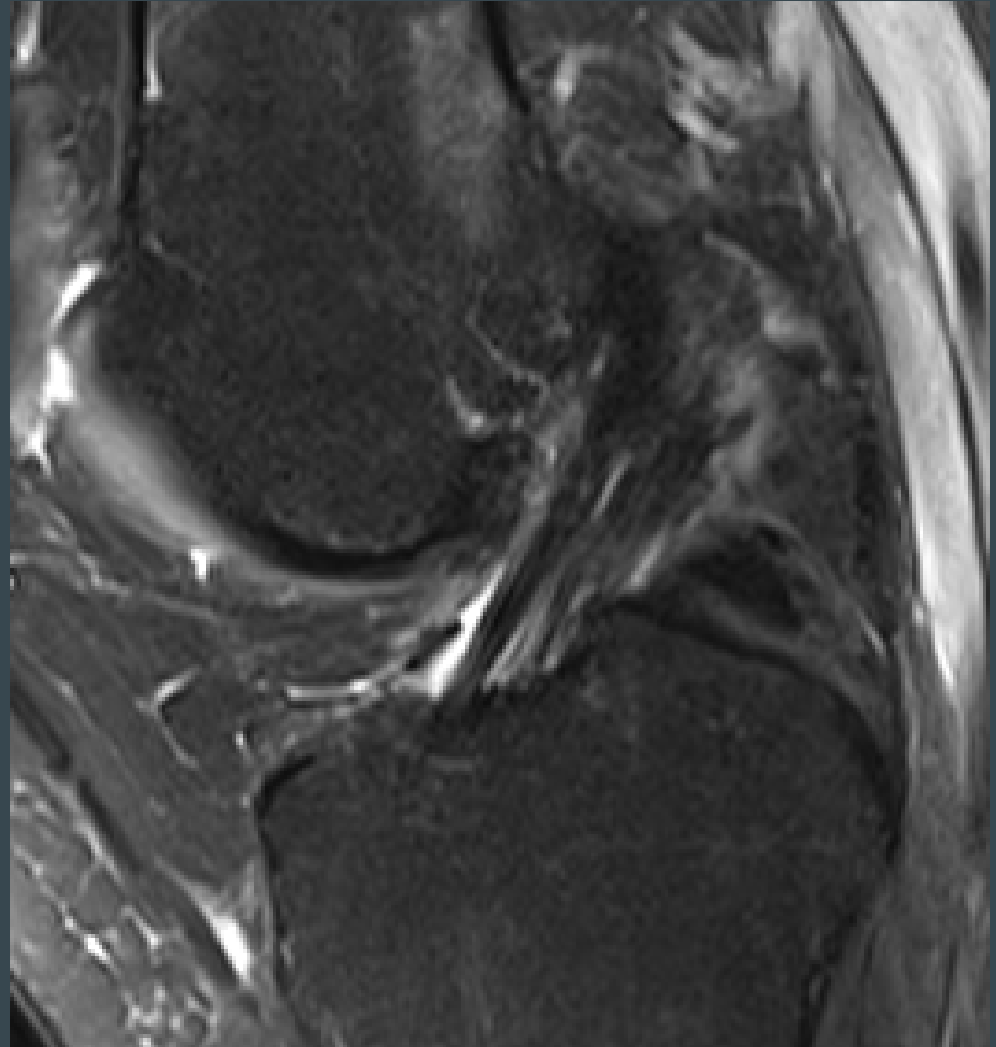
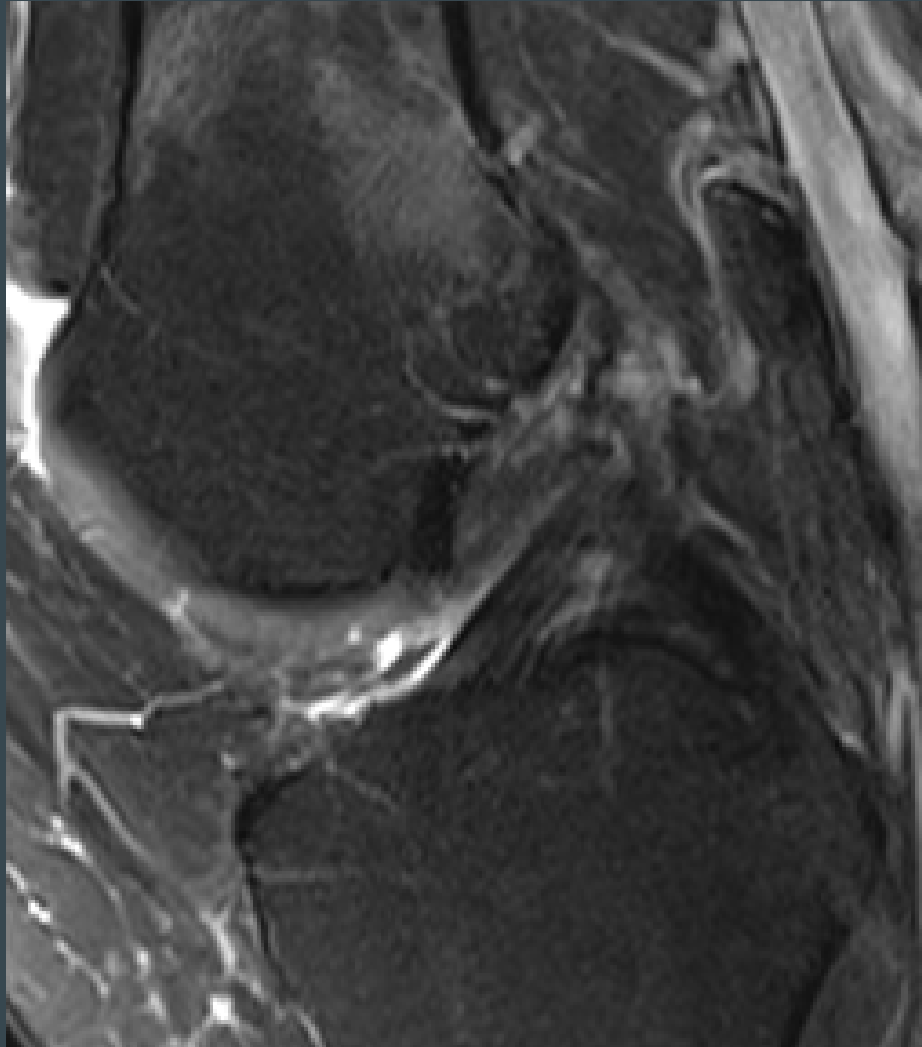


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# JP Knee – Dec 28, 2023

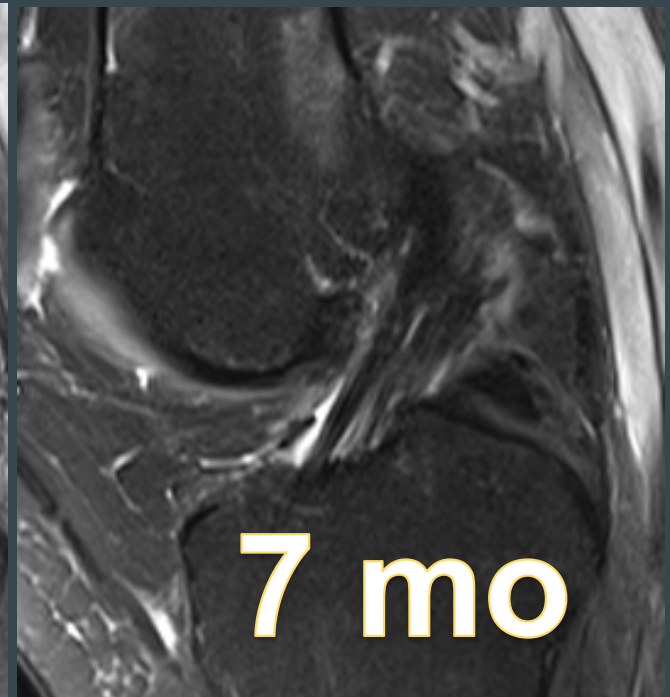
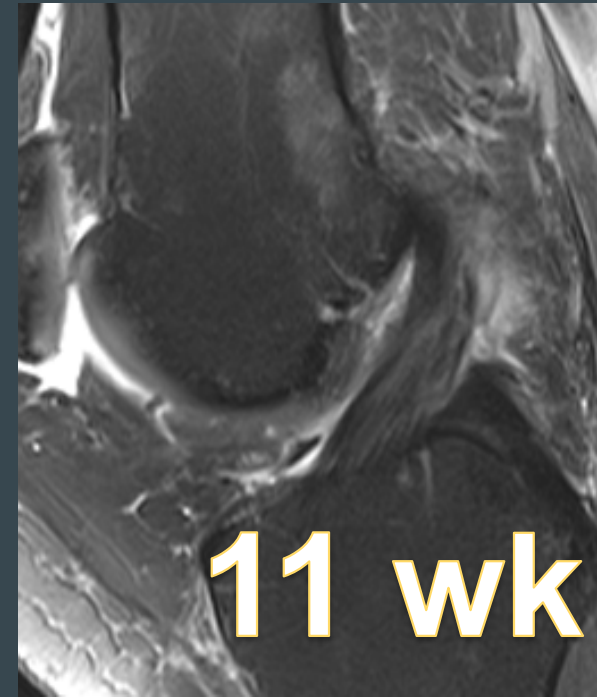
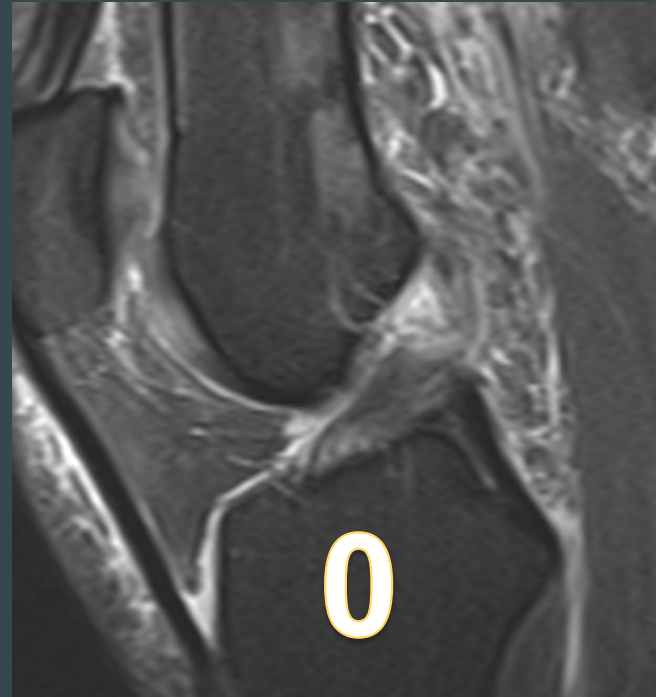


# Healed ACL



# Progression of Healing

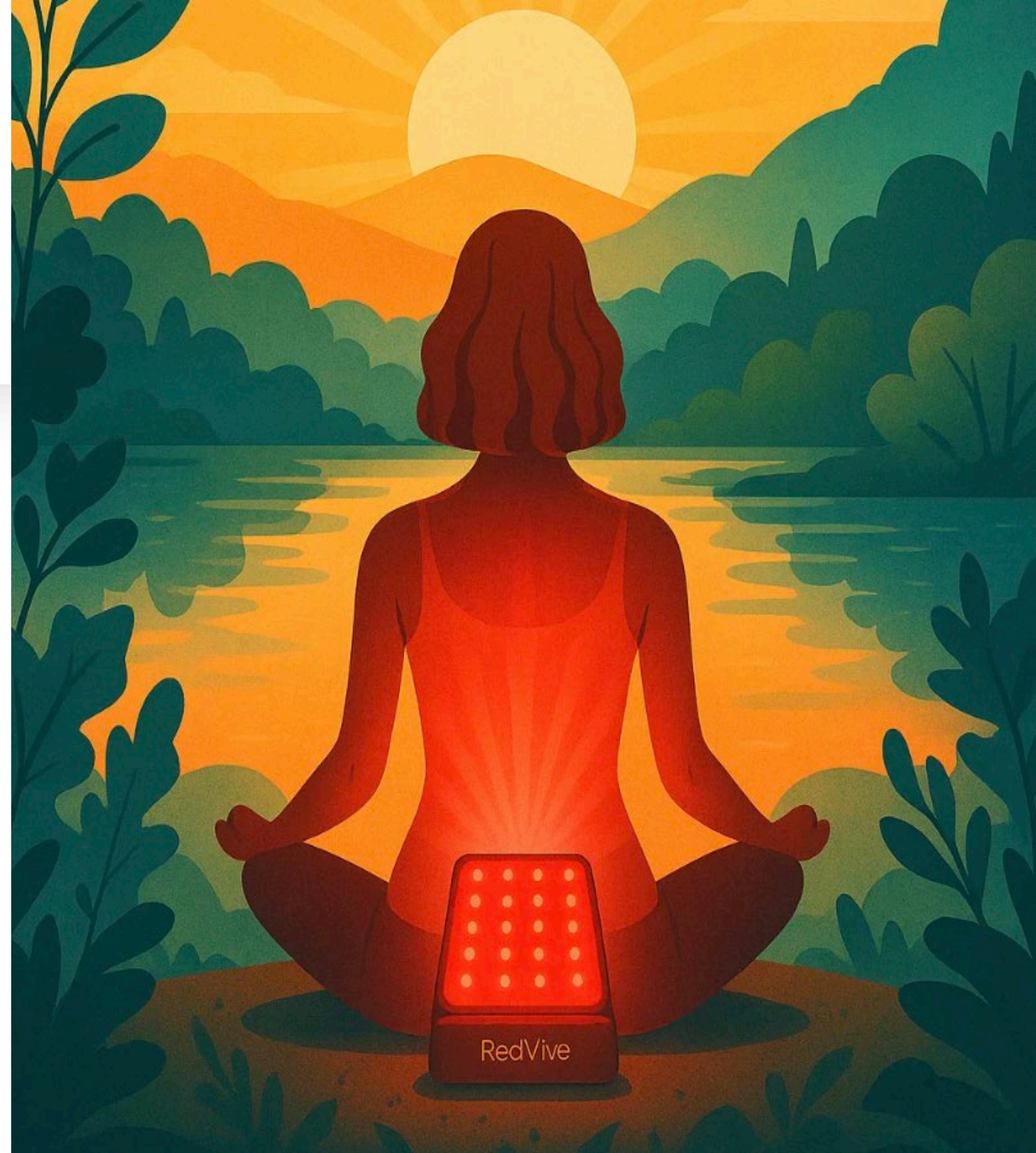
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*Why does light have biological power?*

*Why specifically red and near-infrared?*

*Why daily exposure matters?*



# EVOLUTIONARY BIOLOGY OF LIGHT

## FROM SUN TO CELL

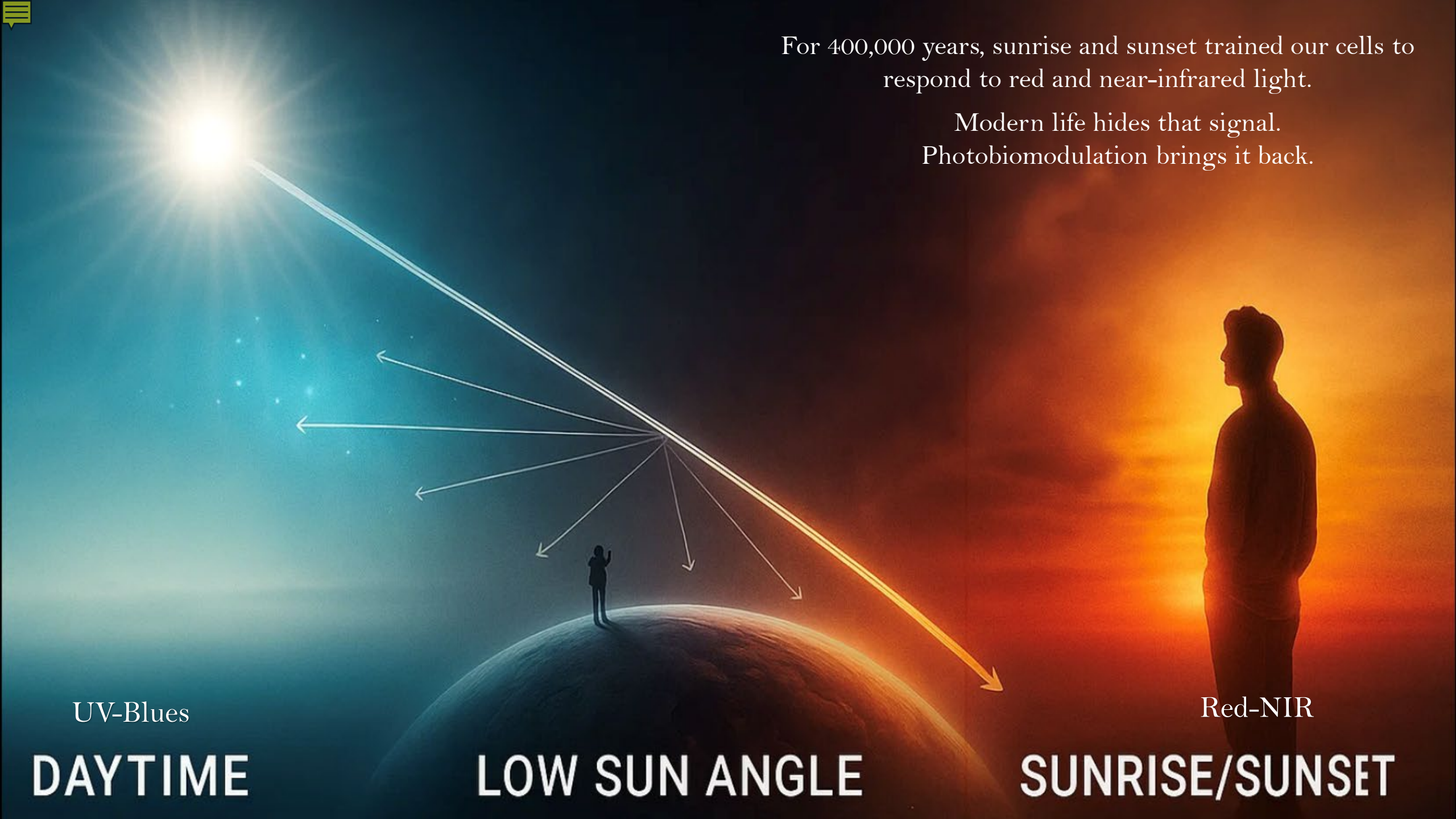


Every cell is a receiver  
and translator of light.

From the first bacteria to modern humans, life has always used photons as information.

For 400,000 years, sunrise and sunset trained our cells to respond to red and near-infrared light.

Modern life hides that signal.  
Photobiomodulation brings it back.



UV-Blues

**DAYTIME**

**LOW SUN ANGLE**

Red-NIR

**SUNRISE/SUNSET**

# My Story as a physician

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The Leader in Non-Surgical  
**Pain Management & Orthopedics**

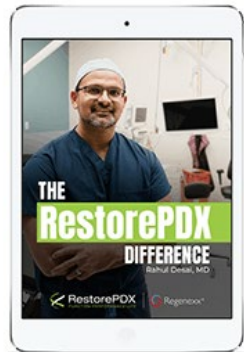
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*RestorePDX Website Video*

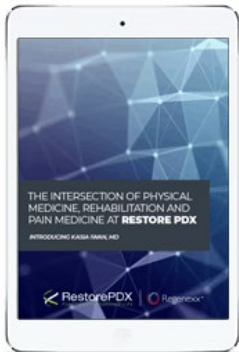
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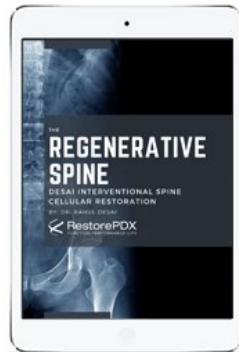
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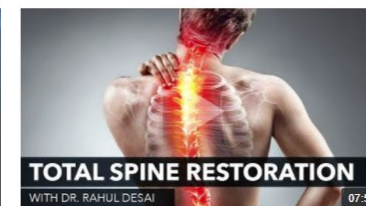
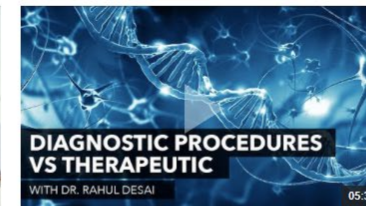
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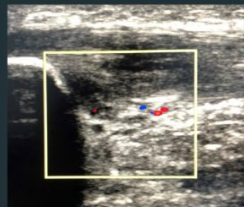
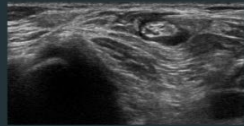


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# Atlas of Interventional Orthopedics Procedures

Essential Guide for Fluoroscopy  
 and Ultrasound Guided Procedures



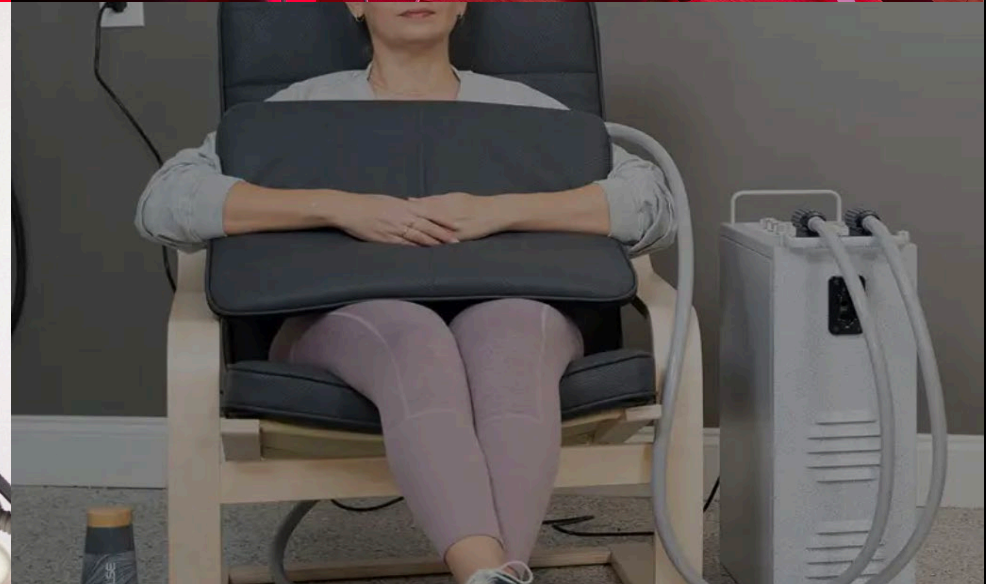
Associate editors:

C. Centeno, G. Malanga, K. Mautner, R. Desai, D. Buford, J. Markle, N. El Baridi

## Dr. Malanga, Centeno, and Desai leading the IOF



*Defining A Field*





# RedVive

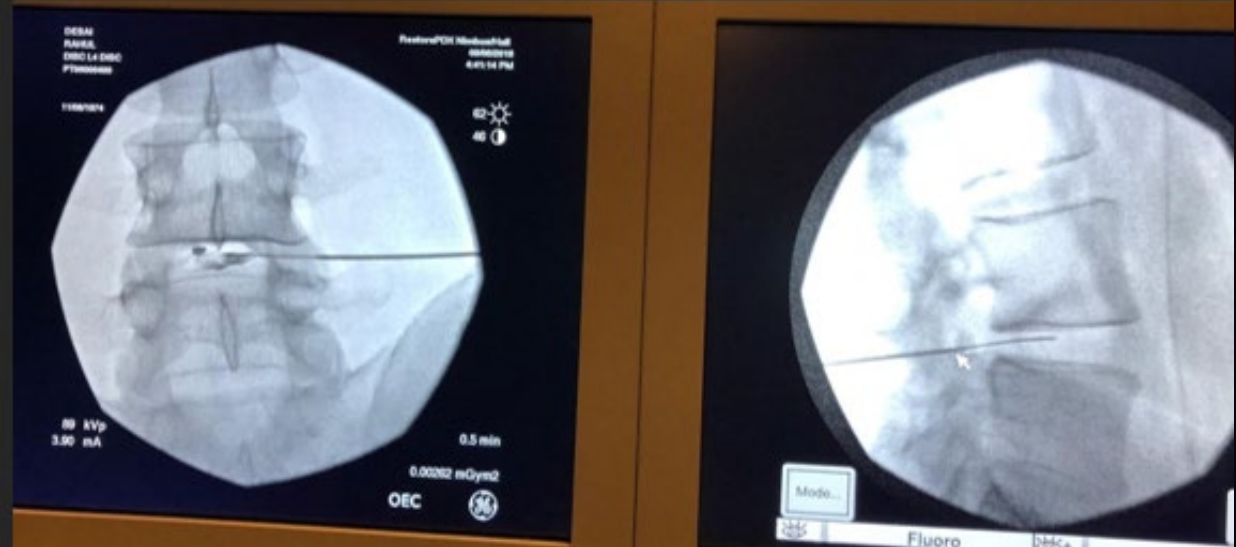
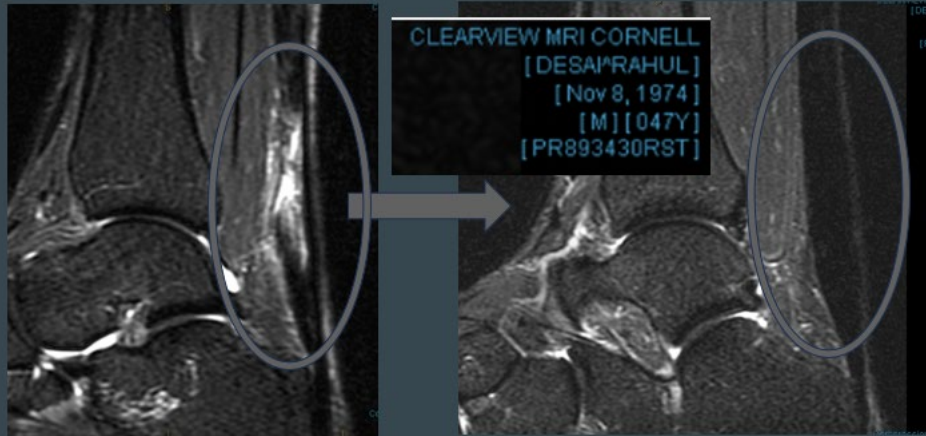
PHOTOBIO-MODULATION

ILLUMINATING HEALING FROM SPINE TO TENDON

# My Story as a Patient



## Autologous Intra-lesional BLP





***“EDS-RELATED INSTABILITY, PAIN, AND LOSS OF FUNCTIONAL CONFIDENCE.”***

2X DAILY  
LIGHT THERAPY  
X 1.5 YEAR





# “FROM PAIN TO PERFORMANCE: WHAT DAILY DOSING CAN DO”

- Ehlers-Danlos instability, chronic pain, and fatigue
- No change in training, supplements, or medication — ONLY LIGHT
- This was not a cosmetic transformation; it was a biologic one



*“When you live the data, you no longer have to sell it.”*

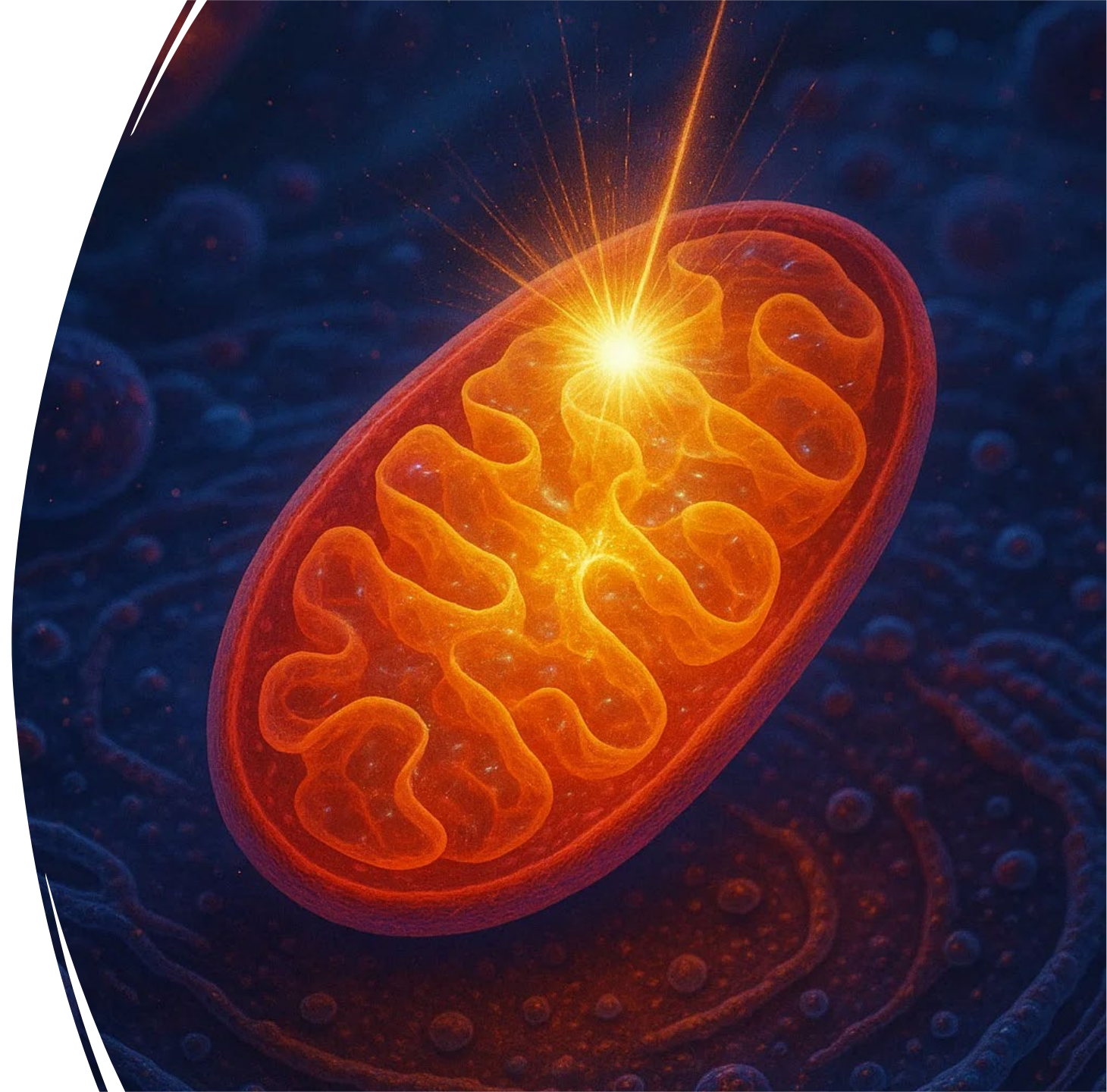
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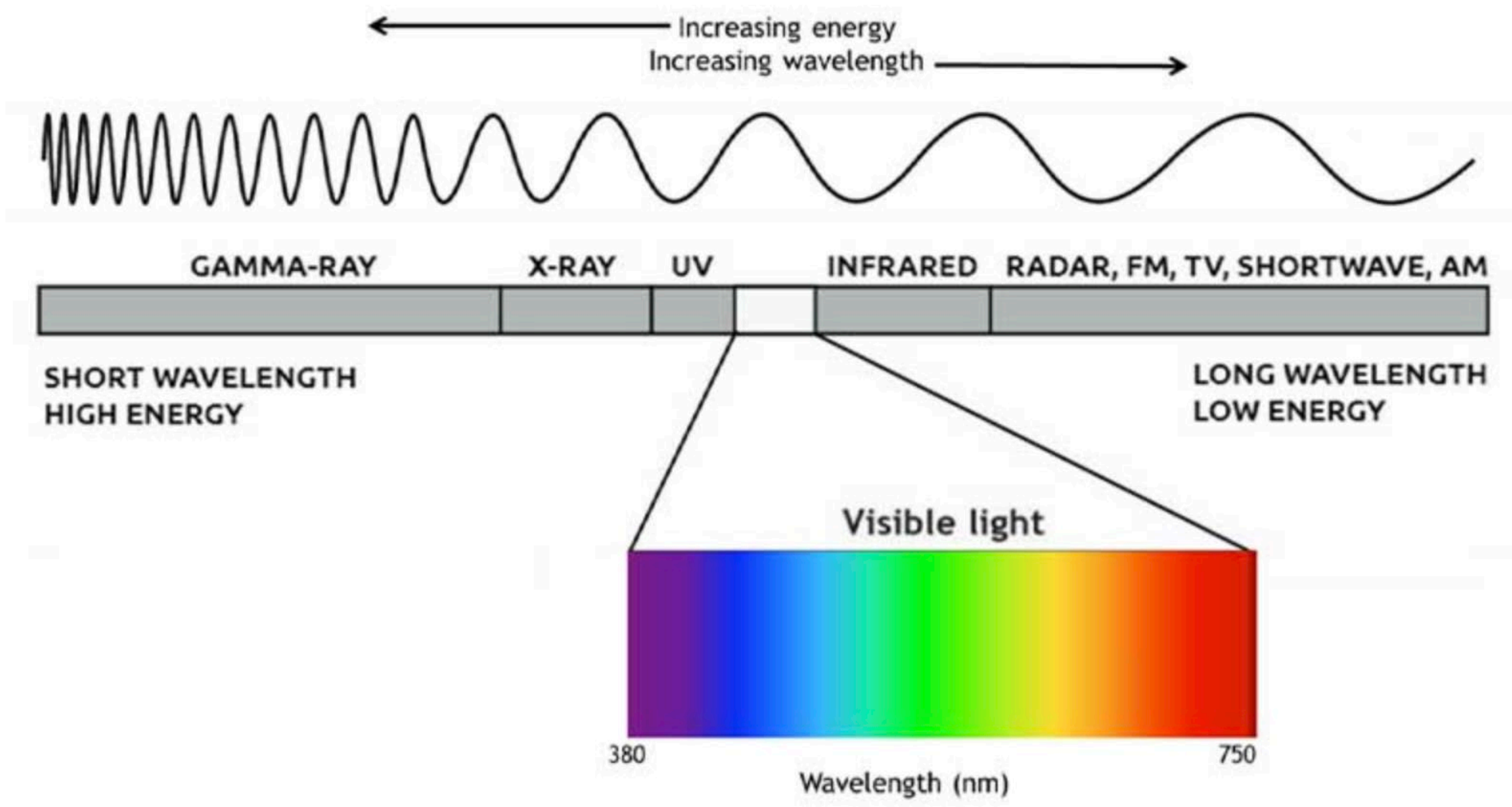
# What is PBM?

## Photo-Bio-Modulation

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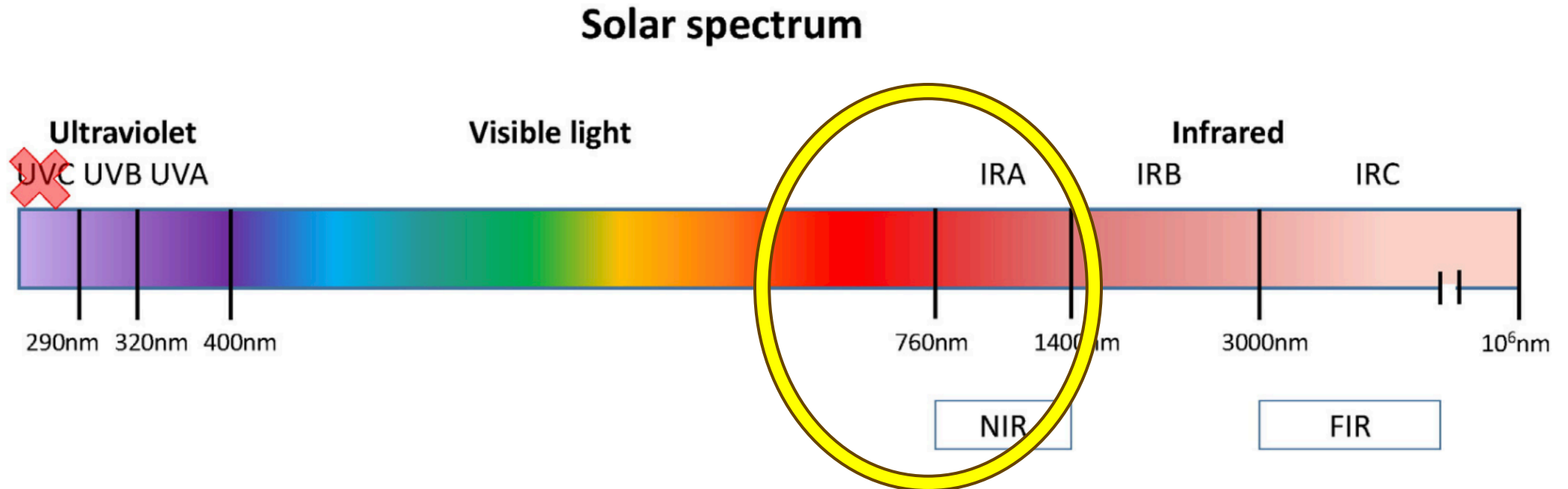
- Uses specific wavelengths of red and near-infrared light (635, 670, 810, 850 nm)
- Stimulates the mitochondria (cellular power plants) to increase energy (ATP)
- Triggers natural healing, reduces inflammation, and enhances tissue repair





# UV vs Infrared Spectra

*D. Barolet et al. / Journal of Photochemistry & Photobiology, B: Biology 155 (2016) 78–85*



**Fig. 1.** Solar spectrum composition. Red X over UVC means that they are blocked by the ozone layer (NIR: near infrared, FIR: far infrared).

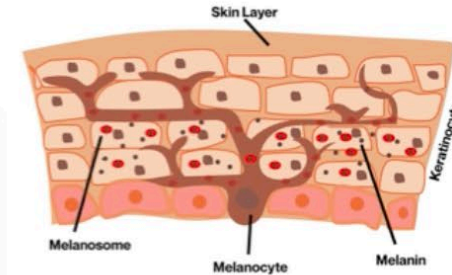
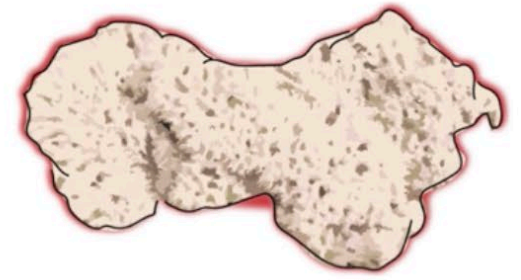
# Skin's Chromophores - Light Sponges

1. **Hemoglobin** - the iron-containing oxygen-transport protein present in red blood cells. Hemoglobin in blood carries oxygen from the respiratory organs to the other tissues of the body, where it releases the oxygen to enable aerobic respiration which powers the animal's metabolism

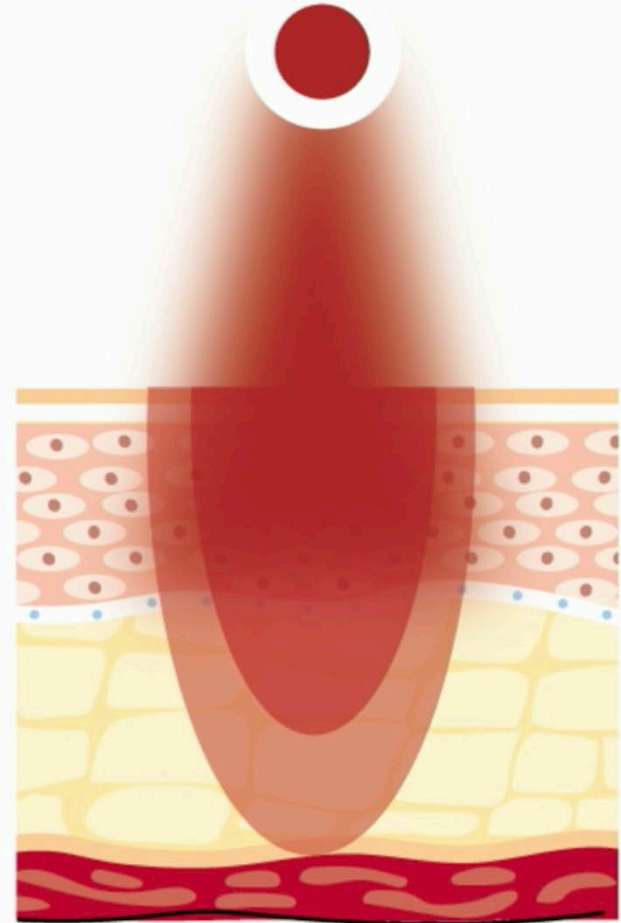
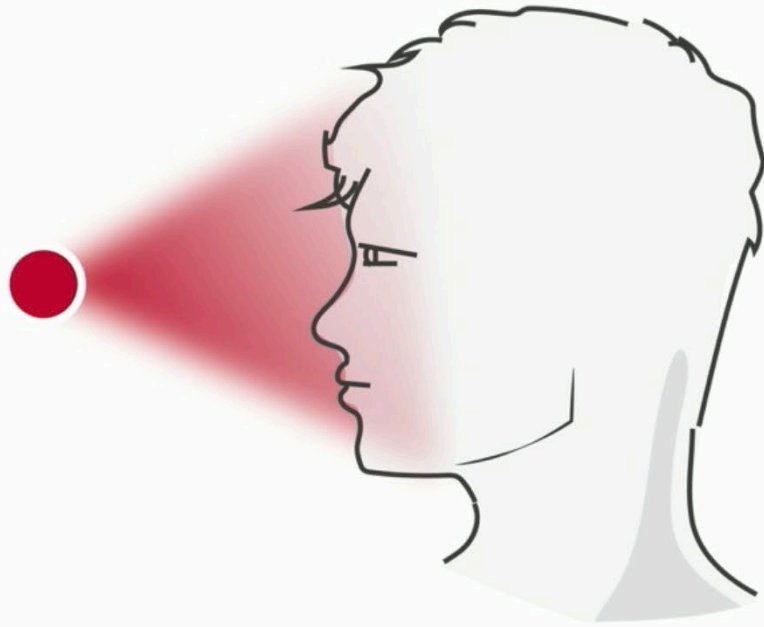
2. **Melanin** - a broad term for a group of natural pigments found in most organisms. The melanin pigments are produced in a specialized group of cells known as melanocytes.

3. **Water** - By weight, the average adult human is approximately 60% water, and the average child is approximately 70% water.[1] Most animal body water is contained in various body fluids including; extracellular fluid; plasma; interstitial fluid; and transcellular fluid.[5] Water is found in the intracellular, extracellular, and interstitial spaces, as well as in the digestive, circulatory, and respiratory systems.

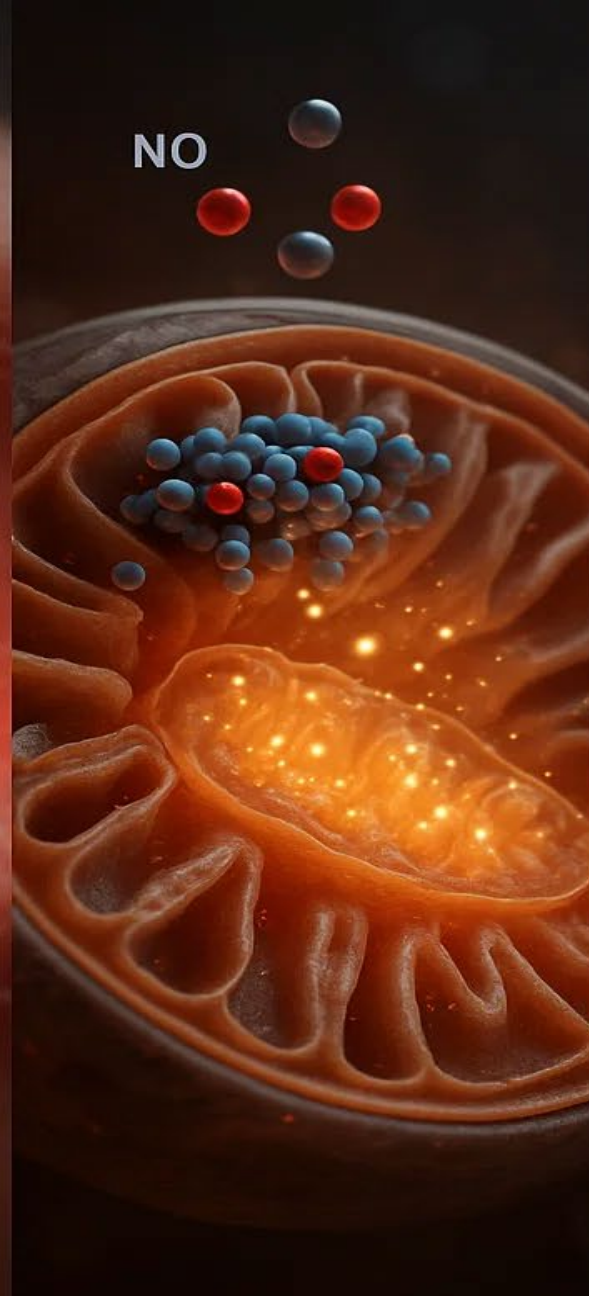
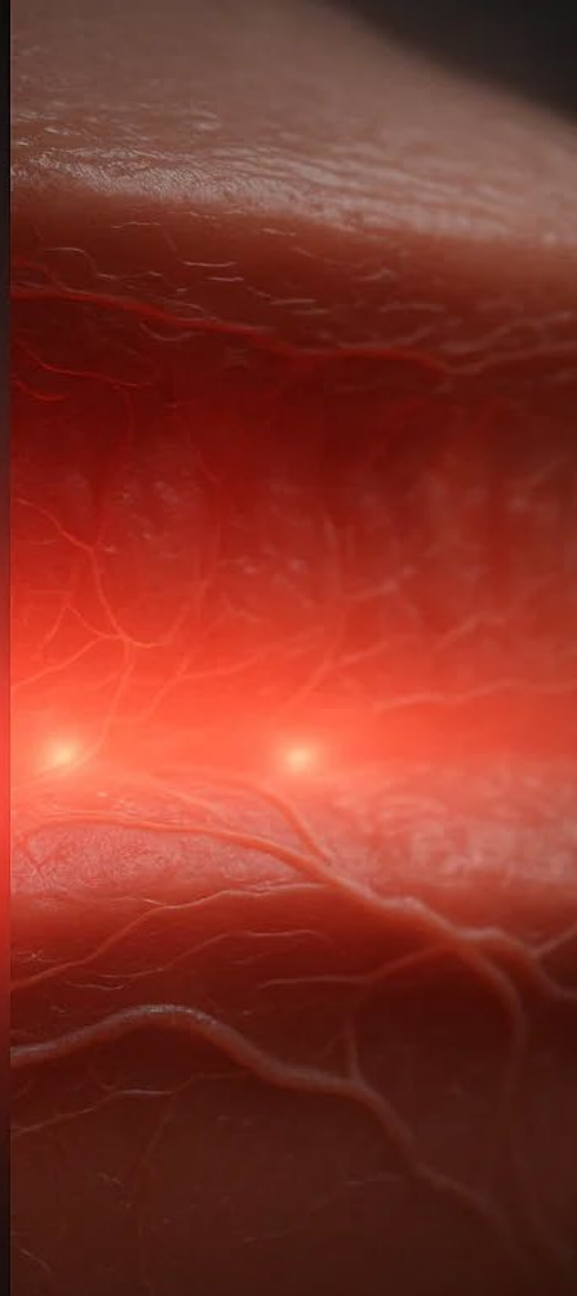
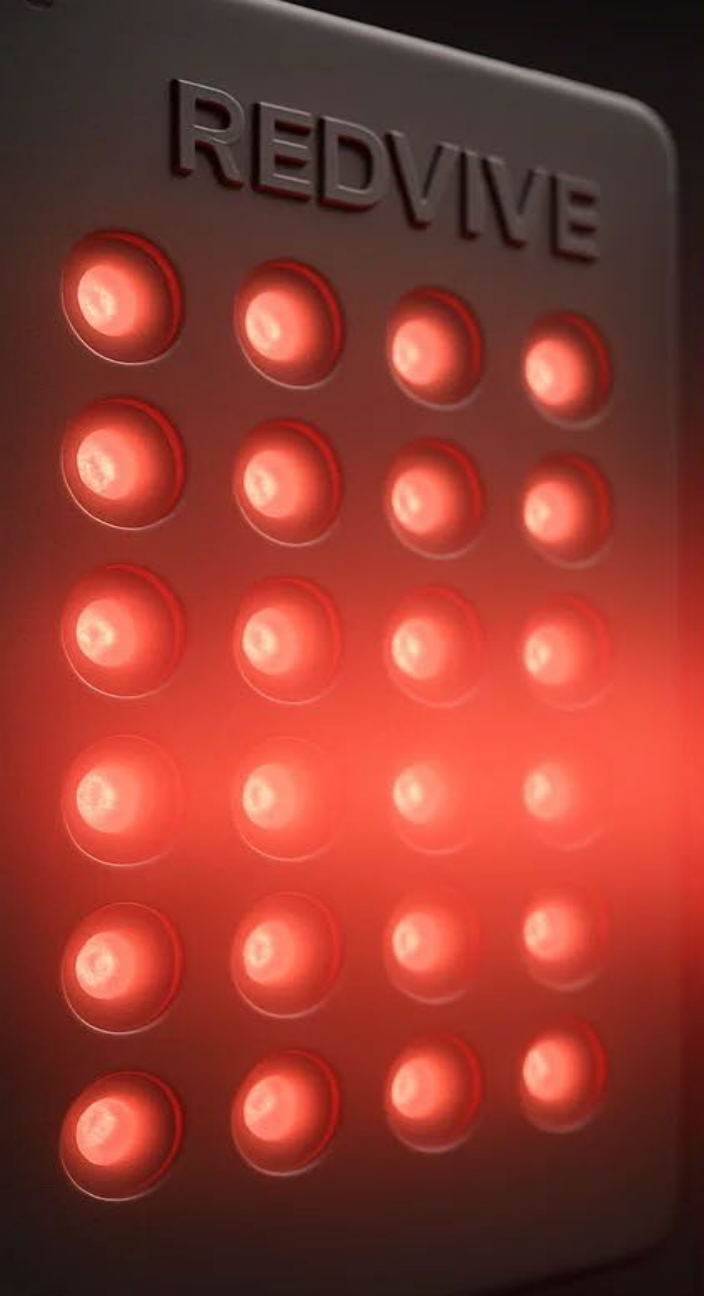
4. **Opsins - Cytochrome c-oxidase CCO** - enzyme cytochrome c oxidase or Complex IV is a large transmembrane protein complex that is the last enzyme in the respiratory electron transport chain of cells located in the membrane, participating in synthesizing ATP.



# 2 pathways for RLT in our body

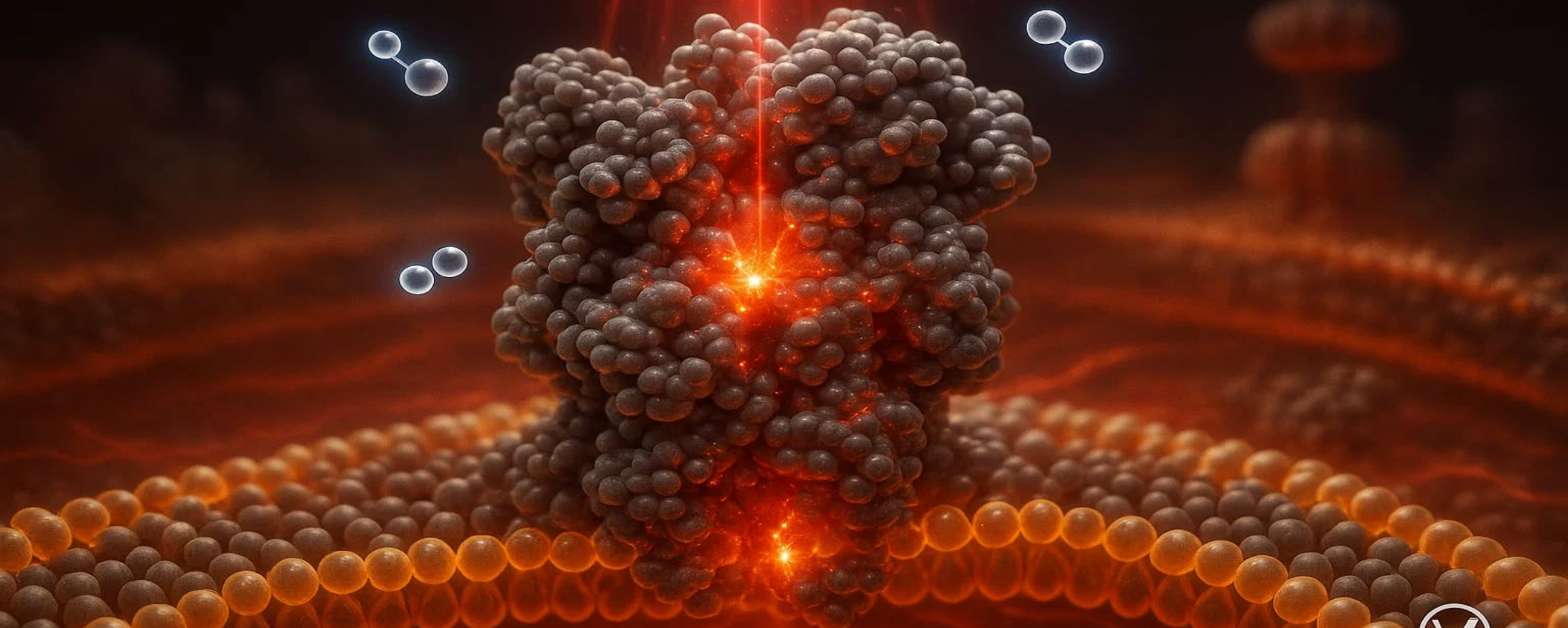




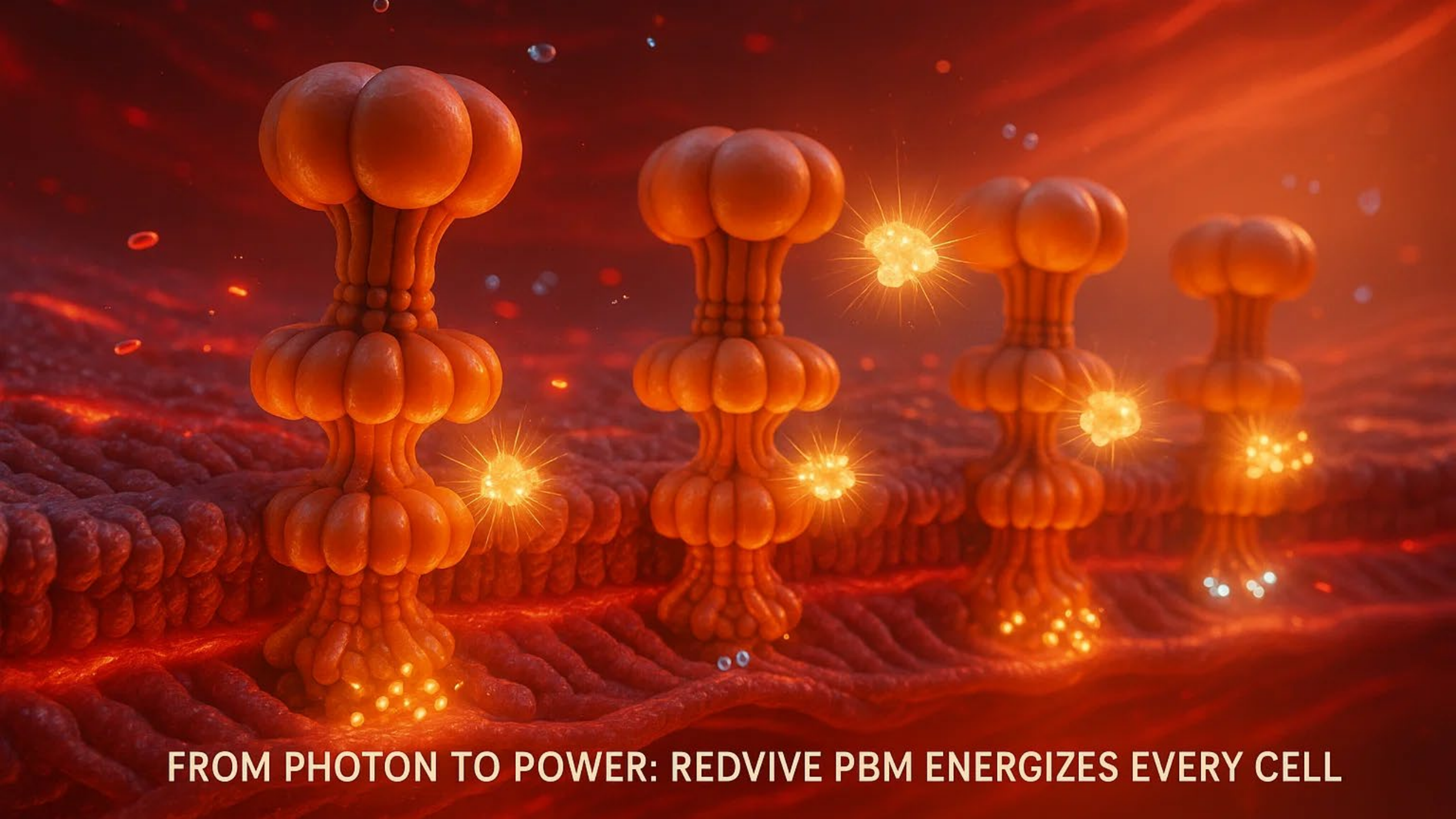


Photon → Cytochrome c Oxidase → ATP → Gene Activation → Healing

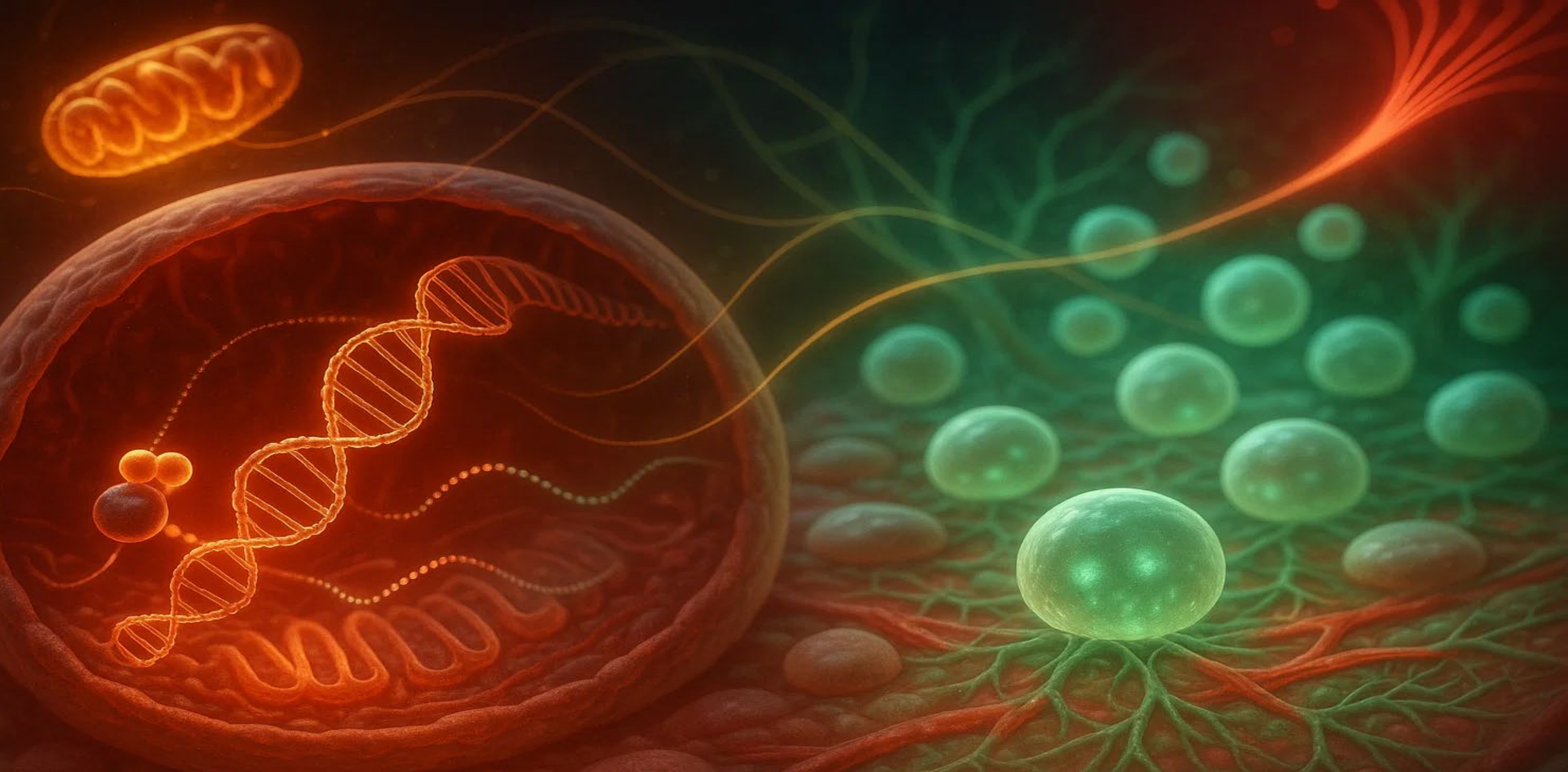
**Light Frees Nitric Oxide – Oxygen Returns – Energy Rises**



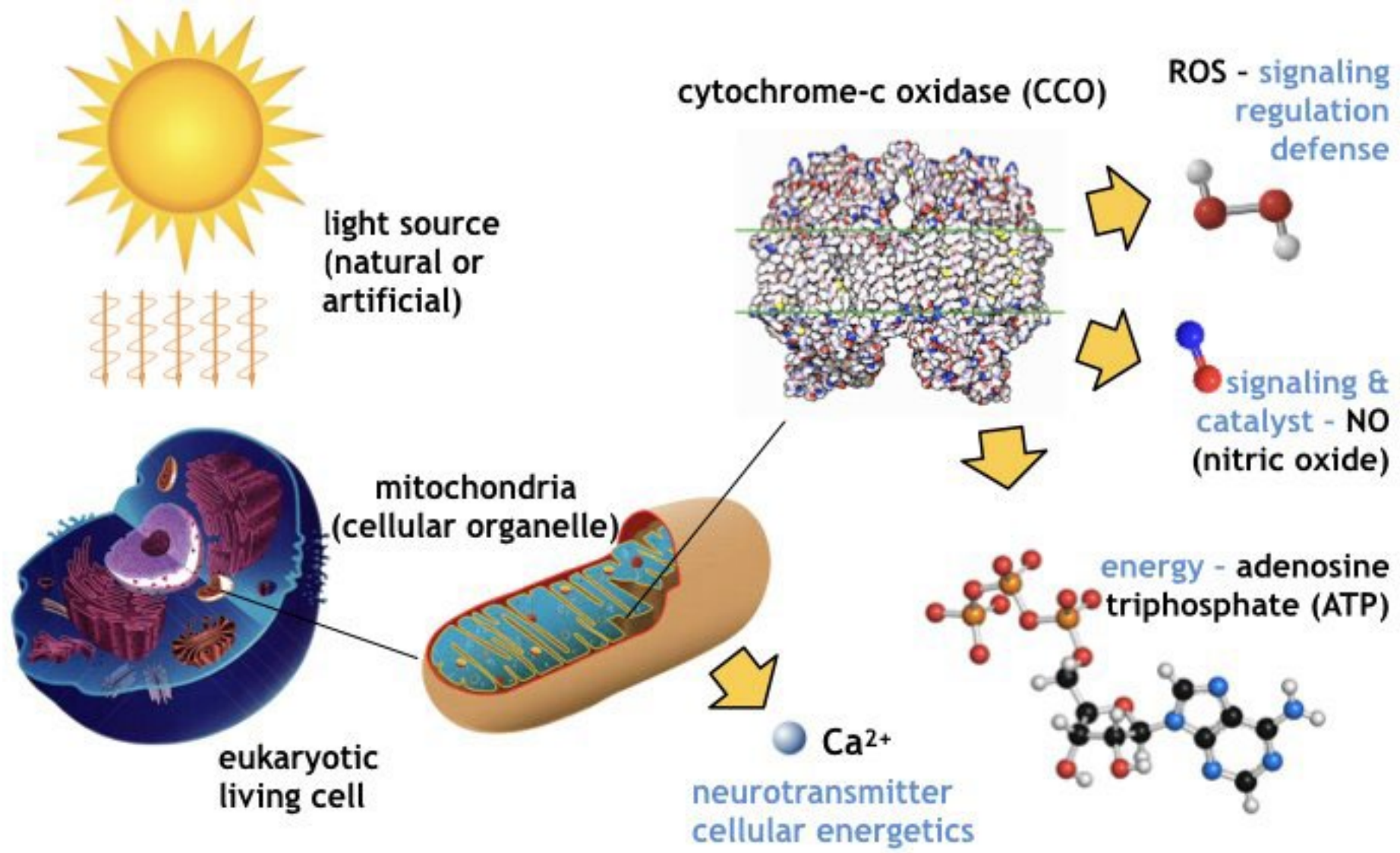
**Cytochrome c Oxidase: Where Photons Become Life**



**FROM PHOTON TO POWER: REDVIVE PBM ENERGIZES EVERY CELL**

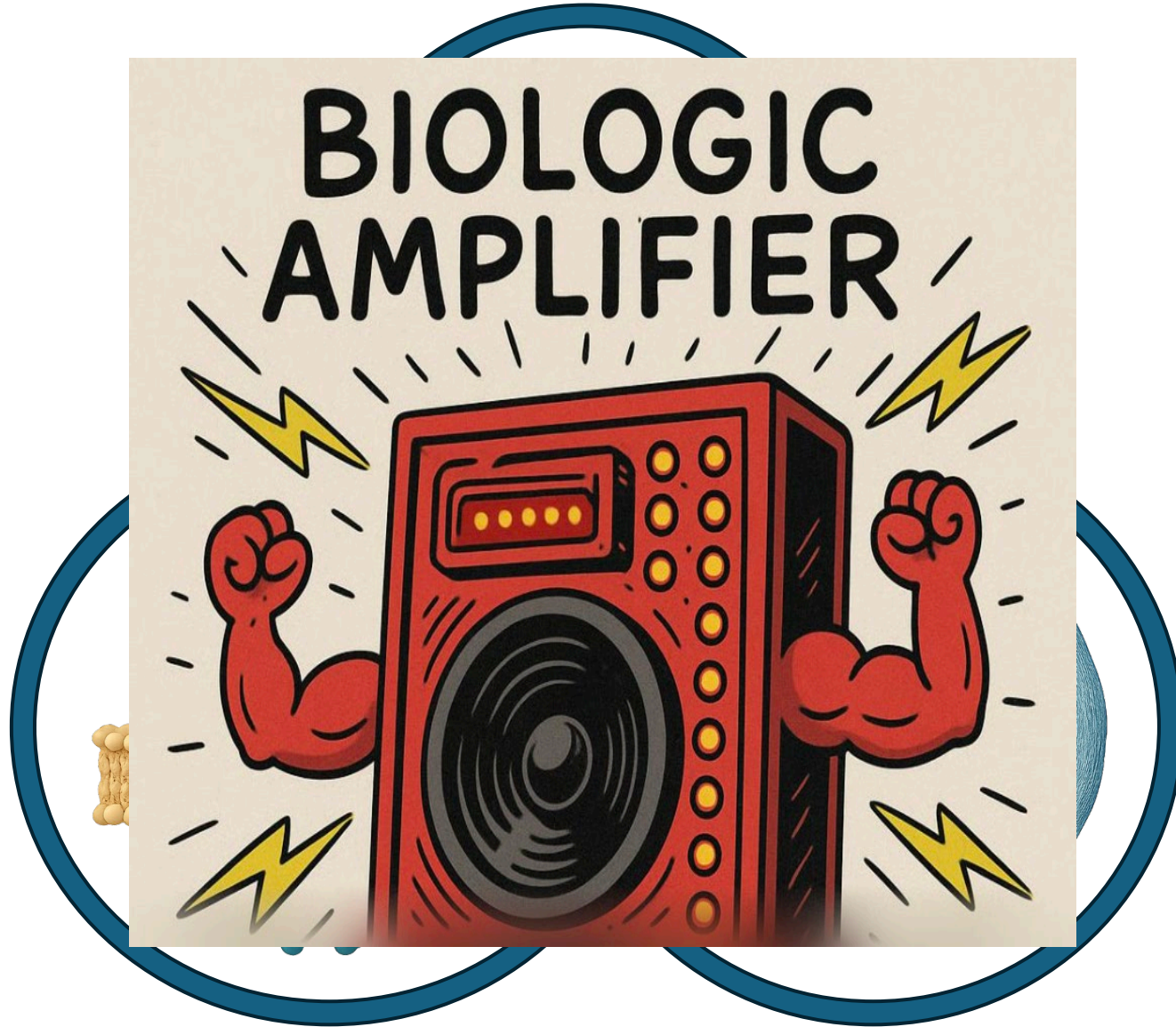


**From Mitochondria to Master Genes:  
RedVive PBM Awakens Stem Cell Healing**



# Mitochondria - Performance

**TRVP1**  
Pain &  
Inflammation



**Stem Cell**  
Regeneration



cytochrome c oxidase

Mitochondria

B

ATP

An increase in ATP, the main energy source for the majority of cellular functions, **increases the cell's ability to fight infection and accelerates the healing process**

C

ROS

The modulation of ROS activates transcription factors **positively impacting cellular repair and healing**

A

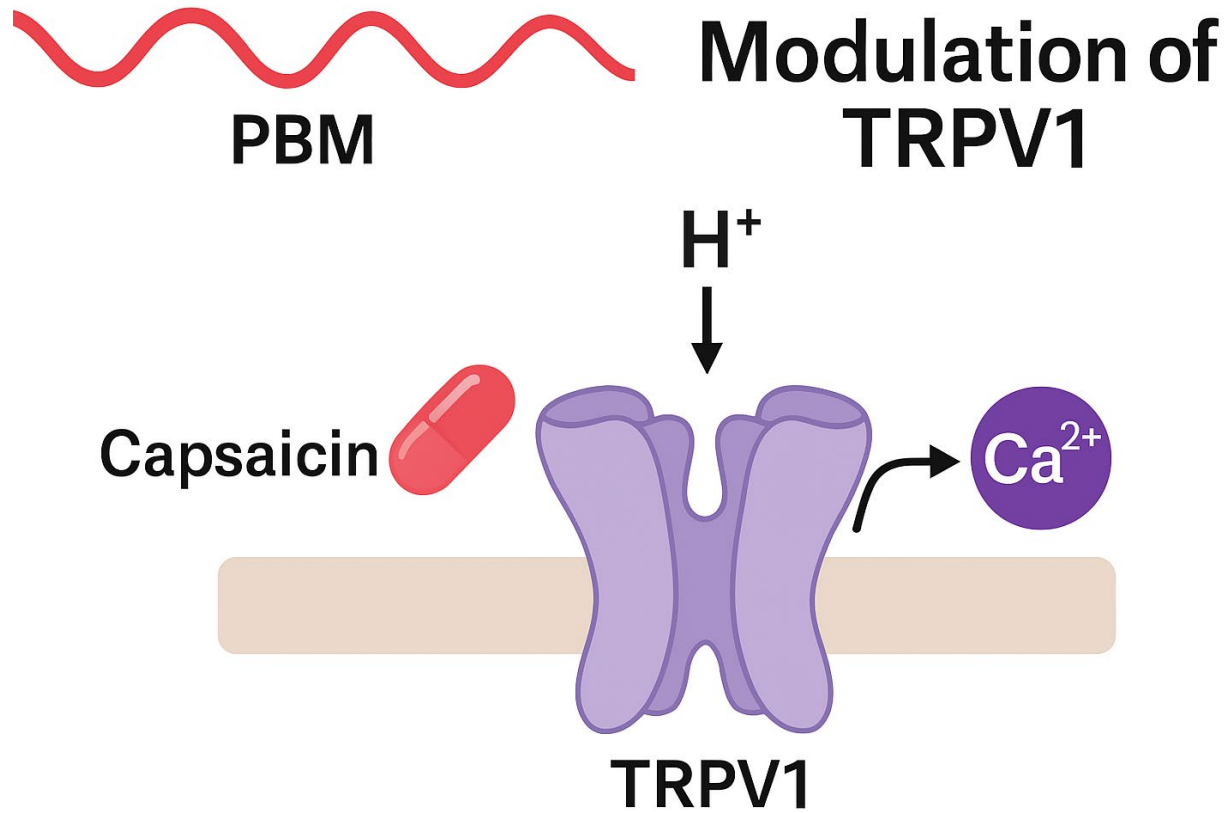
NO

The release of NO, a potent vasodilator, **increases circulation, decreases inflammation and enhances the transport of oxygen and immune cells** throughout the tissue

**1** Laser light at a wavelength of 670nm, 808nm or 904nm is delivered to the tissue via a probe in **contact mode** with the surface of the skin.

**2** The light enters the cell's mitochondria and is absorbed by the chromophores, including the protein cytochrome c oxidase (CCO) which then **increases its activity.**

**3** As a result of this heightened activity, three molecules are affected: Adenosine Triphosphate (ATP), Reactive Oxygen Species (ROS) and Nitric Oxide (NO)



**PBM**  
**Analgesia**  
Reduces Neural  
Inflammation



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## Photobiomodulation Therapy to Autologous Bone Marrow in Humans Significantly Increases the Concentration of Circulating Stem Cells and Macrophages: A Pilot Study

Amir Oron, MD,<sup>1</sup> Shai Efrati, MD,<sup>2</sup> Keren Doenyas-Barak, MD,<sup>2</sup>  
Hana Tuby, PhD,<sup>3</sup> Lidya Maltz, MSc,<sup>3</sup> and Uri Oron, PhD<sup>3</sup>

### Abstract

**Objective:** The aim of this study was to examine the effect of photobiomodulation therapy (PBMT) of the bone marrow (BM) on the concentration of stem cells and other cells in the circulating blood (CB) in humans.

**Background:** Circulating stem cells have received increasing attention in recent years due to their potential role in regenerative medicine. Various biological processes have been shown to be affected by PBMT.

**Methods:** The study was conducted on 15 volunteers. Ga-Al-As diode laser 808 nm wavelength was applied to both tibias of each volunteer for PBMT to the BM. The kinetics of concentration of various cells in the CB was followed by comparing blood samples relative to their baseline levels prior to application of PBMT to the BM. CD-34+ cells and macrophages were identified in CB samples using flow cytometry technology.

**Results:** PBMT to the BM caused a significant ( $p < 0.01$ ) increase in the concentration of CD-34+ cells in the CB from  $7.8 \pm 3.0\%$  (mean  $\pm$  SD) of total mononucleated cell to  $29.5 \pm 10.1\%$  of total commencing at about 2 h post-PBMT. The levels of CD-34+ cells peaked at 2–4 days post-PBMT and then gradually returned to baseline levels. Macrophages in the CB were also significantly ( $p < 0.01$ ) elevated following PBMT to the BM from  $7.8 \pm 6.0\%$  (mean  $\pm$  SD) of the total mononucleated cells to  $52.1 \pm 7.9\%$  of total.

**Conclusions:** Application of PBMT to the BM in humans can significantly increase the concentration of CD-34+ cells and macrophages in the CB. These cells may consequently home in on the impaired target organs and improve their function, as has been previously shown in experimental animal models. Furthermore, the results may also have clinical relevance in respect to enrichment of CB in cells that may be consequently isolated for cell therapy.

Clinical Trial Registration No. is 7/14.

**Keywords:** low-level laser therapy, photobiostimulation, humans, bone marrow, stem cells

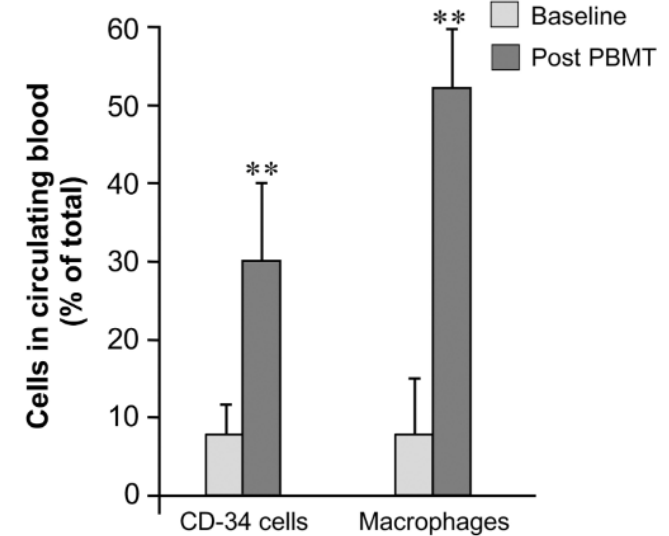


FIG. 1. Levels of CD-34+ cells and macrophages in circulating blood at baseline (open columns) and 2 days (gray columns) post-PBMT to the BM of volunteers. Results are mean  $\pm$  SD of 15 subjects. \*\* $p < 0.01$ . BM, bone marrow; PBMT, photobiomodulation therapy; SD, standard deviation.

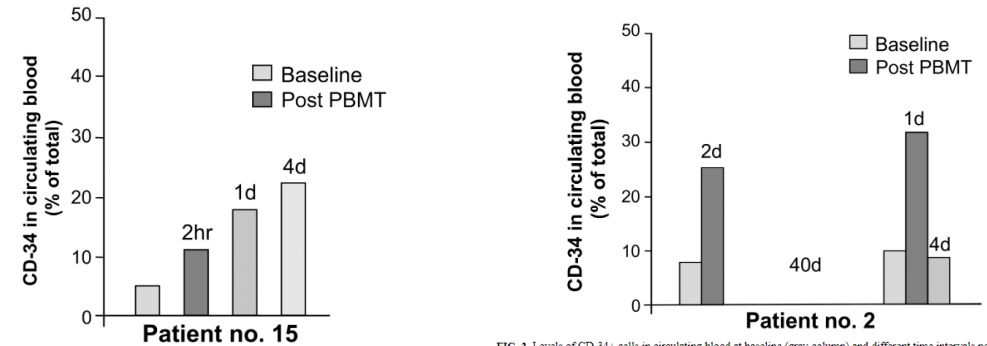
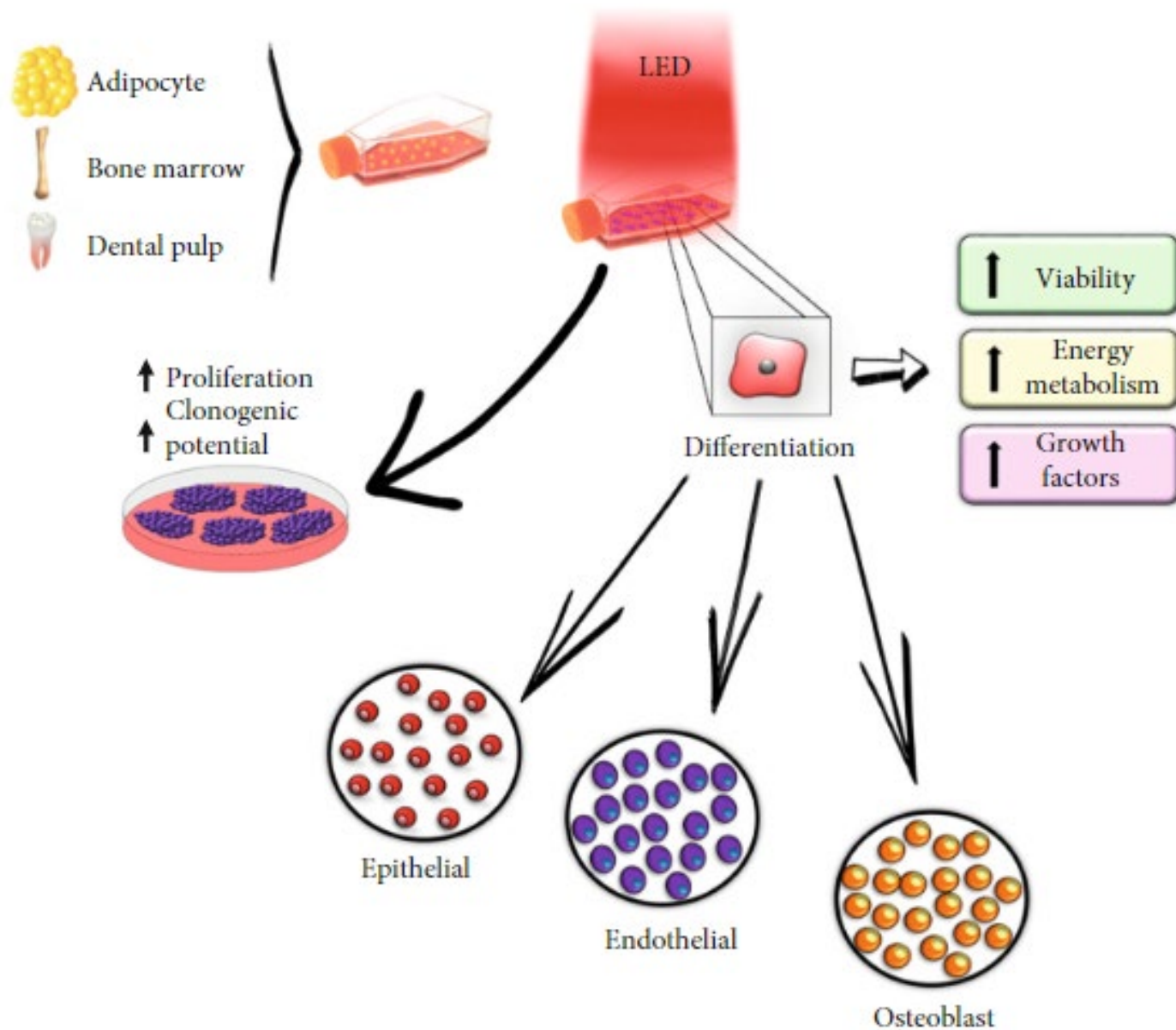


FIG. 2. Levels of CD-34+ cells in circulating blood at baseline (gray column) and 2 h, 1 day and 4 days post-PBMT to the BM in patient no. 15. Note that about a twofold increase in the level of CD-34 cells already occurred at 2 h post-PBMT to the BM, followed by a gradual and continued increase on the next day and for 4 days afterward.

FIG. 3. Levels of CD-34+ cells in circulating blood at baseline (gray column) and different time intervals post-PBMT (red and purple columns) to the BM in patient no. 2. Note that 40 days post-PBMT the level of CD-34 cells in the circulating blood had returned to baseline level, but increased significantly again (1 day) after a second PBMT followed by a decrease 4 days later.



# Stem Cell Activation & Mobilization



# POWER OF RED AND-NEAR- INFRARED ON STEM CELL ACTIVATION

RED LIGHT  
(660 nm)

NEAR-INFRARED LIGHT  
(810 nm)



## STEM CELL ACTIVATION

## Light Exposure as a Tool to Enhance the Regenerative Potential of Adipose-Derived Mesenchymal Stem/Stromal Cells

Karthik Sridharan <sup>1</sup>, Tawakalitu Okikiola Waheed <sup>1</sup>, Susanne Staehle <sup>1</sup>, Alexander Riess <sup>2</sup>, Mario Mand <sup>2</sup>, Juliane Meyer <sup>3</sup>, Hermann Seitz <sup>2 4</sup>, Kirsten Peters <sup>1</sup>, Olga Hahn <sup>1</sup>

Affiliations + expand

PMID: 40801576 PMID: [PMC12346127](#) DOI: [10.3390/cells14151143](#)

### Abstract

Photobiomodulation (PBM) utilizes different wavelengths of light to modulate cellular functions and has emerged as a promising approach in regenerative medicine. In this study, we examined the effects of blue (455 nm), red (660 nm), and near-infrared (810 nm) light, both individually and in combination, on human adipose-derived mesenchymal stem/stromal cells (adMSCs). A single, short-term exposure of adMSCs in suspension to these wavelengths using an integrating sphere revealed distinct wavelength- and dose-dependent cellular responses. Blue light exposure led to a dose-dependent increase in intracellular reactive oxygen species, accompanied by reduced cell proliferation, metabolic activity, interleukin-6/interleukin-8 secretion, and adipogenic differentiation. In contrast, red and near-infrared light preserved cell viability and metabolic function while enhancing cell migration, consistent with their documented ability to stimulate proliferation and mitochondrial activity in mesenchymal stem cells. These findings highlight the necessity of precise wavelength and dosage selection in PBM applications and support the potential of PBM as a customizable tool for optimizing patient-specific regenerative therapies.

**Keywords:** adipogenic differentiation; cytokines; human adipose-derived mesenchymal stem/stromal cells (adMSCs); migration; photobiomodulation (PBM); reactive oxygen species (ROS).

[PubMed Disclaimer](#)

# What Influences DOSE?



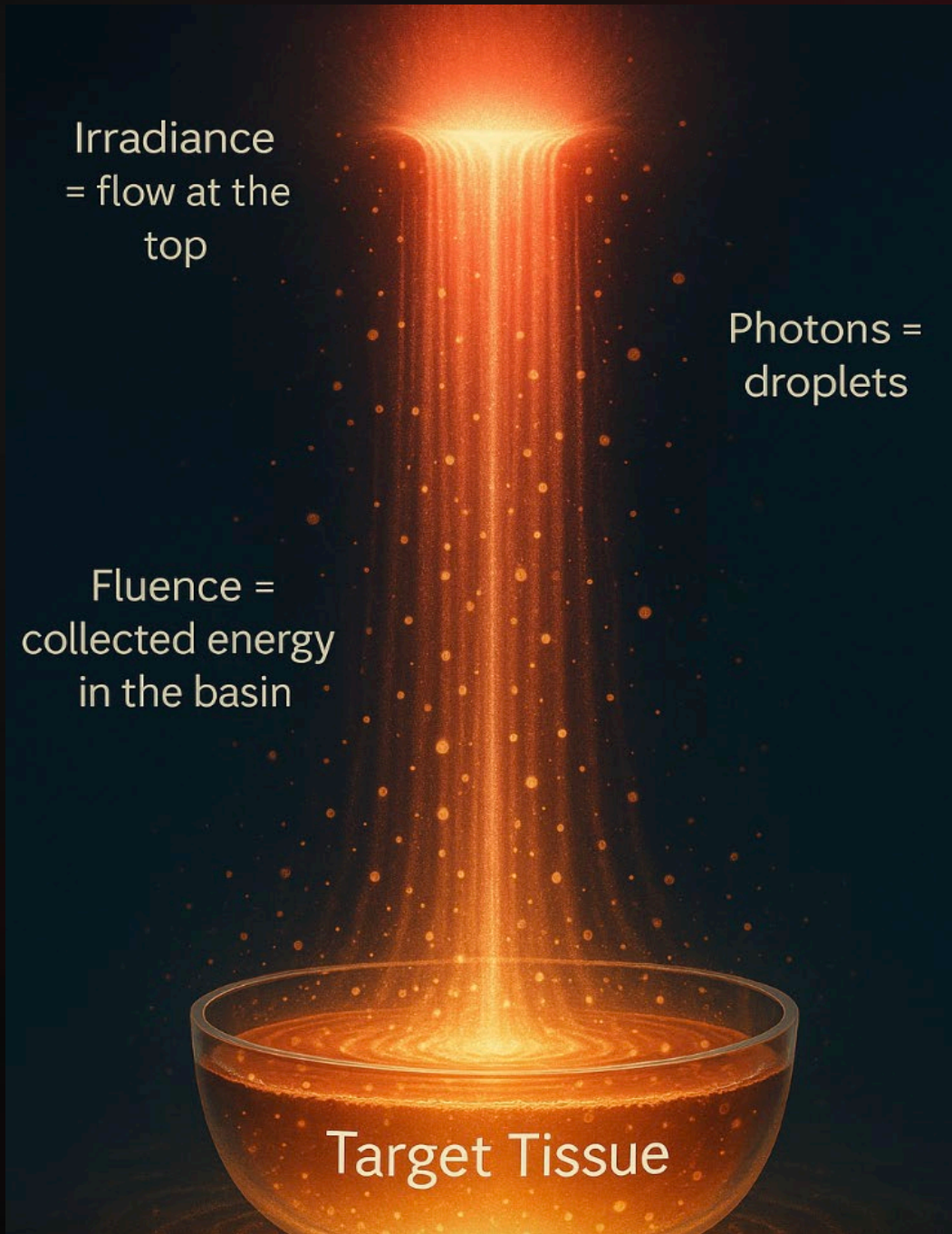
Time



Distance



Power



**Irradiance**  
= flow at the  
top

Photons =  
droplets

Fluence =  
collected energy  
in the basin

Target Tissue

### **Irradiance (mW/cm<sup>2</sup>)**

– The “flow rate” at the skin (how strong the light is when it hits).

### **Fluence (J/cm<sup>2</sup>)**

– The “collected water” in the basin (total energy delivered to tissue).

### **Attenuation**

– The splash, mist, and evaporation (energy lost in skin, fat, scatter).

### **Monte Carlo Dosimetry**

– The computer model that tracks all those droplets to calculate how much really makes it into the basin (target tissue).

### **Therapeutic Window**

– The water level in the basin that’s “just right” (too little = no effect, too much = inhibitory).



# Harmony

Pure Clean Energy

The Right

Medicine

Dose

Therapeutic Window

Tissue Response

# Dosing Parameters

Wavelength  
600-800s

Intensity  
75-300 mW/cm<sup>2</sup>

Distance  
3-12 inches

Time  
10-30 min

Frequency  
1x daily per area

Interval  
3-7 days wk.

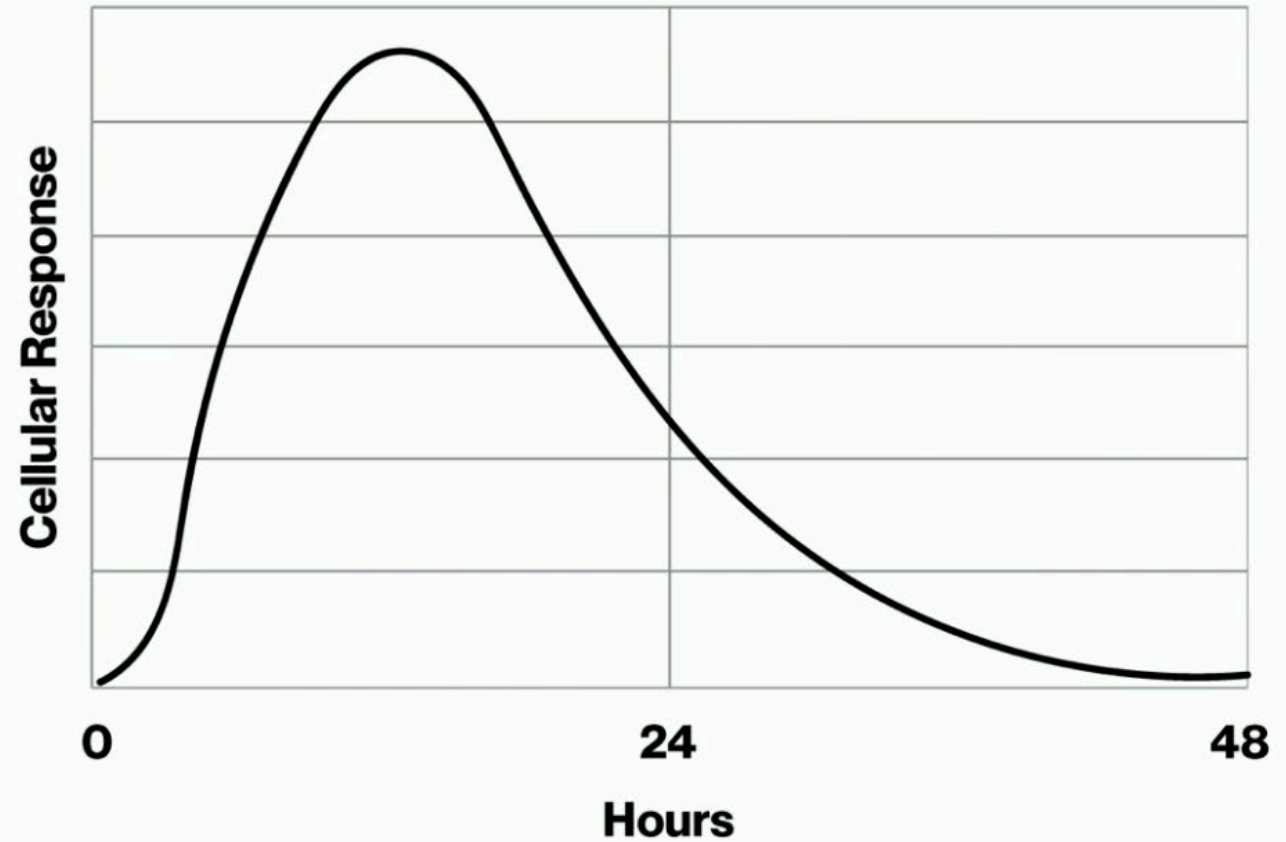
# 24 - 48 hour response time

Remains of effects of RLT up to 24 to 48 hours after the treatment

**ATP production increases after RLT treatment (peak at 6 hours)**

Cytochrome C Oxidase (CCO) enzyme activity is also considered a primary mechanism for red light therapy. Researchers have repeatedly found elevated activity of CCO for 24 hours AFTER treatment ended. [4]

Even more metabolites of **red light therapy effects found 24-48 hours after treatments** include Nitric Oxide (NO), Heat Shock Protein (Hsp70), Interleukin-2 (IL-2) and Calcium release. [1][5]

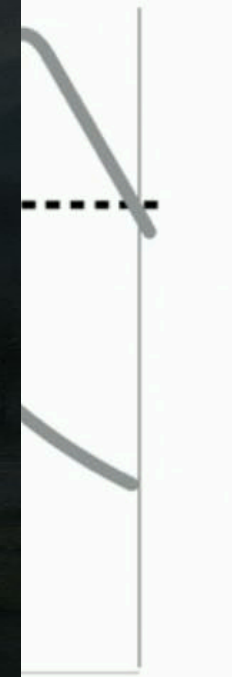
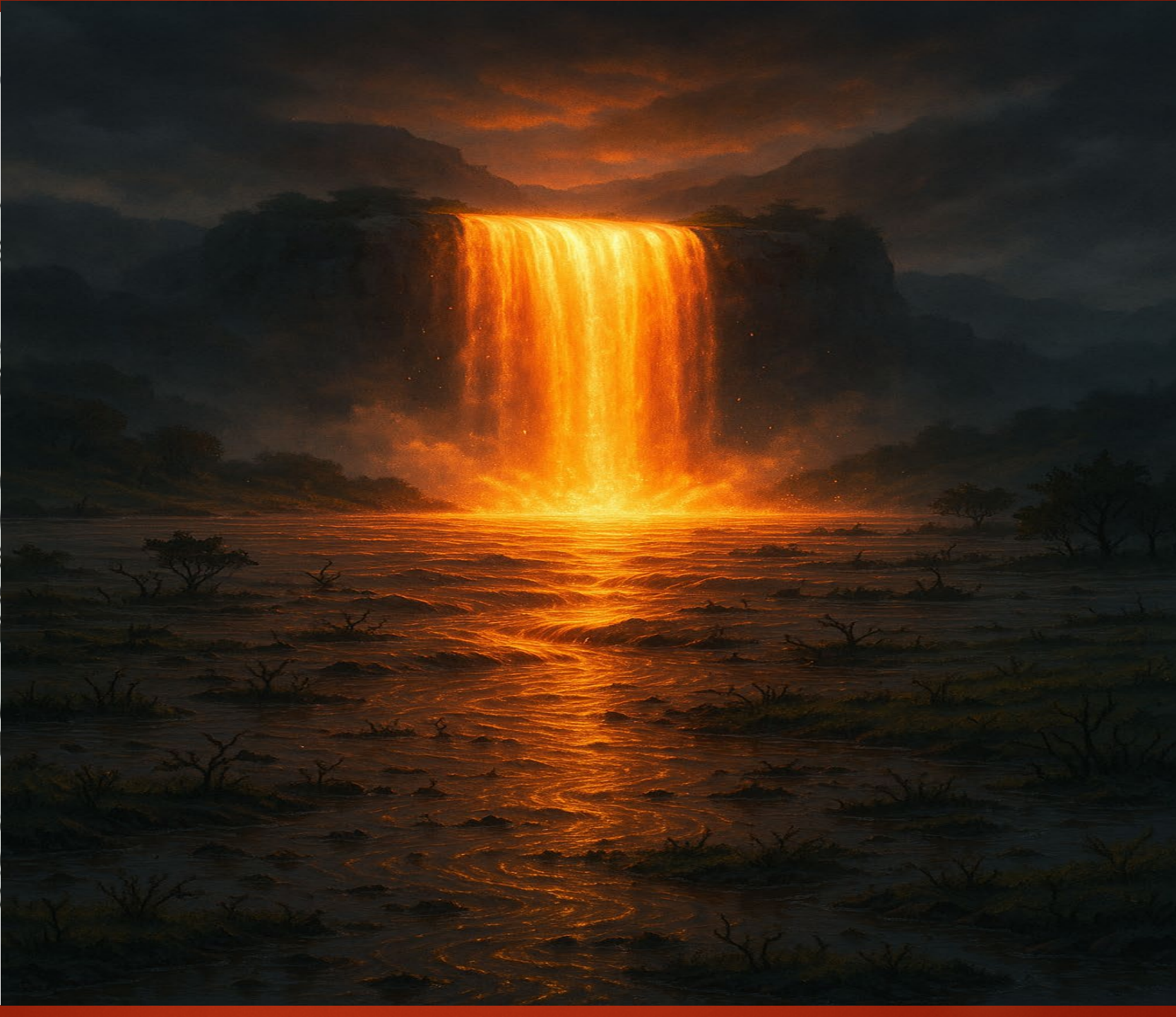


# Cumula

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responses until i

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consequently po



120



10-30 m

HIGH BENEFIT



Light Dose (Irradiance x Time)	Biological Response
Low dose	Insufficient stimulation—no effect or minimal change
Optimal (moderate) dose	Positive effects—enhanced cellular activity, healing, reduced inflammation, pain relief
Too high a dose	Inhibition—cellular stress or suppression of beneficial effects

LOW BENEFIT



LOW DOSE

OPTIMAL DOSE

HIGH DOSE

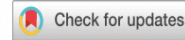
## Shining a Light on Mucositis

A new study conducted by St. Jude Nursing Research uses a painless therapy to help children avoid a common side effect of bone marrow transplantation.

By Carrie L. Strehlau; Photos by Justin Veneman



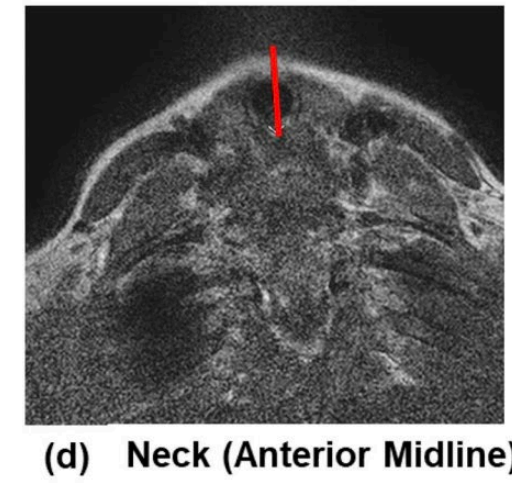
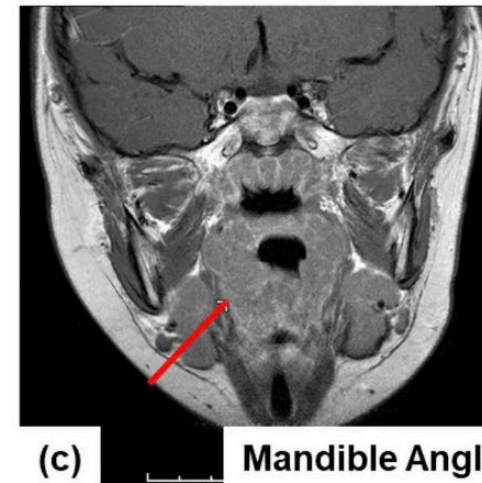
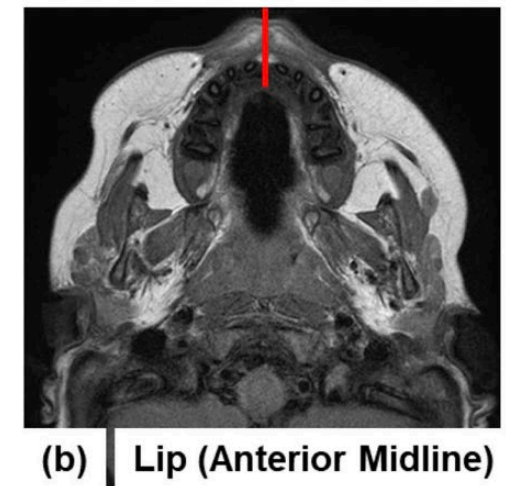
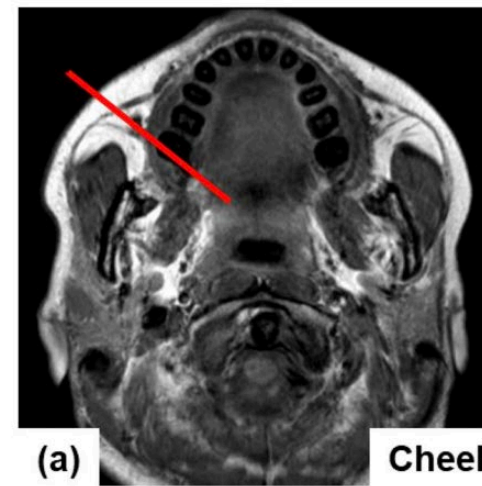
From Oral Mucositis to Orthodontics — Proof of Penetration



## OPEN Monte Carlo based dosimetry of extraoral photobiomodulation for prevention of oral mucositis

Anna N. Yaroslavsky<sup>1,2</sup>, Tyler W. Iorizzo<sup>1,3</sup>, Amy F. Juliano<sup>4</sup>, Ather Adnan<sup>5</sup>, James D. Carroll<sup>6</sup>, Stephen T. Sonis<sup>7,8,9</sup>, Christine N. Duncan<sup>10</sup>, Wendy B. London<sup>10</sup> & Nathaniel S. Treister<sup>7,8</sup>

Photobiomodulation therapy (PBMT) is recommended for prevention and treatment of oral mucositis, a painful condition that occurs in cancer patients. Intraoral PBMT is limited to treating distal oral mucosa and oropharynx. Extraoral PBMT may provide a more efficient intervention. The goal of this study was to develop a clinically viable protocol for extraoral PBMT. Monte Carlo modeling was used to predict the distribution of 850 nm light for four treatment sites, using anatomical data obtained from MRI and optical properties from the literature. Simulated incident light power density was limited to 399 mW/cm<sup>2</sup> to ensure treatment safety and to prevent tissue temperature increase. The results reveal that total tissue thickness determines fluence rate at the oral mucosa, whereas the thickness of individual tissue layers and melanin content are of minor importance. Due to anatomical differences, the fluence rate varied greatly among patients. Despite these variations, a universal protocol was established using a median treatment time methodology. The determined median treatment times required to deliver efficacious dose between 1 and 6 J/cm<sup>2</sup> were within 15 min. The developed PBMT protocol can be further refined using the combination of pretreatment imaging and the Monte Carlo simulation approach implemented in this study.

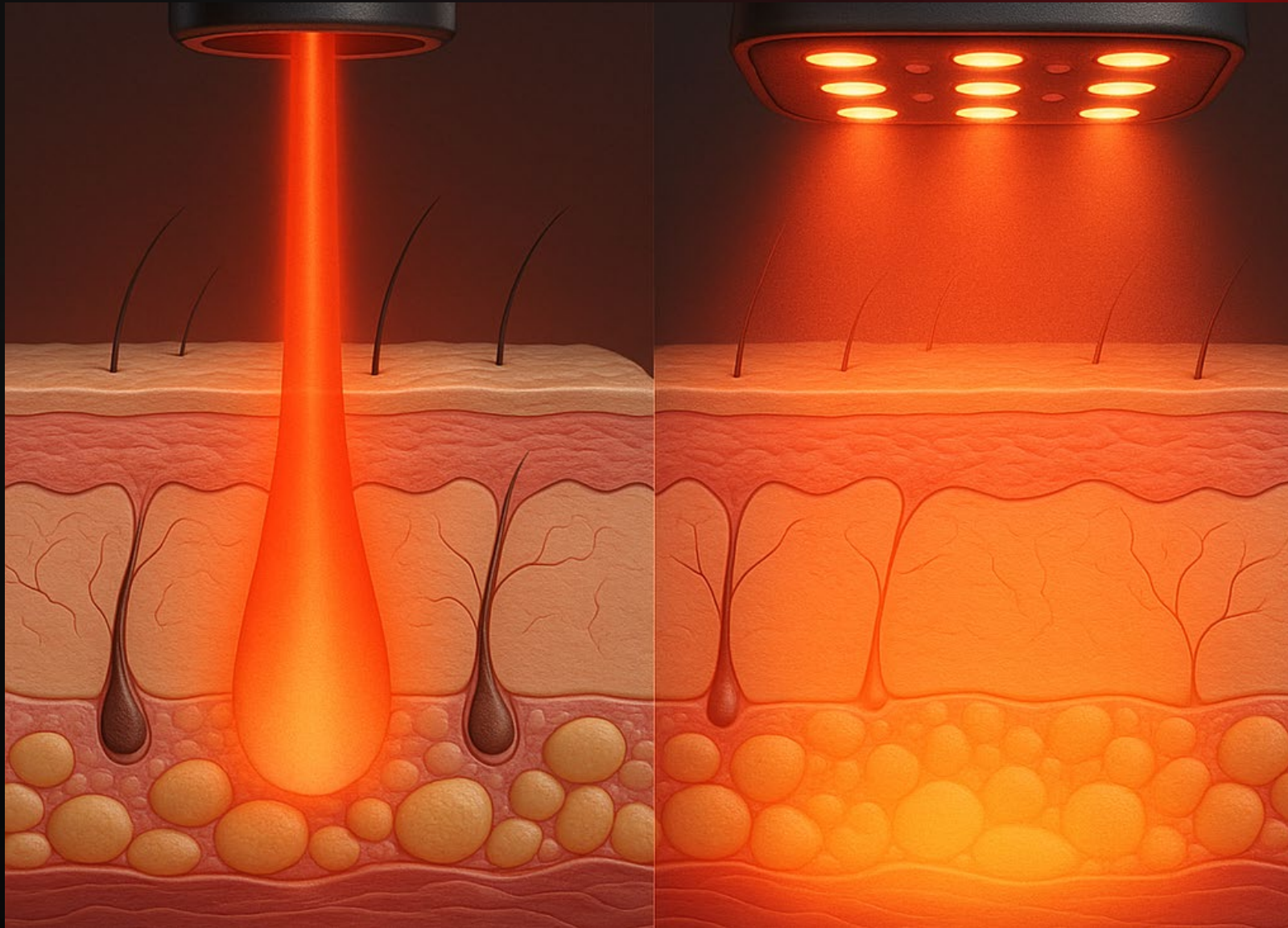


**Figure 1.** Example MR Images. Example MR images of cheek (a), lip (anterior midline) (b), mandible angle (c), and neck (anterior midline) (d) treatment sites. Tissue types and thicknesses were recorded along each trajectory indicated by the red line.

- A. Zecha et al., *Support Care Cancer*, 2019 — LED PBM reduces severity of mucositis in head-and-neck radiotherapy.
- P. Bensadoun et al., *Lasers Med Sci*, 2016 — LED PBM provides equivalent benefit to diode laser PBM.

“Total Energy, Not Peak Power, Drives Biology.”

- A single 2-minute laser exposure delivers maybe 3–6 J/cm<sup>2</sup> once a week.



- RedVive daily LED sessions deliver 2–3 J/cm<sup>2</sup> twice a day =
- 40–60 J/cm<sup>2</sup> per week

DAILY DOSING = COMPOUNDING DOSE

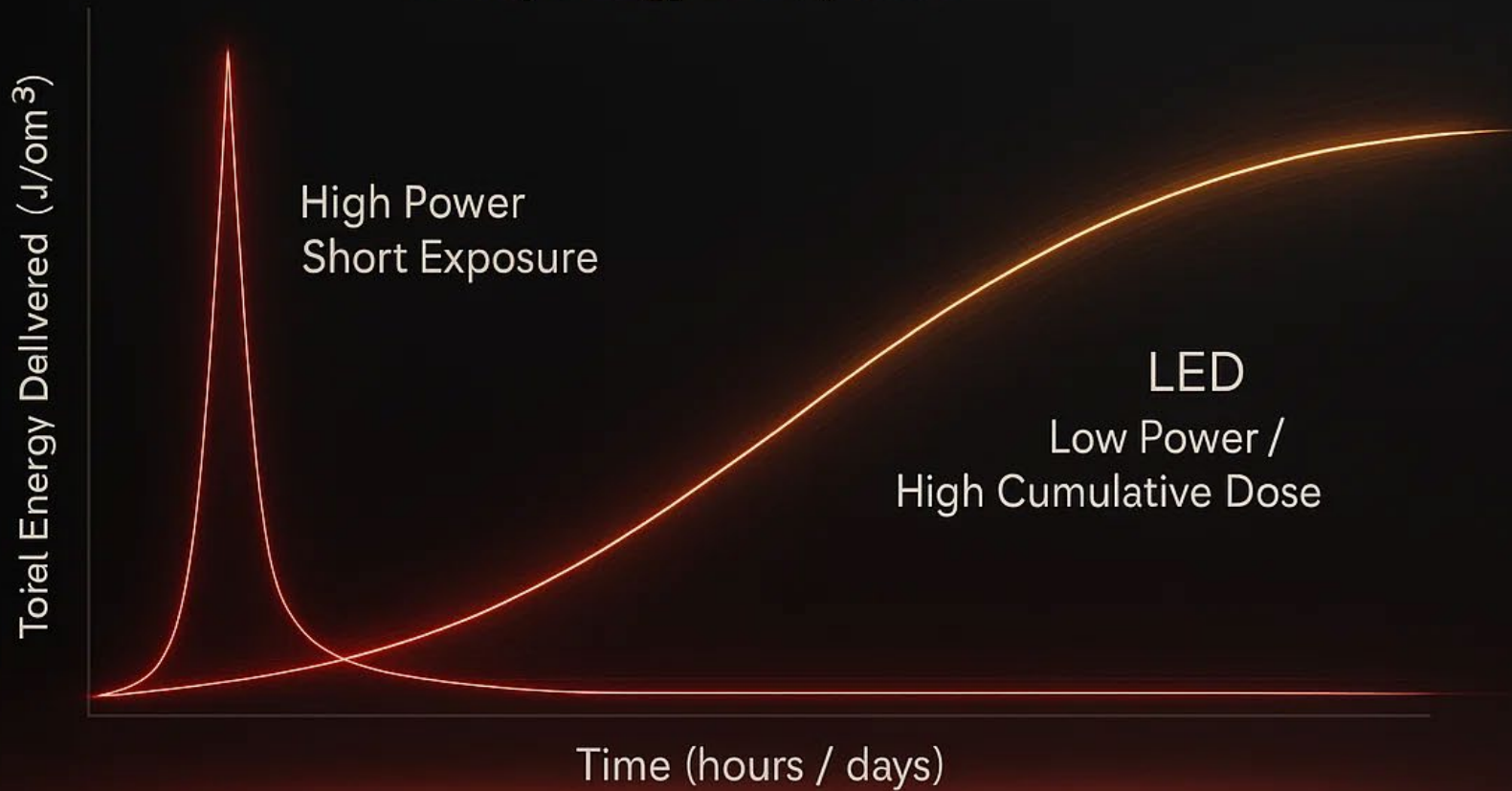
# REDVIVE LED TECHNOLOGY IS PHYSIOLOGICALLY SMARTER



- **Dose density and frequency** > instantaneous power.
- **Systemic coverage** > pinpoint application.
- **Total photon delivery over time** > transient clinic exposure.
- **Biologic adequacy** (not just physics): LED light *reaches the same depth and triggers the same targets.*

# Healing responds to total energy absorbed, not peak wattage delivered

Daily RedVive PBM builds cumulative dosing at the mitochondrial level—  
the way biology actually heals.





# SO SIMPLE, SO POWERFUL

- Fits Naturally with Treatment
- Wherever Biology is Stressed
- Twice daily AM/PM – 5-10 min
- Localize Treatment to Foot/Ankle
- System Treatment to Abdomen/Head/Back
- Invisible Efficiency
- Quiet Amplification

# PERFECT ADJUNCT

- **Mitochondrial ATP production** in fibroblasts, osteoblasts, and osteoclasts.
- **Angiogenesis and oxygenation** in compressed tissues
- **Collagen synthesis and remodeling** for faster stabilization
- **Pain modulation** via reduced inflammatory cytokines and NO-mediated vasodilation
- Thus, PBM
  - **accelerates tooth movement**
  - **reduces pain and inflammation**
  - **promotes tissue recovery between activations**



# THINK ABOUT HOW IT FITS WITH:

- Arthritis treatment
- Tendinopathies and Facia
- Neuropathies
- Wound Healing

Foot Ankle Surg. 2023 Apr;29(3):223-227. doi: 10.1016/j.fas.2023.01.009. Epub 2023 Jan 18.

## Efficacies of extracorporeal shockwave therapy and low-level laser therapy in patients with plantar fasciitis

Gökhan Koz <sup>1</sup>, Ayhan Kamanli <sup>2</sup>, Nedim Kaban <sup>3</sup>, Halil Harman <sup>4</sup>

Affiliations + expand

PMID: 36737392 DOI: 10.1016/j.fas.2023.01.009



**Conclusions:** The results of this study indicated significant improvements in terms of pain, functional status and daily life activities following the administration of either of the treatments. Furthermore, LLLT was found to be significantly more effective for alleviating pain than ESWT in the treatment of PF.

› [Curr Diabetes Rev. 2023;19\(9\):e290422204244. doi: 10.2174/1573399818666220429085256.](#)

## **Effectiveness of Photobiomodulation Therapy on Neuropathic Pain, Nerve Conduction and Plantar Pressure Distribution in Diabetic Peripheral Neuropathy – A Systematic Review**

**Conclusion:** We conclude that photobiomodulation therapy is an effective, non-invasive, and cost-efficient means to improve neuropathic pain and altered plantar pressure distribution in diabetic peripheral neuropathy.

Affiliations [+ expand](#)

PMID: 37622461 DOI: [10.2174/1573399818666220429085256](#)

# Photobiomodulation using red and infrared spectrum light emitting-diode (LED) for the healing of diabetic foot ulcers: a controlled randomized clinical trial

Nathalia Cristina de Souza Borges<sup>1</sup>, Luíza Rocha Soares<sup>2</sup>, Mário Machado Perissini<sup>2</sup>,  
Marcela Silva Carvalho<sup>2</sup>, Elaine Caldeira de Oliveira Guirro<sup>1 2</sup>, Maria Cristina Foss de Freitas<sup>3</sup>,  
Rinaldo Roberto de Jesus Guirro<sup>4 5</sup>

Affiliations + expand

PMID: 39382587 DOI: 10.1007/s10103-024-04199-5

## Abstract

Assessing the responses to the application of photobiomodulation using red and infrared spectrum light-emitting diodes (LED) on diabetic foot ulcers. Diabetic volunteers, of both genders, aged

( $d=0.3$ ). Conclusion: The use of individually applied red and infrared LED phototherapy clinically tended to be more effective for the reduction of diabetic foot ulcer areas, and infrared LED was the most effective. Trial registration: [NCT03250533](https://clinicaltrials.gov/ct2/show/study/NCT03250533) (clinicaltrials.gov).

treatment. For statistical analysis, the software SPSS, version 17.0, intention-to-treat analysis, data normality was tested, and the linear mixed effects model, with a significance level of 5%. Magnitudes of clinical effect by Cohen's  $d$ . At the pre vs post intervention time of 90 days, we found a large clinical effect of G-LED V ( $d=1.7$ ) and G-LED IV ( $d=1.6$ ) in relation to G-C, where these intervention groups showed a tendency for faster wound healing compared to G-C. We also observed small clinical effect of G-LED IV, which showed greater reduction in the area in relation to G-LED V ( $d=0.4$ ) and G-LED A ( $d=0.3$ ). Conclusion: The use of individually applied red and infrared LED phototherapy clinically tended to be more effective for the reduction of diabetic foot ulcer areas, and infrared LED was the most effective. Trial registration: [NCT03250533](https://clinicaltrials.gov/ct2/show/study/NCT03250533) (clinicaltrials.gov).

**Keywords:** Diabetes mellitus; Diabetic foot; Photobiomodulation; Phototherapy; Wound healing.

doi: [10.1007/s10103-024-04199-5](https://doi.org/10.1007/s10103-024-04199-5).

## Photobiomodulation using red and infrared spectrum light emitting-diode (LED) for the healing of diabetic foot ulcers: a controlled randomized clinical trial

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Affiliations [+](#) expandPMID: 39382587 DOI: [10.1007/s10103-024-04199-5](https://doi.org/10.1007/s10103-024-04199-5)[Wound Repair Regen. 2016 Mar;24\(2\):418-26. doi: 10.1111/wrr.12399. Epub 2016 Mar 2.](#)

## A systematic review of low-level light therapy for treatment of diabetic foot ulcer

Catherine N Tchanque-Fossuo <sup>1 2</sup>, Derek Ho <sup>1</sup>, Sara E Dahle <sup>2 3</sup>, Eugene Koo <sup>1</sup>, Chin-Shang Li <sup>4</sup>,  
R Rivkah Isseroff <sup>1 2</sup>, Jared Jagdeo <sup>1 2 5</sup>

Affiliations [+](#) expandPMID: 26748691 DOI: [10.1111/wrr.12399](https://doi.org/10.1111/wrr.12399)[Healthcare \(Basel\). 2023 Mar 24;11\(7\):938. doi: 10.3390/healthcare11070938.](#)

## Efficacy of Photobiomodulation Therapy in the Treatment of Pain and Inflammation: A Literature Review

Ana González-Muñoz <sup>1 2</sup>, María Cuevas-Cervera <sup>1</sup>, José Javier Pérez-Montilla <sup>1</sup>,  
Daniel Aguilar-Núñez <sup>3</sup>, Dina Hamed-Hamed <sup>1</sup>, María Aguilar-García <sup>1</sup>, Leo Pruiomboom <sup>4</sup>,  
Santiago Navarro-Ledesma <sup>1 4</sup>

Affiliations [+](#) expandPMID: 37046865 PMCID: [PMC10094541](https://pubmed.ncbi.nlm.nih.gov/37046865/) DOI: [10.3390/healthcare11070938](https://doi.org/10.3390/healthcare11070938)[Eur J Phys Rehabil Med. 2021 Dec 16;58\(2\):282-289. doi: 10.23736/S1973-9087.21.07236-1](#)

## Low-intensity LASER and LED (photobiomodulation therapy) for pain control of the most common musculoskeletal conditions

[Marcelo F DE OLIVEIRA](#) <sup>1</sup>, [Douglas S JOHNSON](#) <sup>2</sup>, [Timothy DEMCHAK](#) <sup>3</sup>, [Shaiane S TOMAZONI](#) <sup>4</sup>, [Ernesto C LEAL-JUNIOR](#) <sup>1,4,5,\*</sup>

[Author information](#) [Article notes](#) [Copyright and License information](#)PMCID: [PMC9980499](https://pubmed.ncbi.nlm.nih.gov/34913330/) PMID: [34913330](https://pubmed.ncbi.nlm.nih.gov/34913330/)[BMC Sports Sci Med Rehabil. 2021 Aug 14;13\(1\):91. doi: 10.1186/s13102-021-00306-z.](#)

## The effect of low-level red and near-infrared photobiomodulation on pain and function in tendinopathy: a systematic review and meta-analysis of randomized control trials

Nicholas Tripodi <sup>1 2 3</sup>, Jack Feehan <sup>4 5 6</sup>, Maja Husaric <sup>4 7</sup>, Fotios Sidiroglou <sup>7 8</sup>,  
Vasso Apostolopoulos <sup>4</sup>

Affiliations [+](#) expandPMID: 34391447 PMCID: [PMC8364035](https://pubmed.ncbi.nlm.nih.gov/34391447/) DOI: [10.1186/s13102-021-00306-z](https://doi.org/10.1186/s13102-021-00306-z)

# HERE'S HOW TO START TOMORROW

- Apply PBM immediately after surgery, regenerative medicine procedure.
- Use it for Peripheral Neuropathy Program or Wound Healing Program.
- Offer at-home units for sustained comfort and faster movement.

***This is about patient experience and biological harmony***

**REDVIVE PHOTOBIO-MODULATION  
TREATMENT STACK FOR REGENERATIVE PODIATRY**



# RedVive PBM

**Elevate Outcomes  
Expand Revenue  
Empower Patients**

**“RedVive PBM is the missing energy layer that turns good regenerative medicine into great outcomes.”**

# Choosing the Right PBM Partner

Not all devices – or companies – are created equal.





**4 Proven Wavelengths (630,670,810,850)**



**Dose that Reaches Target (300 mw/cm<sup>2</sup> at 3 in)**



**Integration into Regenerative Workflows  
(Red:Vive University)**



**Simplicity and Safety (3<sup>rd</sup> Party Validated)**



**Business Model Advantage  
(PBM – Photo Business  
Modulation)**

**SCIENCE &  
BUSINESS YOU  
CAN TRUST**

**Immediate ROI  
No Inventory  
No Returns  
No Stress**

# PBM IS ALSO PHOTO-BUSINESS-MODULATION

Clinical Use & Integration

Education Referral Path





**REDVIVE  
UNIVERSITY**

# A Proven PBM System

1

## Accelerate Healing for Patients

Redvive + Your treatments = faster healing and recovery.

2

## Maximize Profitability with Minimal Operational Changes

Simple integration means immediate returns.

3

## Instant Differentiation

Sets you apart immediately.

4

## We Do It With You

We provide all the training and resources to ensure your success.

# The 3-Stage Success Path



1

## Experience It

Belief starts with feeling it yourself.

2

## Integrate It

Implement Redvive into your practice.  
practice.

3

## Evangelize It

Let your results tell your story.

# Stage 1 – Experience It.



**Build belief through personal experience**

Order Patient Success Package



**At home and with staff.**

At home and with staff.



**Document your first success**

Share first story with Redvive team. Feeling is believing.






## Practice Experience Package

- 2 Redvive 300 Panels
- 5 Redvive 60 Panels
- 2 Adjustable Stands



# Redvive Experience Package

Product Type	MSRP	Qty.	Total	Product Image
Redvive 300	2,499	2	\$5,198	
Redvive 60	\$999	5	\$4,995	
Adjustable Stand Universal Mount 300 or 60	\$349	2	\$698	
Package Value			<b>\$10,891</b>	
Package Total			<b>\$5,446</b>	

red:vive

# IMPLEMENT REDVIVE AS YOUR

Implement Redvive as your

## Identify treatment program

- Pain & Wellness related treatments
- (e.g. TMJ / TMD, Implants, Invisalign, PRF, etc)

## Train your team

- Medical training w/ Dr. Desai
- Understand how to talk to patients about PBM.

## Implement Redvive

### 5 Redvive 60 panels

- Begin including it in your identified identified treatment.



# Better Care, Better Business

Redvive offers significant financial benefits for your clinic:

- Redvive can be bundled into treatment plans by adding \$999 to the case fee.
- Out of that, practices keep a 40% margin, which equals about \$400 profit per treatment.
- Helping just 25 patients per month adds up to \$10,000 per month, or roughly \$120,000 per year in net profit.
- This is bottom-line income with no extra chair time — you're simply enhancing the care you're already providing.

**\$400**

**Profit per treatment (40% margin)  
margin)**

**\$10,000**

**Monthly net profit (25 patients)  
patients)**

**\$120,000**

**Annual net profit**

## Stage 3 – Evangelize It



### Capture Feedback

Doctor collects clinical feedback.

Redvive Team will collect 2–3 patient testimonials.



### Amplify Feedback

Appear on **Innovators of Health** podcast.

We'll give you edited clips to share on your social media.



### Share Feedback

Share wins with your network of peers and patients.

**INNOVATORS  
OF HEALTH**

# Resources



## FAQ

We answer every question and concern to ensure patients feel confident and satisfied.

We offer a 60-day money-back guarantee-no questions asked.



## Access to Dr. Desai

Cutting Edge Protocols, Scripts, Talk Tracks, and Training



## Redvive University

Complete with Setup Guide for seamless implementation



## Marketing Materials

QR Code Displays, Brochures, and Referral Tracker

# Next Steps


Purchase Experience Package  
\$5,446 (**\$10,891 Value**)



 Buy Now & Save 50%

Book Consultation w/ Dr. Desai  
& The Redvive Team



 Book a Call



