

BREAKTHROUGH IN MEDICINE

INSPIRED BY THE NOBEL PRIZE WINNING TECHNOLOGY OF C60



Hyperpolarized Light

QUANTUM MEDICINE FOR QUANTUM BODY

James L. Oschman, PhD
Olja Lopuřhansky, PhD
Danijela Sijaćić, PhD

*"If you want to find the secrets of the universe,
think in terms of energy, frequency, and vibration."*

-Nikola Tesla



Table of Content

| | |
|---|-------|
| FOREWORD | 02 |
| INTRODUCTION - BIOPTRON AG | 04 |
| MEDICAL DEVICE..... | 05 |
| REFERENCES..... | 06 |
| INTERNATIONAL AWARDS AND GOLD MEDALS..... | 07 |
| INSPIRED BY THE 5 WINNING NOBEL-PRIZE-TECHNOLOGIES..... | 08-09 |
| THE GLOBAL HEALTH CRISIS-MILLIONS SUFFER, TRILLIONS SPENT..... | 10 |
| HYPERPOLARIZED LIGHT REVOLUTIONIZING HEALING WORLDWIDE..... | 11 |
| WIDE RANGE OF MEDICAL APPLICATIONS..... | 13 |
| BRIDGING MEDICAL THERAPY AND QUANTUM SCIENCE | 14 |
| LIQUID CRYSTALS..... | 17-19 |
| THE POWER OF LIGHT..... | 20-24 |
| MOLECULE C60 STRUCTURE AS THE FOUNDATION OF HEALTH | 25 |
| HOW IS THE HYPERPOLARIZED LIGHT GENERATED..... | 26 |
| BIOPTRON HYPERLIGHT FEATURES..... | 28 |
| STRUCTURED LIGHT MEETS STRUCTURED MATTER | 29 |
| THE LAW OF SYMMETRY AND BEAUTY..... | 30 |
| HPL = BIOSTRUCTURES..... | 31 |
| HYPERPOLARIZED LIGHT-QUANTUM MEDICINE FOR THE QUANTUM BODY..... | 33 |
| HPL-EFFECTS ON ERYTHROCYTES..... | 34 |
| HPL-EFFECTS ON WATER..... | 35 |
| DR.MASARU EMOTO INSTITUTE..... | 37-38 |
| HYPERPOLARIZED LIGHT AS MEDICAL DEVICE | 39 |
| PAIN RELIEF | 40 |
| WOUND HEALING | 41-42 |
| DERMATOLOGY DISORDERS AND SKIN DISEASES..... | 43 |
| SEASONAL AFFECTIVE DISORDER (SAD)..... | 44-45 |
| PEDIATRICS..... | 46 |
| AESTHETIC MEDICINE..... | 47 |
| VETERINARY MEDICINE..... | 48-49 |
| BIOPTRON® MEDICAL DEVICES MODELS | 50 |
| GLOSSARY | 51-52 |
| AUTHORS | 53 |

FOREWORD

ADVANCING FROM PROVEN MEDICAL APPLICATIONS TO THE FRONTIERS OF QUANTUM MEDICINE

For 35 years, BIOPTRON Medical Device for Light Therapy has played a vital role in conventional medicine, widely recognized for its efficacy in pain management, wound healing, dermatological conditions, and Seasonal Affective Disorder (SAD).

Integrated as mono or combined therapy into therapeutic protocols, Hyperpolarized light (HPL) has demonstrated its capacity to accelerate tissue repair and cellular regeneration, thereby enhancing patient outcomes.

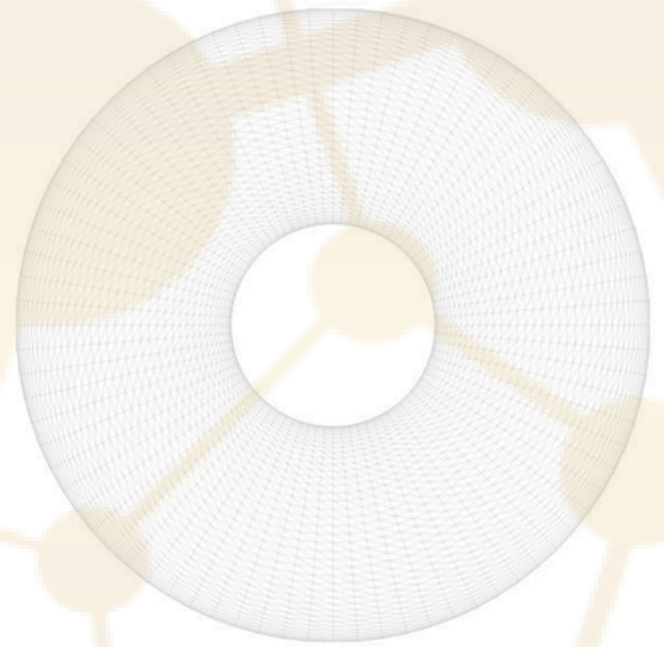
Recent scientific exploration is unveiling a new dimension of HPL's potential—its interaction with biological systems at the quantum level. This paradigm shifts positions HPL at the convergence of traditional medical therapy and quantum medicine, marking the first integration of classical medicine and physics with quantum medicine and quantum physics.

Emerging research suggests that HPL influences quantum states within the human body, opening novel applications in prophylaxis and systemic health optimization.

This brochure is organized as follows:

- First, a brief history of the company and the Bioptron device is introduced, followed by a presentation of certifications, award-winning discoveries, patents, and references.
- Next, the brochure outlines common problems, classical solutions, and highlights Innovative Bioptron Hyperpolarized light as a superior solution.
- Furthermore, the scientific background of the certified medical device is explained, alongside the principles of quantum medicine. This section discusses how HPL interacts with biological tissue and explores the possible mechanisms of healing at the systemic level.
- Finally, the third part of the document provides clinical examples of healing protocols and treatments.

This structure ensures a clear and comprehensive understanding of the device, its innovation, and its applications.



INTRODUCTION

BIOPTRON AG:
LEGACY OF INNOVATION
IN MEDICAL LIGHT THERAPY

HYPERPOLARIZED
LIGHT



BIOPTRON AG: A LEGACY OF INNOVATION IN MEDICAL LIGHT THERAPY

Founded in 1988 in Switzerland, BIOPTRON AG became part of the Zepter Group in 1996, establishing itself as a leader in medical healthcare innovation.

BIOPTRON AG operates at the highest scientific level, integrating advancements from physics, chemistry, quantum mechanics, and medical science.

The company develops and manufactures clinically tested and certified high-tech medical devices that generate Hyperpolarized Light (the commercial name is Hyperlight), helping millions by enhancing the body's natural ability to regenerate and maintain optimal health.

Hyperpolarized light accelerates healing, restores impaired functions and metabolic balance, strengthens resistance to external stressors, and boosts immunity—effectively supporting both acute and chronic conditions.

Biopton Hyperpolarized light is clinically tested and medically certified as a unique form of treatment for various medical indications:

- Pain relief
- Wound healing
- Dermatological disorders
- Seasonal Affective Disorder (SAD)





BIOPTRON® headquarters and production facilities in Switzerland



Nanophotonic Fullerene C60 Optics (Quantum Hyperlight Optics)



SWISS MADE

PATENTED TECHNOLOGY

CLINICALLY TESTED

REGISTERED AS A MEDICAL DEVICE

EUROPE (93/42/EEC),

CANADA (HC CERTIFICATE), USA (FDA (510 (K))



*From left to right:
Prof. Dr. Djuro Koruga,
Prof. Dr. Sergyi Gulyar,
and Mr. Philip Zepter,
Chairman Zepter International.*

REFERENCES

During three decades of dedicated research, Biopton has undergone over 50 comprehensive scientific studies. For additional information, please refer to the following link:
<https://www.bioptron.com/references/scientific-reference-list/>

Or use QR code:

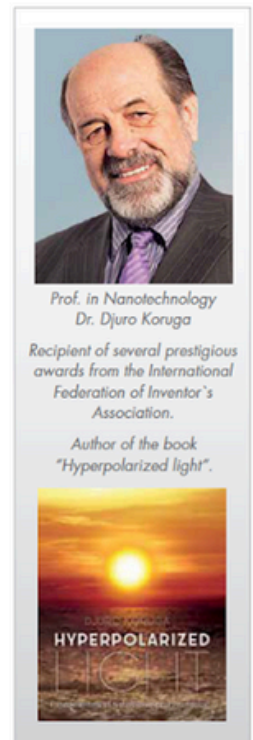


INTERNATIONAL AWARDS AND GOLD MEDALS FOR THE INVENTION OF PATENTED, SWISS-ENGINEERD HI-TECH BIOPTRON® QUANTUM HYPERLIGHT OPTICS

Hyperlight Optics transform any light (diffused and polarized) into a uniquely structured hyperharmonized light, known in science as POLARITON, that has properties electromagnetism and structure of a healthy biostructures.



PATENTED TECHNOLOGY C₆₀ COMPLEX WITH METAL OXIDES
INTEGRATED IN THE MATRIX OF OPTICAL LAYERS,
WHICH GENERATES EFFECT 2D QUANTUM CAVITY



BIOPTRON is the recipient of the first award for the best Anti-Aging energy-based device - Aesthetic & Anti-Aging Medicine European Congress AMEC, Paris, 2014

INSPIRED BY THE 5 WINNING NOBEL PRIZE TECHNOLOGIES

– The Nobel Prize in physiology or medicine in 1903 was awarded to Dr. Niels Ryberg Finsen. He demonstrated the efficacy of specific light spectrum for medical treatment of various diseases, such as Lupus Vulgaris, also known as tuberculosis of the skin (cutaneous tuberculosis). Finsen is therefore considered the founder of modern light therapy.

– The Nobel Prize in chemistry was awarded in 1996 to Sir Harold W. Kroto, Robert F. Curl and Richard E. Smalley for discovering C₆₀ as a Fibonacci structure – icosahedral entity.

These three researchers together with a British-American team from the Rice University in the U.S. managed to obtain the nano-molecule fullerene C₆₀ during experiments with graphite.

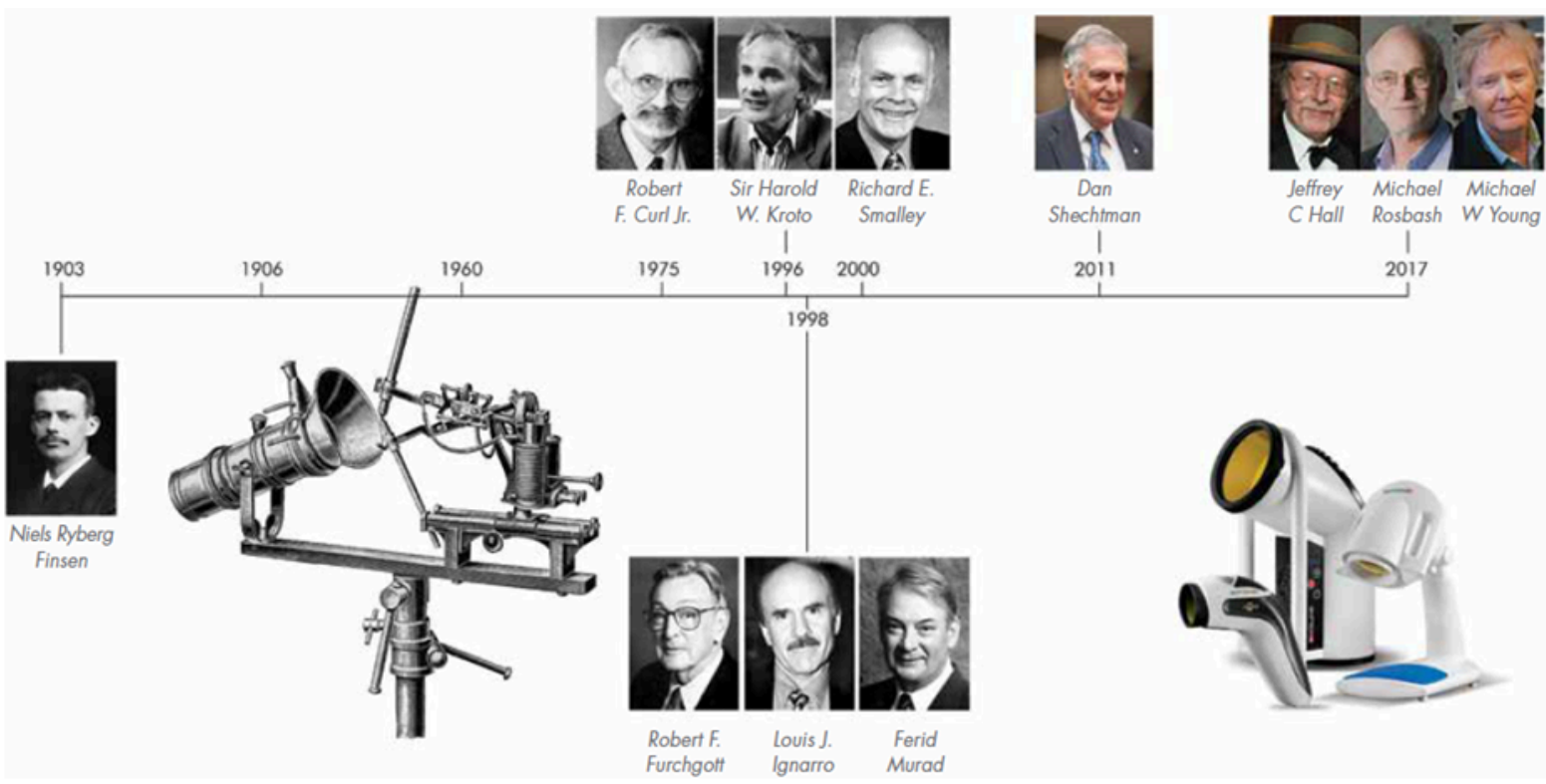
Based on the discovery of C₆₀, BIOPTRON® scientists invented the Bioptron Nanophotonic Fullerene Optics® (Hyperlight Optics), which acts as a nanophotonic generator of Hyperpolarized light. The influence of BIOPTRON® Hyperpolarized light on matter (biostructures) is at its most efficient. This is the quantum phenomenon whereby the information is able to modify the matter, bringing the whole body into optimal healthy state.

– The Nobel Prize in physiology or medicine in 1998 was awarded to Robert F. Furchgott, Louis J. Ignarro and Ferid Murad “for their discoveries of nitric oxide as a signaling molecule in the cardiovascular system”. The near infrared part of the BIOPTRON® Hyperpolarized light spectrum stimulates the local production of nitric oxide, which improves vasodilatation in blood vessels, playing an important role in the protection of cardiovascular diseases.

– The Nobel Prize in chemistry in 2011 was awarded to Dan Shechtman for discovering a periodic icosahedral phase transition process and structures (quasicrystals) by Fibonacci’s Law (quasicrystals are also known as Fibonacci crystals, since they naturally arrange according to the Golden Ratio, the same spatial arrangement present in photons of Hyperpolarized Light).

– The Nobel Prize in physiology in 2017 was awarded to Jeffrey C. Hall, Michael Rosbash and Michael W. Young for their discoveries of molecular mechanisms that control the circadian rhythm. BIOPTRON® Hyperpolarized light is medically certified for Seasonal Affective Disorder (SAD), as it regulates the circadian rhythm (see section for SAD).

NOBEL PRIZE WINNERS



WHY HYPERPOLARIZED LIGHT?

THE GLOBAL HEALTH CRISIS: MILLIONS SUFFER, TRILLIONS SPENT!

Every year, millions of people worldwide suffer from injuries and illnesses.

750 million people live in Europe, and 300 million of them are affected by at least one of these conditions:

142.5 million adults in Europe suffer from chronic pain.

100 million people in Europe suffer from muscle and joint pain.

50.8 million people are affected by arthritis or rheumatism.

67 million people experience lower or upper back pain.

4 million people suffer from chronic or acute wounds.

2.4 million people suffer from Seasonal Affective Disorder (SAD).

EVERYDAY LIFE CAN TAKE A TOLL ON OUR BODY DUE TO:

- Accidents and falls
- Fractures and breaks
- Strains and sprains
- Minor cuts or injuries
- Burns and scalds
- Bruises and hematomas
- Inflammation
- Acute and chronic disorders



| Chemical Drugs - Common Side Effects | | |
|---|---|--|
| NSAIDS <ul style="list-style-type: none">• Liver damage• Allergic reactions• Clotting disorders• Potential influence on brain development during pregnancy and infancy• Addiction• Stomach ulcers | Opioids <ul style="list-style-type: none">• Addiction• Stomach ulcers• Clotting disorders• Liver problems• Kidney problems• Changes in bowel habits | Hypertensive Drugs <ul style="list-style-type: none">• Dizziness• Skin rashes• Changes in taste perception• Swelling of the face• Muscle weakness• Changes in bowel habits |

“ CONVENTIONAL APPROACH: CHEMICAL DRUGS WITH SIDE EFFECTS!

Each year, approximately €1.28 trillion is spent globally on pharmaceutical drugs, despite the significant risk of adverse side effects. This approach presents both health risks and economic burdens. (SOURCE: Statista, EFPIA, OECS, Public Health, IQVIA, ESIP)*

HYPERPOLARIZED LIGHT REVOLUTIONIZING HEALING WORLDWIDE

The challenge is to provide a medical treatment with excellent results, no side effects, and cost efficiency: natural prevention and healing without side effects, prolonging lifespan and enhancing quality of life!

Clinically tested and certified as a medical device, BIOPTRON® Hyperpolarized light is proven effective for treating various health conditions. It offers a user-friendly, painless, safe, and economical approach to healing.



Across the world, renowned hospitals, medical institutions, wellness centers, and sports facilities are utilizing BIOPTRON® Hyperpolarized Light in various medical branches such as Pediatrics, Dentistry, Aesthetic medicine and Veterinary care.

BIOPTRON® HPL healing effects:

- Accelerated and painless healing of chronic wounds
- Dilation of blood vessels and improved local circulation, enhancing natural healing processes
- Increased oxygen and nutrient delivery, reducing edema in affected areas
- Enhanced tissue regeneration and cellular repair
- Reduced pain and faster recovery from trauma and injuries
- Effective pain relief for arthritis and neuropathy

Wide range of medical applications

Although Biopton Hyperpolarized Light is a certified medical device for four specific conditions (Pain Management, Wound healing, Dermatological Disorders, and Seasonal Affective Disorder SAD), here are some analogy-based suggestions for other potential applications where it could provide significant benefits:

1. Dermatology and Skin Conditions

Skin Issues Eczema, Dermatitis, Skin Cancer Cells Reversion, Various Skin Injuries Burns, Wound Healing, Acne, Cellulite, Dry Skin, Scalp Regeneration and Hair Loss

2. Pain Management and Inflammation

Carpal Tunnel (in Pregnancy), Pain After Knee Replacement, Neck and Shoulder Pain, Pain Syndromes and Analgesic Acupuncture, Toxic Pain Suppression

3. Diabetes-Related Conditions

Diabetic Gangrene Diabetic Foot Issues
Ulcers

4. Musculoskeletal and Joint Conditions

Tennis Elbow, Acute Ankle Sprains, Musculoskeletal Injuries in Children

5. Respiratory Conditions

Common Flu and SARS-COV-2

6. Rheumatology

Rheumatology-Related Conditions

7. Dentistry and Periodontal Health

Dentistry and Periodontal Diseases

8. Maternal Health

Mastitis
Postnatal depression

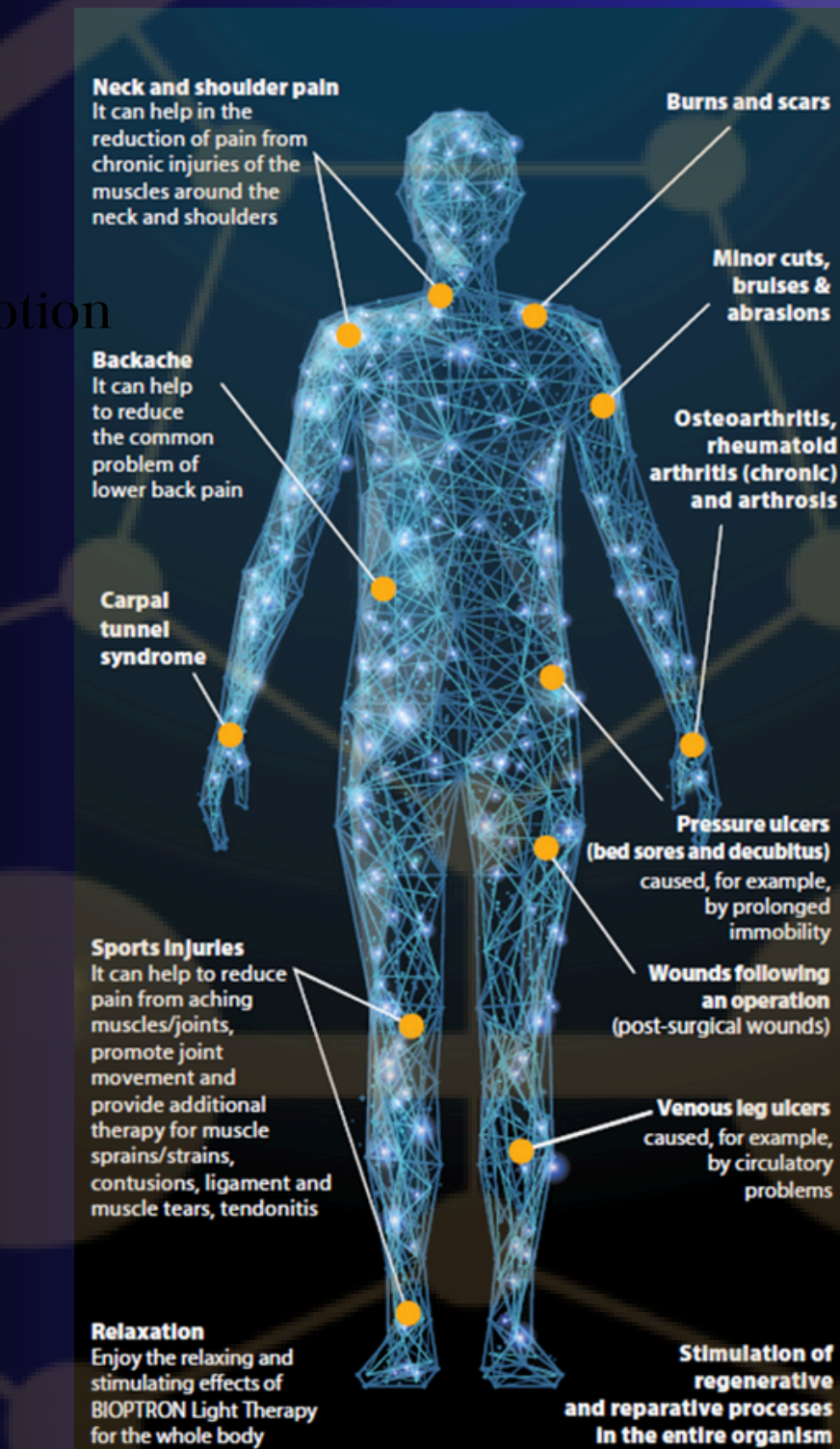
9. Cosmetic and Anti-Aging Treatments

Anti-Aging Cosmetics

FOR OPTIMAL THERAPEUTIC OUTCOMES
THE RECOMMENDED TREATMENT DURATION
IS **4 TO 10 MINUTES**

Once or twice daily!

Promotion



It is recommended to consult a physician or healthcare professional before using BIOPTRON® Hyperpolarized light Therapy to determine whether this treatment is suitable or if an alternative medical intervention may be necessary.



HYPERPOLARIZED LIGHT

BRIDGING MEDICAL THERAPY
AND QUANTUM SCIENCE

HYPERPOLARIZED
LIGHT

How can a single device treat such a wide range of conditions—both locally and systemically?

The answer lies in fundamental principles of quantum physics and biological coherence. Hyperpolarized light operates at the intersection of coherence, cellular crystallinity, energy medicine and quantum biology, explaining its extensive therapeutic applications.

Nobel Prize-winning physicist Erwin Schrödinger (1887–1961) laid the groundwork for modern quantum theory. His famous “Schrödinger wave equation” remains central to molecular and quantum electronics. In his seminal book, *What Is Life? In The Physical Aspect of the Living Cell*, Schrödinger explored a fundamental biological question and concluded that crystalline structures within living tissues are essential to life itself. These structures provide a key biophysical mechanism that explains how Hyperpolarized light delivers both local and systemic therapeutic effects.

Further reinforcing this concept, James D. Watson and Francis Crick’s 1953 discovery of DNA’s double-helix structure—directly inspired by Schrödinger’s work—highlighted the importance of ordered molecular structures in biological systems. Their findings, which earned them the 1962 Nobel Prize, further support the role of structured light therapy in medical treatments.

Herbert Fröhlich, FRS (1905–1991), a distinguished physicist and three-time Nobel Prize nominee, conducted extensive research on the quantum properties of biological structures. His concept of long-range coherence describes how biological systems maintain order and communicate efficiently at the cellular level.

This principle is key to understanding how BIOPTRON® Hyperpolarized Light interacts with the body:

- Long-range coherence enhances intercellular communication, ensuring optimal coordination of biological functions.
- Increased structural order improves cellular energy efficiency, supporting metabolic balance and accelerating healing.

By influencing these quantum mechanisms, HPL promotes systemic healing and accelerates tissue regeneration. Its ability to enhance quantum coherence and energy distribution explains why it is effective for a wide range of medical conditions—including wound healing, pain relief, dermatology, SAD, neurology, and systemic disorders.

Through the synergy of quantum physics and biological coherence,
Hyperpolarized Light enhances cellular communication,
restores metabolic balance, and promotes holistic healing
—all without side effects.



QUANTUM MEDICINE
FOR QUANTUM BODY

LIQUID CRYSTALS: THE KEY TO HYPERPOLARIZED LIGHT HEALING EFFICIENCY

Living tissues contain crystalline structures, but unlike rigid crystals such as diamonds, biological crystals are soft and flexible.

These liquid crystals (Bouligand, 1978) are essential for biological organization, maintaining mechanical support, structural integrity, and cellular communication.

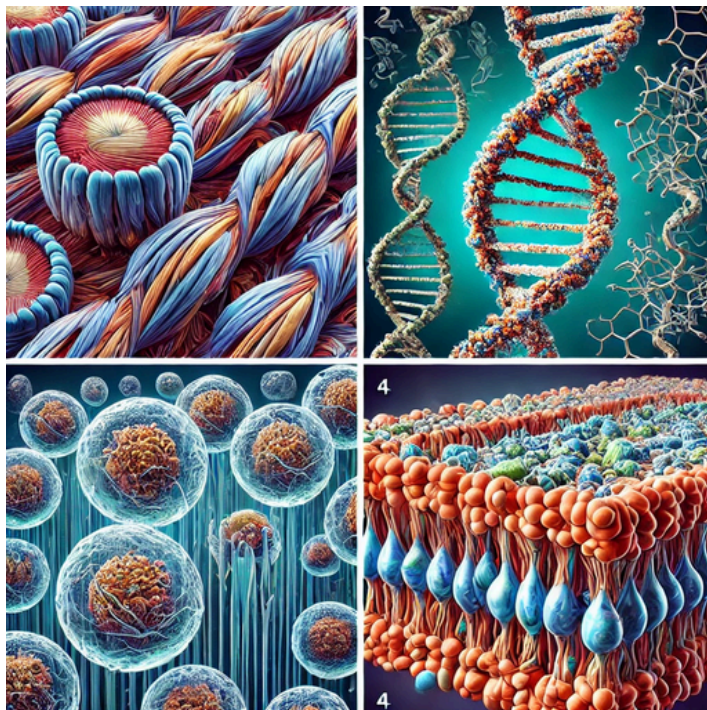
Collagen, which constitutes 30–40% of the body's total protein, plays a key role in connective tissues, bones, and fascia. It provides mechanical stability, strengthens bones by integrating with apatite, and forms actin and myosin crystalline arrays that facilitate movement. Its contractile fibers support tendons and muscles, while in the nervous system, it contributes to connective tissue structures.



HELICAL MOLECULES FORMING LIQUID CRYSTAL STRUCTURES

At the cellular level, liquid crystalline phospholipids regulate cell function, while highly ordered intracellular fibers influence cellular organization. Some researchers, including James L. Oschman (2009), propose that acupuncture meridians may utilize these liquid crystalline structures for bioelectrical signal conduction. Oschman suggested that water molecules aligned by collagen fibers create proton conduction pathways, potentially corresponding to acupuncture meridians.

Similarly, physicist Herbert Fröhlich introduced the concept that liquid crystals within cells vibrate at stable frequencies, preserving cellular integrity and supporting biological function. When these vibrational frequencies are disrupted by disease or metabolic stress, neighboring cells help restore balance. However, if cellular metabolism weakens, synchronization is lost, potentially leading to uncontrolled growth and disease.



The illustration highlights how most molecules in the human body are helical and arranged as liquid crystals: muscle, DNA, connective tissue, and cell membranes.

From an energetic perspective, the crystalline molecular arrays are crucial for organizing vast networks of water molecules. This has profound implications in quantum biology, as structured water is believed to facilitate quantum coherence in cellular communication, enhance biological energy transfer, and support self-organization and healing processes. The ability of biological systems to maintain structural order and optimize energy flow is a key factor in overall health and regeneration.

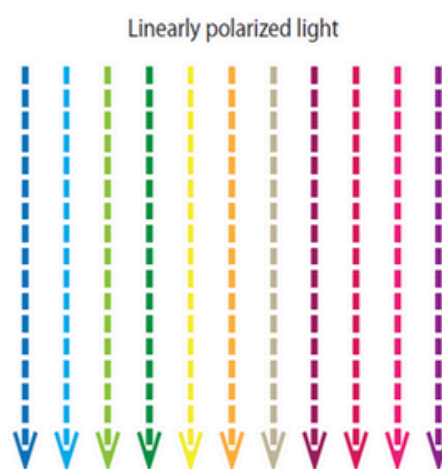


Figure 4.9 Photon organization in linearly polarized visible light (photons of the same wavelength are regularly structured in the plane and give light energy of 1.8-2.6 J/cm² per minute for the application in biological systems). In interaction with charged matter forming dipole moments (water molecule: $\mu_{H_2O} = 6.16 \times 10^{-30}$ cm; 20 water molecules: $\mu_{20H_2O} = 10.4 \times 10^{-30}$ cm; collagen 300 nm long: $\mu_{coll.} = 4.95 \times 10^{-26}$ cm; microtubules 300 nm long: $\mu_{MT.} = 5.42 \times 10^{-25}$ Cm; membrane biomolecules per lipid: $\mu_{memb.} = 4.85 \times 10^{-30}$ Cm, with potential of +275 mV etc.), linearly polarized visible light functions like a "comb", it organizes structures.

Building on these quantum principles, Hyperpolarized light, as a structured light, interacts directly with these biological crystalline structures at resonant frequencies.

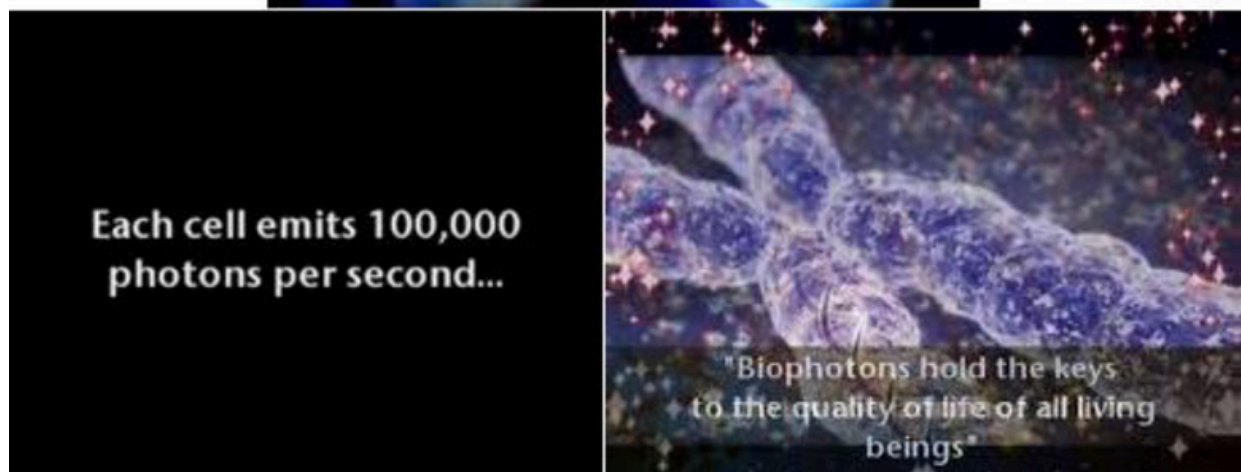
This interaction reinforces their role in maintaining cellular integrity and function. By restoring natural vibrational states, HPL enhances quantum coherence within tissues, aligning with Fröhlich's theory of long-range coherence. Through this process, structured light optimizes cellular communication, promotes tissue regeneration, and supports systemic healing, demonstrating the fundamental link between quantum biology and advanced Quantum Medicine –light based therapies.

The Power of Light: Fueling Life and Cellular Health

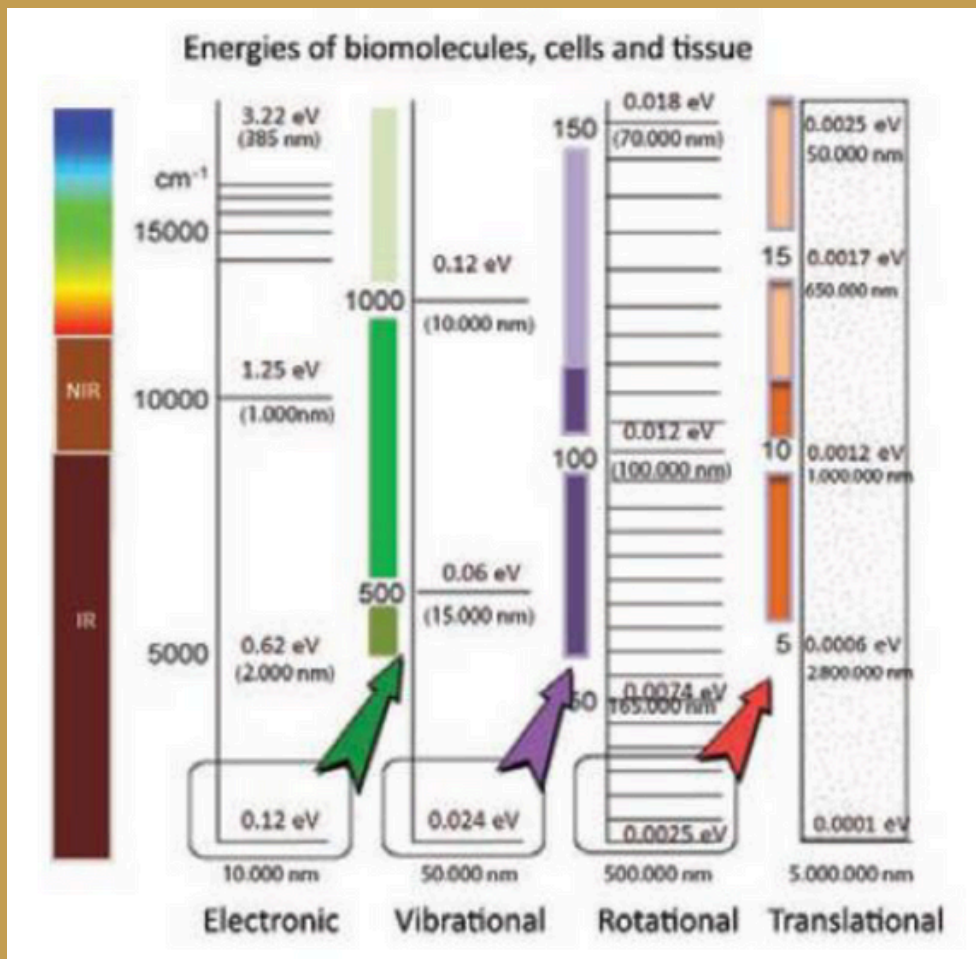
Evolution has shaped humans into light-dependent beings. Sunlight fuels plant-based food through photosynthesis, sustaining the food chain, while light-driven neurological functions regulate thought processes.

At the molecular level, DNA and the nervous system generate and transmit light signals to maintain bodily harmony.

Every human cell emits over 100,000 light photon impulses per second, known as biophotons. These emissions regulate cellular communication, coordinate biochemical reactions, and maintain systemic balance.

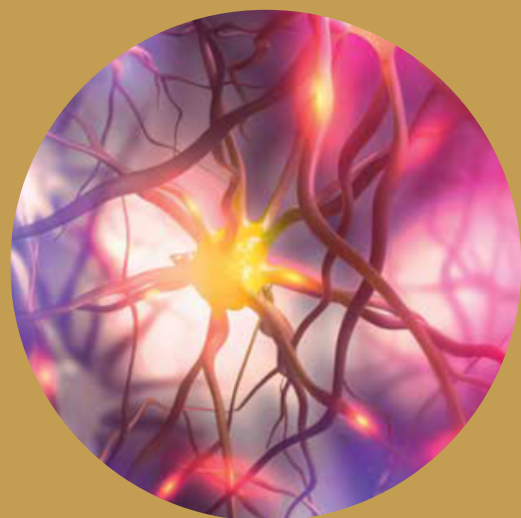


Dr. Fritz-Albert Popp discovered that structured light enhances cellular efficiency, while chaotic, light disrupts communication, signaling disease and immune dysfunction. When cellular metabolism weakens, biophoton signaling becomes disorganized, compromising immunity and overall health. Biophotons play a key role in maintaining the body's electromagnetic field (EMF). When their harmony is disrupted, the EMF weakens, affecting energy balance and overall vitality.



Energies of biomolecules, cells and tissues. Electronic, vibrational, rotational, and translational energy values of biomolecules.

Credit: Djuro Koruga: "Hyperpolarized light", page 163.



Light is life!

The harmonization within the bioenergetic system underscores HPL therapy's potential to facilitate cellular rejuvenation, metabolic optimization, and overall vitality.

The BIOPTRON-VedaPulse experiment, utilizing the VedaPulse Functional Body Analysis system with Kirlian photography, demonstrates that Hyperpolarized Light (HPL) enhances bioenergetic balance by expanding the biofield by 30.5%.

HPL mitigates stagnant energy blockages, optimizes biophoton signaling, and restores energetic deficiencies.

The observed increase in EMF energization correlates with improved organ function in low-energy regions.

HPL exposure facilitates the restoration of bioenergetic homeostasis, suggesting a regulatory effect on cellular and systemic energy networks. These findings support HPL's role in enhancing energy flow, optimizing biophysical signaling, and activating quantum-level self-regulation mechanisms.

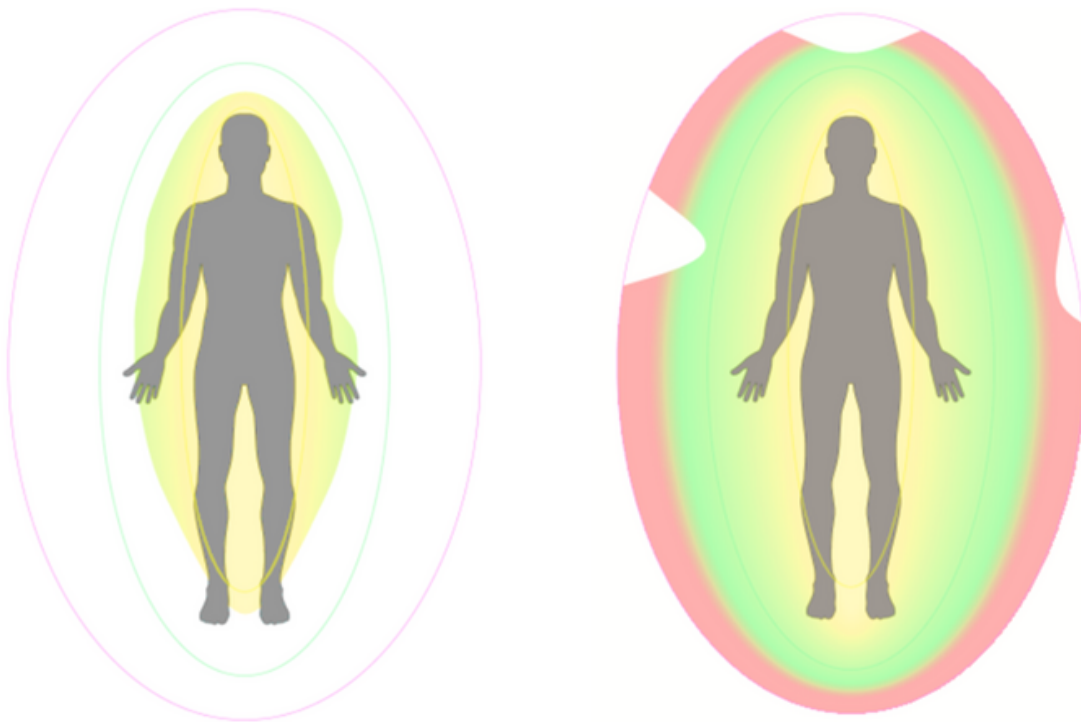


Figure 1: Electromagnetic Field (EMF) Prior to Hyperpolarized Light Exposure – Reduced EMF magnitude suggests energy imbalance at the cellular, tissue, and organ levels.

Figure 2: Electromagnetic Field (EMF) After 10 Minutes of Hyperpolarized Light Exposure – EMF intensity increases by 30.5%, indicating enhanced bioenergetic equilibrium and optimized physiological function.

Experiment by: Dr. Oleg Sorokin, MD, PhD, is a specialist in human physiology and rehabilitation medicine.

Method: Heart Rate Variability (HRV) Analysis Method employed by VedaPulse® is endorsed by the European Society of Cardiology and the North American Society of Pacing and Electrophysiology.



The systemic nature of the effects on EMF suggests that HPL's influence extends beyond localized applications, impacting the entire bioenergetic matrix.

HPL therapy helps restore biophoton harmony, strengthening the EMF and enhancing cellular communication.

As it interacts with the body, it triggers a Domino Effect, transferring energy from photons (polaritons) to electrons within tissues.

This process reinforces biophoton coherence, optimizing energy flow and restoring electromagnetic equilibrium.

By contributing to global physiological balance, HPL therapy presents a promising modality in integrative medicine, reinforcing its potential role in optimizing cardiovascular function, metabolic stability, and systemic homeostasis.



**HYOERPOLARIZED LIGHT
BEYOND LOCALIZED TREATMENT!**

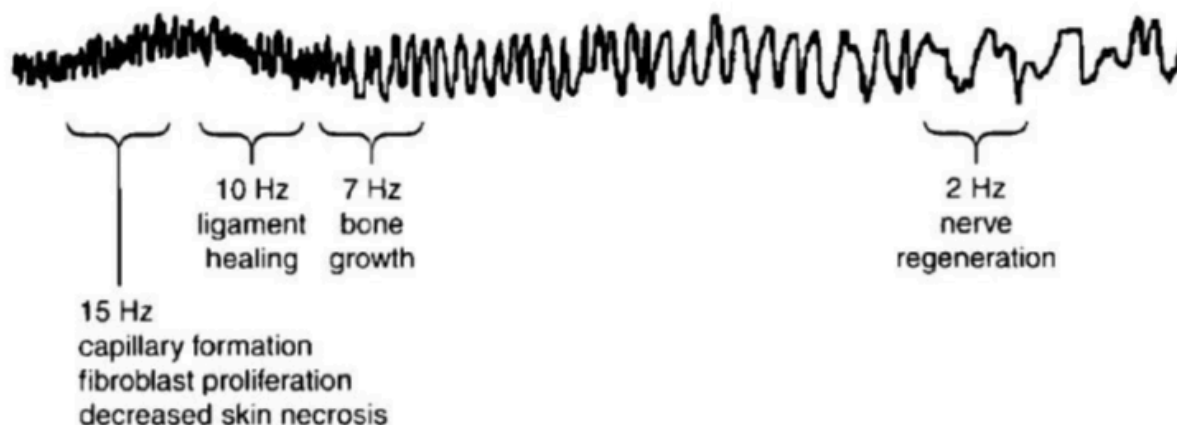
In physics, the term quantum refers to the smallest discrete unit of any physical property, such as energy or matter.

Quantum physics studies the behavior of particles at the atomic and subatomic levels, where classical physics no longer applies. It explains phenomena such as wave-particle duality, superposition, and entanglement, which govern the behavior of matter and energy at these incredibly small scales.

Quantum medicine is a concept that attempts to apply principles of quantum physics to healthcare. Its holistic approach seeks to restore coherence in the body by addressing health at the energetic subatomic level.

Quantum medicine uses quantum phenomena, such as energy fields and vibrations, to influence biological processes and promote healing. In that sense, quantum refers to the smallest unit of energy-information capable of influencing molecules and atoms within the body to support essential biological functions. In that sense, everything in existence has a specific frequency—including cells in the human body, each of which must maintain its ideal vibrational state for optimal health.

However, various stressors and environmental factors can alter these frequencies, disrupting biophoton communication (the body's natural electromagnetic signaling system). Over time, these disruptions can lead to imbalances and disease. Quantum medicine views illness as a disturbance in energy frequencies rather than just a physical condition. Instead of merely suppressing symptoms using synthetic drugs (e.g., for migraines or PMS), Hyperpolarized light works by rebalancing disrupted energy fields (in the organs-tissues-cells). It restores natural cellular frequencies, re-establishes biophoton communication, rejuvenates energy centers (chakras) and vital organs and supports holistic healing at the quantum level. By addressing the root cause of energetic imbalances, Hyperpolarized light therapy promotes long-term health, natural healing, and enhanced well-being.



Molecule C60

structure as the foundation of health

Fullerene C60, is a carbon allotrope and part of the fullerene family (C60, C70, C76, C82, C84). It is composed of 60 carbon atoms arranged in a truncated icosahedron, forming a spherical cage—a characteristic unique to C60 among single-element molecules. Its structure consists of 12 pentagonal and 20 hexagonal faces, designed in a way that prevents pentagons from sharing edges, thereby ensuring structural stability.

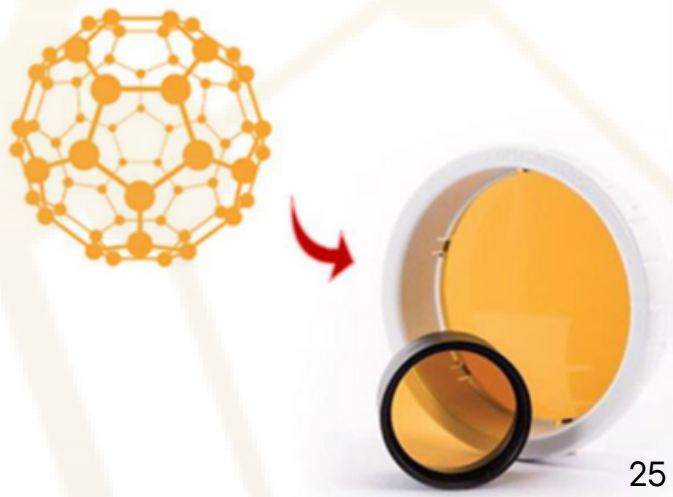
C60 is one of the eight known allotropic forms of carbon, alongside graphite and diamond. Carbon, together with hydrogen, oxygen, nitrogen, phosphorus, and sulfur, is fundamental to biological life, serving as a building block of genes, proteins, lipids, and other biomolecules.

On Earth, C60 can be found in trace amounts in sources such as: meteorites (e.g., in Canada), -Burning candles (as a byproduct of combustion), and activated carbon Shungite, a carbon-rich mineral found in Russia

The discovery of Fullerene C60, which earned the 1996 Nobel Prize in Chemistry, revolutionized nanotechnology and nanomedicine, unlocking new possibilities for health restoration and longevity. This highly symmetrical quantum nanomaterial is widely studied for its powerful antioxidant and antiviral properties, its ability to neutralize free radicals, and its role in reducing oxidative stress—a key factor in aging, inflammation, and chronic diseases.

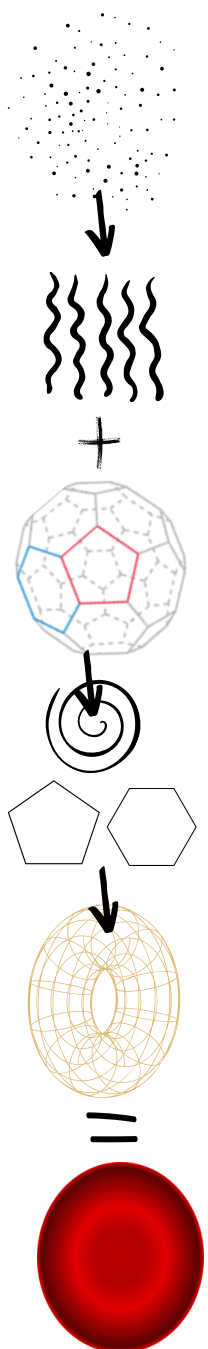
C60 also plays a crucial role in quantum medicine, acting as a carrier of energy-information that influences biological coherence and cellular communication. Its unique molecular structure allows it to enhance mitochondrial function, support tissue regeneration, and cross biological barriers, including the blood-brain barrier, expanding its applications in neuroprotection, immune modulation, and targeted drug delivery.

Inspired by the quantum properties of C60 and the biology of life, Biopton scientists patented the BIOPTRON Nanophotonic Fullerene Optics® (Hyperlight Optics), infused with C60 energy-information, to optimize the therapeutic effects of hyperpolarized light, promoting cellular coherence, accelerated healing, and bioenergetic harmony.



How is the hyperpolarized light generated

BIOPTRON® Hyperpolarized Light is generated through a precise optical transformation process, converting diffuse unstructured light from a halogen bulb, into a highly structured, biologically compatible light:



STEP 1: VERTICALLY LINEARLY POLARIZED LIGHT (VLPL) GENERATION

When diffuse light emitted from the halogen light bulb, interacts with the Brewster's optical unit (multy layers optical system), it undergoes reflection and polarization, emerging as Vertically Linearly Polarized Light (VLPL). This structured VLPL light is the foundation for the subsequent transformation into Hyperpolarized light.

STEP 2: INTERACTION WITH FULLERENE C60 IN BIOPTRON HYPERLIGHT OPTICS® (NANOPHOTONIC FULLERENE C60 FILTER)

The VLPL passes through Nanophotonic Fullerene Optics®, and interacts with fullerene C60 molecules embedded in the optics.

Each C60 molecule consists of 20 hexagons (open structures) and 12 pentagons (closed structures), forming a near-spherical buckyball structure.

· The C60 molecules twist and rotate at an astonishing rate of 18 billion times per second!

STEP 3: THE QUANTUM LIGHT TRANSFORMATION PROCESS

Inside the C60 molecule is the 0-Dimensional Quantum Cavity (vacuum), where the photons undergo a unique transformation:

· **Hexagonal openings allow photons to enter.**

· **Pentagonal facets act as reflective barriers,** causing photons to bounce within the molecule, creating excitons (electron-hole pairs that store and transfer energy).

This process generates polaritons, which emerge as highly structured Hyperpolarized light.

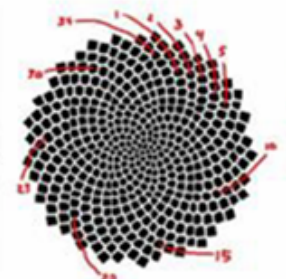
The unprecedented highly ordered Hyperpolarized light is structured according to the Fibonacci Law, aligning it perfectly with human biostructures. These quantum properties of Hyperpolarized light make it an ideal therapeutic tool, seamlessly integrating with biological systems to promote optimal cellular function, regeneration, and healing.

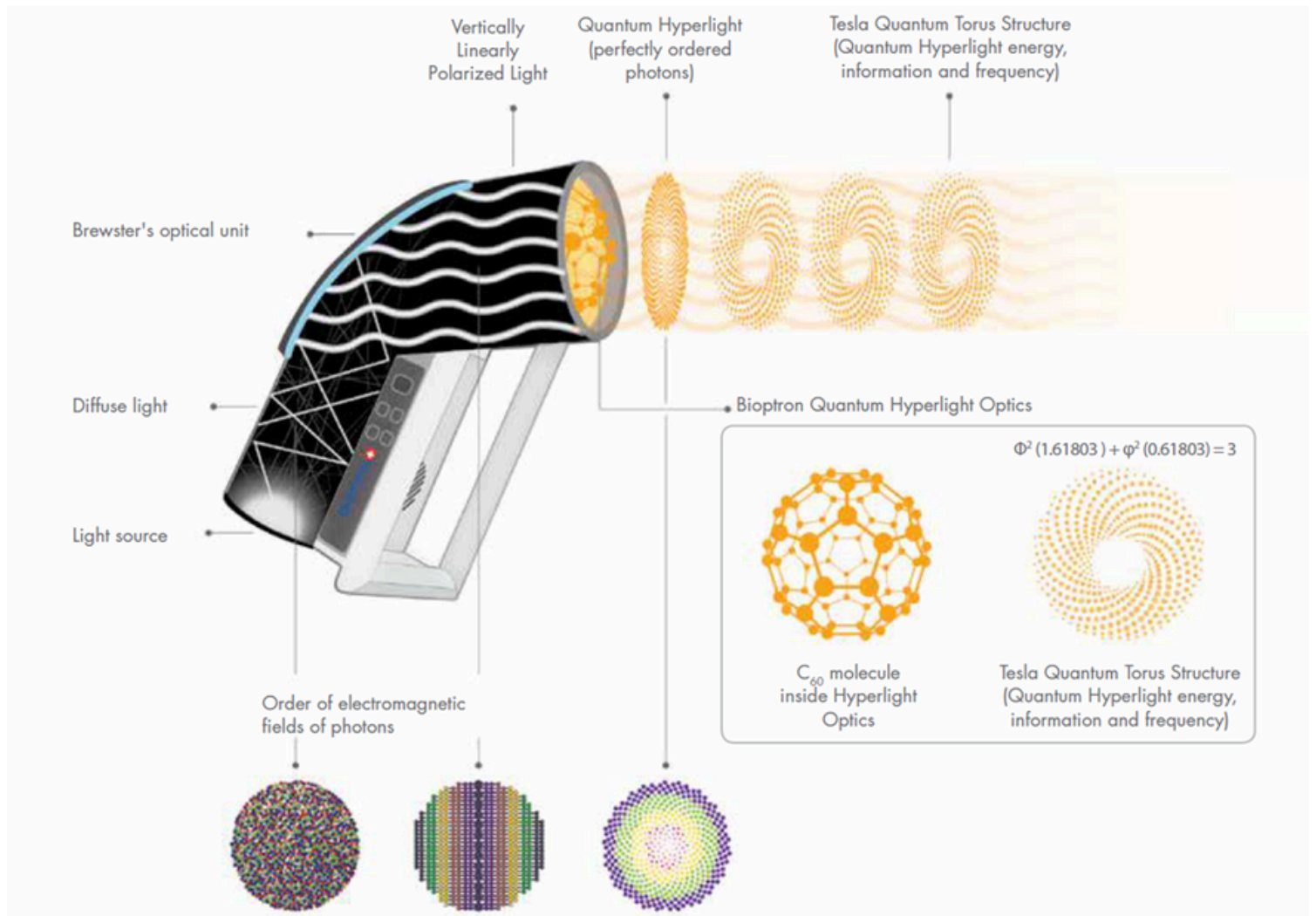
Due to its paramagnetic and diamagnetic properties, C60 molecules interact with VLPL and electromagnetic field in a unique way, allowing photons to be reflected and redirected efficiently without friction, ensuring optimal light transformation:

· *Hexagonal planes induce the Faraday effect, rotating the plane of photon polarization.*

· *Pentagonal planes introduce a Fibonacci-sequential twist, further structuring the light by rotating polarization in all directions. This step-by-step polarization shift transforms VLPL into Hyperpolarized Light.*

HPL is characterized by: Circular left- and right-handed polarization, Linear vertical and horizontal polarization in a "sunflower-seed" photon structure, governed by the Fibonacci sequence. Human healthy biostructures correspond to this quantum structure of Hyperpolarized light.





| | |
|-----------|--|
| <p>a)</p> | <p>Diffuse light is reflected at many angles. It penetrates the body only up to 2 - 3 mm depth with no significant healing effects and does not influence biological structures, cells and organs. This light does not possess an ordered photon structure.</p> |
| <p>b)</p> | <p>BIOPTRON Vertically Linearly Polarized Light (VLPL) with its linearly arranged photons assists in the regulation of processes that are linearly determined (for example, linear order of water in the body through dipole moments, collagen fibers, etc.).</p> |
| <p>c)</p> | <p>Bioptron Hyperpolarized Light (HPL), with its perfectly arranged photons, due to Fibonacci's Law allows the harmonization of most biomolecules and cells in the body.</p> <p>$\Phi^2(1.61803) + \phi^2(0.61803) = 3$</p> |



BIOPTRON[®] medical device features

BIOPTRON medical device harnesses the synergistic power of five distinct light-characteristics, each contributing to its bio-stimulating effects:



Polychromatic Light

BIOPTRON device emits a broad-spectrum light, covering visible and near-infrared wavelengths (350–3400 nm), while excluding UV radiation. The energy range of 1.15–2.90 eV, with a peak at 720 nm (1.70 eV), allows for deep tissue penetration, promoting cellular and biological processes linked to regeneration and repair.



Incoherent Light

Unlike coherent laser light, which maintains phase alignment and can cause localized heat damage, BIOPTRON device emits incoherent light—meaning the light waves change phase randomly across different wavelengths. This ensures uniform and controlled energy distribution, allowing for safe therapeutic application without the risk of tissue damage.



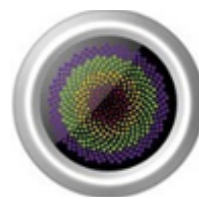
Low Energy Light

The device emits light at a power density of 40 mW/cm², delivering an energy dose of 2.4 J/cm² per minute. This controlled dosage is within established Low-Level Light Therapy (LLLT) parameters, supporting safe and effective treatments while minimizing potential side effects.



Polarized Light

The Brewster's Optical Unit in BIOPTRON device provides 95% polarized light, which enhances tissue penetration compared to non-polarized light. Polarized light has been studied for its potential to stimulate cellular responses, improve microcirculation, and promote wound healing.



Hyperpolarized Light (quantum effects)

Hyperpolarized Light (HPL) is a highly structured and harmonized form of structured light which is compatible with biostructures. HPL carries energy and information from C60 fullerenes, interacting resonantly with biological structures to further enhance healing and regeneration.



STRUCTURED LIGHT MEETS STRUCTURED MATTER

FIBONACCI LAW
OF HARMONY AND BEAUTY

HYPERPOLARIZED
LIGHT

The law of Symmetry & Beauty

HYPERPOLARIZED LIGHT ALIGNED WITH THE FIBONACCI LAW, SUPPORTING THE GOLDEN RATIO

The Fibonacci sequence is a series of numbers in which each term, after the first two, is the sum of the two preceding ones: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144... Formally introduced by Leonardo Fibonacci around 1200 AD, this sequence exhibits unique mathematical properties and is closely linked to the Golden Ratio ($\phi \approx 1.6180339887$). As the sequence progresses, the ratio between consecutive numbers converges to this constant, which governs proportions in geometry, nature, and aesthetics.

The Fibonacci sequence defines the Golden Rectangle, considered one of the most visually harmonious shapes. This geometric principle has been widely applied in art, and architecture, appearing in works like Leonardo da Vinci's Mona Lisa and The Last Supper. Beyond mathematics and art, the sequence is embedded in natural systems, guiding biological growth and structural organization. It governs phyllotaxis, influencing the spiral arrangement of leaves, flower petals, and seed distributions seen in sunflowers, pinecones, and pineapples. In animal morphology, Fibonacci-based spirals shape the growth of sea urchins, starfish, and shells. Even in the cosmos, the spiral arms of galaxies, including the Milky Way, follow logarithmic patterns derived from this sequence.



The human body also reflects Fibonacci proportions in facial symmetry, the arrangement of hands, and cardiovascular branching demonstrating nature's inclination toward efficient and self-organizing structures.

The Fibonacci-based patterns can contribute to structural stability, optimal energy distribution, and regenerative processes. The helical arrangement of collagen fibers and the spiral growth of DNA exhibit logarithmic patterns that support cellular integrity, wound healing, and biological efficiency, indirectly influencing health and regeneration.

Hyperpolarized Light= biostructures

Approximately 85% of the human body follows the same type of symmetry observed in Hyperpolarized Light (HPL):

structurally, the body is composed of about 60–65% water, 15–18% proteins, 5–10% lipids, 5% minerals and carbohydrates, and 2% nucleic acids and other elements. Biomolecular structures within this composition exhibit inherent symmetry:

- Water molecules form structured hydrogen-bonded networks.
- Proteins like collagen and microtubules follow hexagonal or helical arrangements.
- Lipid bilayers create ordered, thermodynamically stable cell membranes.
- Biological energy systems align with these symmetry-driven principles.
- Gibbs free energy and negative ion interactions contribute to the body's self-organizing tendencies.
- Electromagnetic fields (EMF) and biophoton emissions follow structured patterns, suggesting an underlying regulation of symmetry at the molecular and cellular levels.



The image, inspired by the stunning art of David Goodsell, this 3D rendering of a eukaryotic cell is modeled using X-ray, nuclear magnetic resonance (NMR), and cryo-electron microscopy datasets for all of its molecular actors.

Bouligand, Y., 1978. Liquid crystals and their analogs in biological systems. In: Liebert, L. (Ed.), Liquid Crystals. In: Solid State Physics, 14. pp. 259–294 (supplement). ii Ho, M.-W., Knight, D.P., 1998.

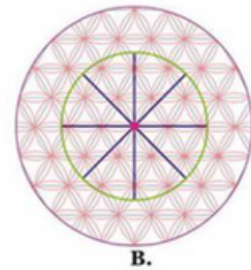
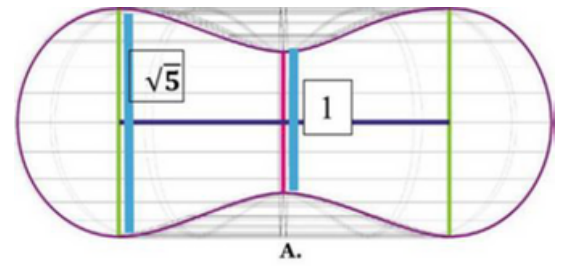
The acupuncture system and the liquid crystalline collagen fibers of the connective tissues. Am. J. Chin. Med. 26 (3–4), 1–13. Evan Ingersoll and Gael McGill, Digizyme's Cell Signaling Technology (CST).

Hyperpolarized Light shown in the form of a 3D torus, where the layout is of photons (Φ^2 (1.61803) + φ^2 (0.61803) = 3). It is therefore implicit to compare it with symmetry torus of erythrocytes that must maintain the biconcave discoid shape of the torus in order to functioned efficiently and performed an important physiological role in the body.

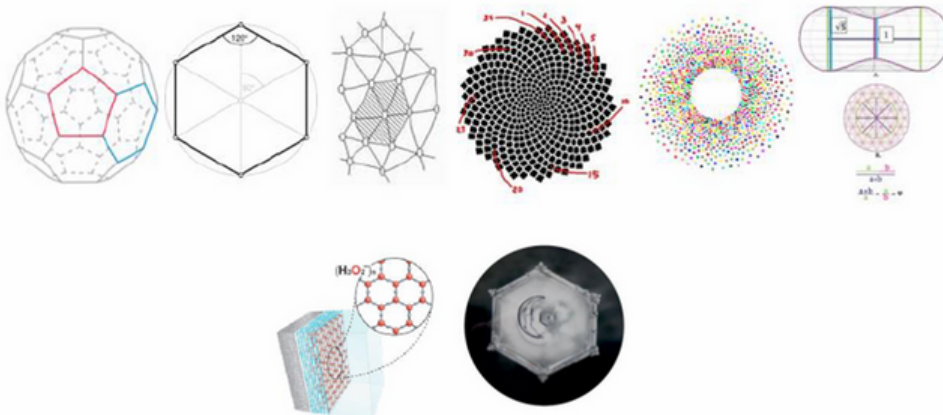
Erythrocytes can be viewed as a cell driven by a toroidal dielectrophoretic (DEP) electromagnetic field (EMF) which maintains its zeta potential through the dielectric constant (chloride anion) located between the negatively charged surface of the membrane and the positive charged Stern layer. There are ferromagnetic (iron) and ferroelectric (chloride anion) influences that may be crucial for maintaining this zeta potential. We assume that inside this uniquely shaped cell is the golden section containing DEP EMF - can be zeta potential driven/driven and can be critical for efficient carbon dioxide recycling and oxygen delivery.

- "The Influence of the Golden Ratio on the Erythrocyte, Marcy C. Purnell and Risa D. Ramsey"

When examining the size, shape, proportions and curvature of the erythrocytes, it is observed the Golden ratio. The average diameter of a human red blood cell is 6.2–8.2 μm at its thickest point size 2–2.5 μm ($\sqrt{5}$) and the minimum thickness in the center of the toroid measures 0.8–1 μm . divided by 2 for two equal and opposite sides of the proportion to arrive at 1.6803339887 golden ratio of red blood cells.



$$\frac{a}{a+b} = \frac{b}{a} = \varphi$$



Interplay of Torus, Hexagons, and Fibonacci Spirals in C60, Hyperpolarized Light, and body structurers (Erythrocytes and water molecule).

HYPERPOLARIZED LIGHT QUANTUM MEDICINE FOR THE QUANTUM BODY

C60 and its derivatives possess a unique molecular architecture that corresponds to the conformational states of human biostructures.

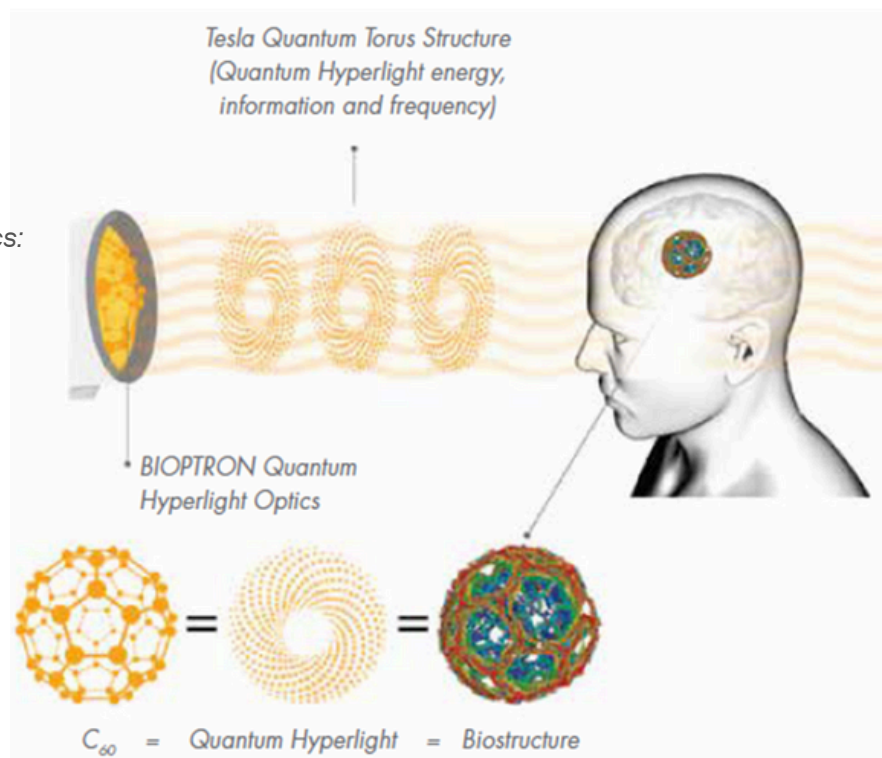
Due to the aging processes or diseases, the biostructures are unstable within the space-time fabric (lacking the ideal symmetry and consistency). In contrast, C60 is a constant perfect entity, superior energy-informational structure, thereby ultimate bio-resonator.

The ``HPL Light – Matter`` interaction happens through Resonance.

Resonance occurs when two entities share similar energy-information-frequency; entity A (the superior C60 – HPL structure) overrides entity B (the inferior biostructure). As a result, the vibrations in entity B become stronger. This process happens at the quantum level.

C60 (HPL)
QUANTUM characteristics:

- Constantly perfect structure
- Superior energy-information structure
- The ultimate bio-resonator

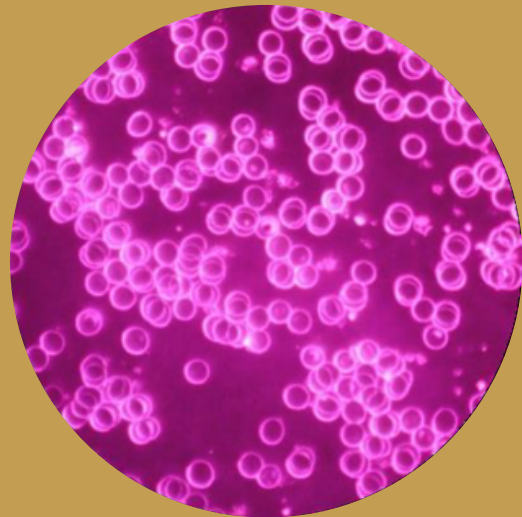
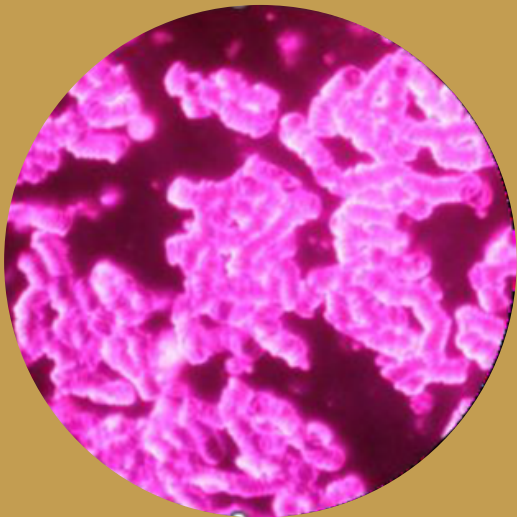


When two entities possess the same type of symmetry, the more stable entity (C60 - HPL) prevails, imposing its quantum properties onto the disturbed entity (biostructure), restoring it back to an optimal state of harmony.

HYPERPOLARIZED LIGHT EFFECTS ON ERYTHROCYTES (RED BLOOD CELLS- RBC)

Experiments using Darkfield Microscopy (DFM) have revealed the significant effects of Hyperpolarized Light (HPL) on the erythrocytes:

- Energizing: enhances RBC activity and dynamism.
- Morphology Improvements: significant structural and functional changes.
- Flexibility and Oxygen Capacity: boosts RBC flexibility and oxygen-carrying efficiency.
- Bio-Stimulation: optimizes RBC function for better circulation and tissue oxygenation.
- Systemic Effects: Benefits extend beyond localized areas to overall cardiovascular health.
- Enhanced Circulation: facilitates efficient oxygen and nutrient delivery throughout the body, and supporting overall well-being.



RBC EXPERIMENT

Analyzed Parameters: Morphology, hemodynamics, mobility, oxygenation.

13 healthy participants.

Blood samples were collected 3x daily:

Morning: Fasting (water only) before the 1st blood draw,

Post-Breakfast: Three-hour fasting before the 2nd blood draw,

Post-Lunch: Three-hour fasting before the 3rd blood draw,

Apparatus: OMAX 40X-2500X, 18MP USB3

Plan Infinity Darkfield Trinocular

LED Lab Compound Microscope



Picture 1) Pre-HPL Exposure State:

Before exposure to Hyperpolarized Light red blood cells appear clotted, unordered, and inactive, forming clustered structures (rouleaux formations), impairing blood flow and increasing the risks of inflammation, hypoxia, and cardiovascular diseases, inflammation and oxidative stress, oxygen deficiency (hypoxia) at the tissue level, reducing cellular function and vitality, potentially leading to systemic inefficiencies and an increased risk of hypertension, stroke, thrombosis, and metabolic dysfunction.

Picture 2) After 10 minutes of HPL Exposure:

Erythrocytes separated into biconcave forms (the same shape as HPL); improved morphology and mobility. The previously clustered red blood cells fully separate, adopting a highly structured and energetically revitalized form. This change demonstrates: microtubule restructuring, aligning with the Golden Ratio for biological harmony, restoration of optimal blood flow for efficient circulation, enhanced oxygenation, improving nutrient transport and cellular metabolism, anti-coagulating effects, reducing the risk of blood clots, thrombosis, and cardiovascular complications.

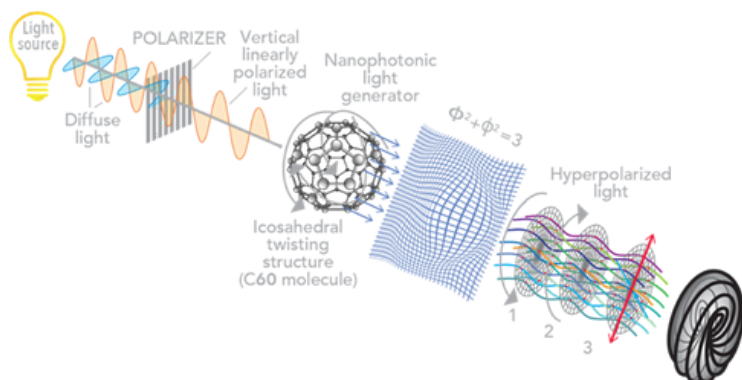
HPL demonstrates significant improvements in blood flow, oxygenation, and cellular morphology, harmonizing biomolecules at the quantum level. This study underscores its potential as a non-invasive therapeutic modality for promoting effective regeneration at the quantum scale:

Blood flow and oxygenation enhanced up to 100%

69.23% Showed 100% improvement immediately

46.15% Maintained improvement after 3 hours

23.08% Retained optimal conditions after 6 hours



The structure of polariton (arrangement of photons) and the structure of biomolecules (shape, proportions, and curvature) correspond to the symmetry of the golden section. The average diameter of a human red blood cell is 6.2–8.2 μm . The thickest point measures 2–2.5 μm ($\sqrt{5}$) and the minimum thickness in the center of the toroid measures 0.8–1 μm divided by 2 / two equal and opposite sides - proportions to arrive at 1.6803339887 The golden ratio of erythrocytes.

HYPERPOLARIZED LIGHT EFFECTS ON WATER

DR. EMOTO INSTITUTE EXPERIMENT

Since 1994, the Dr. Masaru Emoto Institute has provided evidence that various frequencies (energy-information), i.e. sound or light can alter the water-structure, by forming either coherent or incoherent water-crystals (molecules). Coherent crystals are hexagonally shaped, well-structured, symmetrical, and organized, indicating harmony and stability in the water's molecular arrangement.

In contrast, incoherent crystals are irregular, fragmented, and disordered, reflecting an unstable or chaotic states.

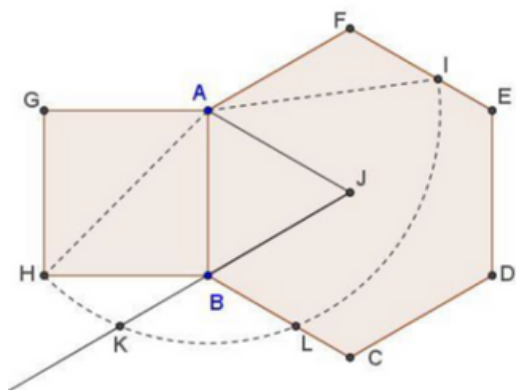


Dr. Mu Shik Jhon, a prominent researcher in water science, stated, "An important key to health is the amount of hexagonally-structured water we have in our bodies."

DR. EMOTO INSTITUTE IN JAPAN UNVEILS HPL'S ROLE IN RESTORING WATER TO ITS OPTIMAL HEXAGONAL STRUCTURE

The BIOPTRON-Emoto experiment demonstrated that when a spring water sample is exposed to Hyperpolarized Light (HPL) for 10 minutes, the initially incoherent water molecules undergo reorganization into a coherent hexagonal structure.

This transformation represents an optimized state of molecular coherence, aligning with the structural properties of HPL and its energy-informational properties - the symmetry and structure according to The Golden Section, Fibonacci Law).



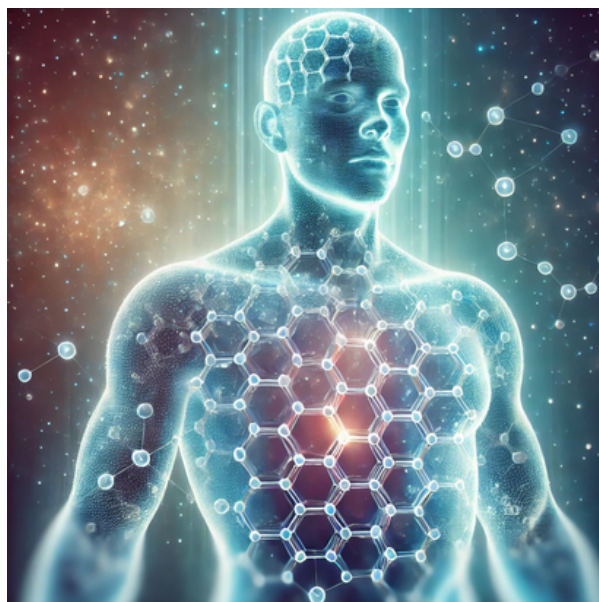
The golden section in the geometric form of a hexagon.

(Tran Quang Hung Square ABHG is constructed outside the hexagon ABCDEF.

Circle (A, CH) with center at A and radius AH cuts EF at I in Golden Ratio

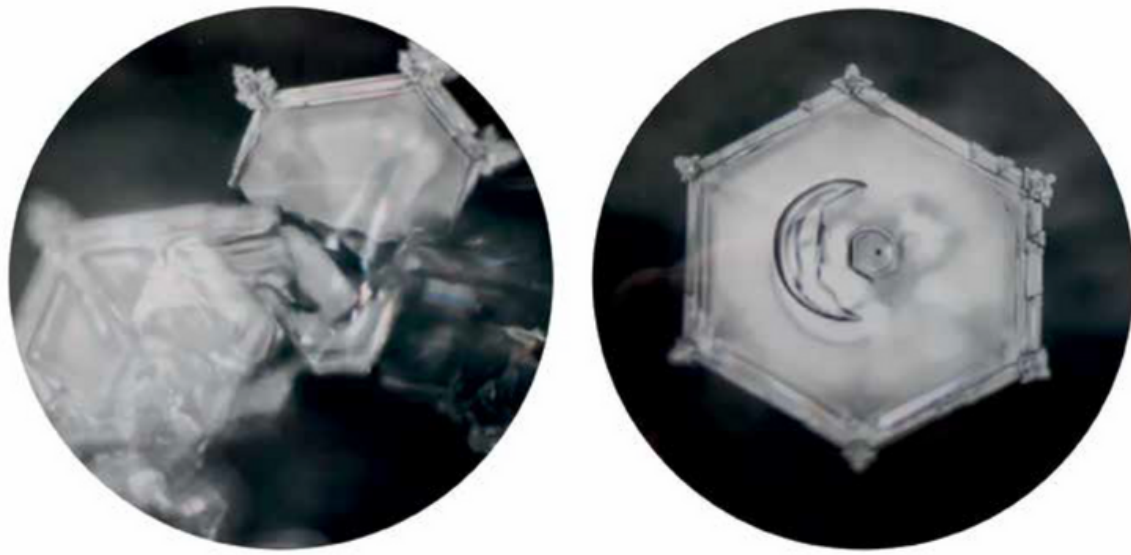
Analogously, HPL can have the potential to restore body-water to its most biologically optimized state.

According to scientific insights "hexagonal water" (Structured, EZ Water) is preferred by all biological organisms possibly enhancing cellular function, physiological stability, self-regulation, efficient DNA function, enzymatic reactions, and numerous metabolic processes), supporting homeostasis and overall well-being.



(Ref.: Dr. Brill G.E., Dr. Mu Shik Jhon, Dr. G. Pollack, Dr. Yang Oh, and Gil H





Dr. Masaru Emoto Institute Japan, Scientific Observation Report

Method: 10 minutes of HPL exposure at a distance of 8 cm

Number of ice drops analyzed: 50

Microscopy: Olympus optical microscope (200x magnification)

Conditions: Freezing temperature: -25°C , Freezing time: 4 hours, Observation temperature: -3°C

Location & Date: Dr. Masaru Emoto Institute, Japan, March 2018

Photo a), before exposure to HPL

the water molecule exhibits an irregular and incoherent molecular arrangement. This disordered structure lacks symmetry and is not aligned with the organized, hexagonal configuration characteristic of healthy body water.

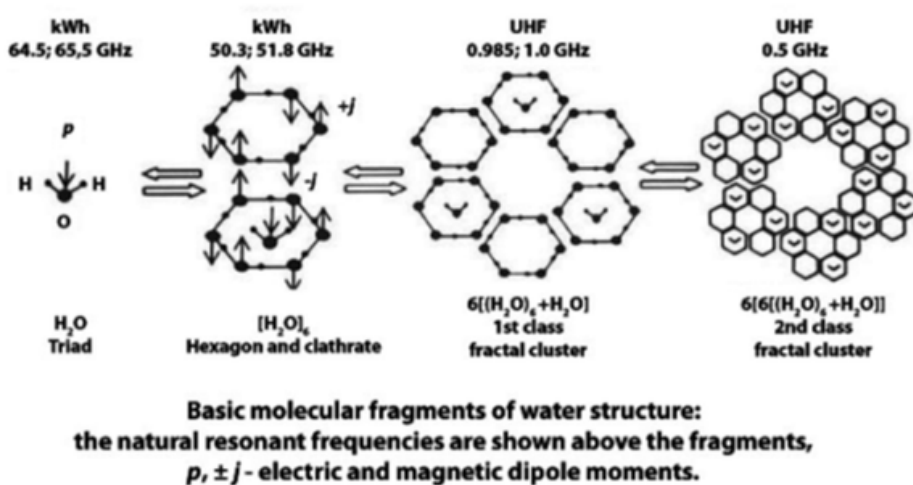
Photo b), after exposure to HPL

the water molecule reorganizes into a hexagonal crystalline structure, representing the highest state of molecular coherence.

This hexagonal arrangement mirrors the structure of water found in the healthy human body's extracellular matrix, intracellular fluids, and surrounding cellular membranes. Such a configuration is critical for facilitating efficient hydration, ion transport, and energy transfer at the cellular level.

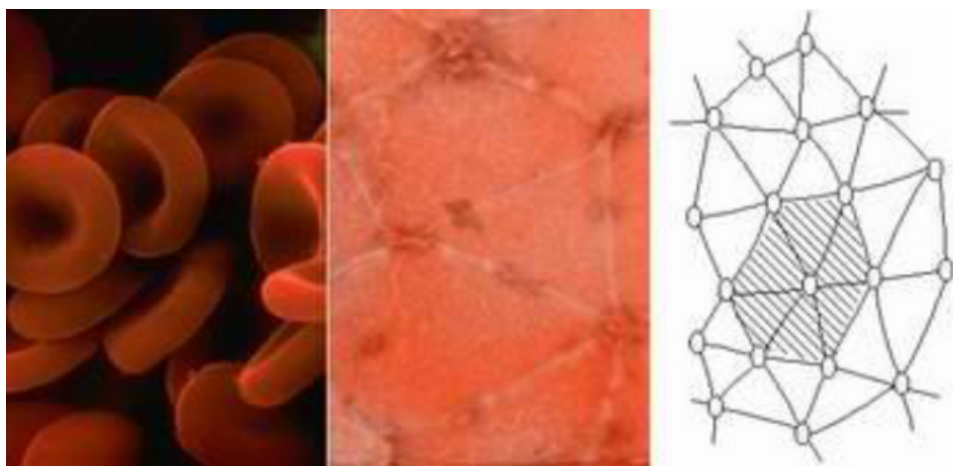


In the context of hexagonal body water, the majority of water within the healthy human body exists in structured, hexagonal arrangements around proteins, DNA, and cellular membranes. This organization is not coincidental but essential for life



The hexagonal structure of body water mirrors the geometric arrangement of the RBC membrane skeleton, forming a synergistic relationship that enhances biological functionality.

This connection underscores how hexagonal geometry in both water and proteins underpins the principles of structural stability, energy efficiency, and adaptability in biological systems. Together, the hexagonal water in the body and the protein hexagons in the RBC membrane create a cohesive system that supports cellular function, flexibility, and optimal physiological performance.



The STORM super-resolution microscopy technique reveals the hexagonal protein network structure that underlies the red blood cell membrane and is key to its flexibility. (Ke Xu, UC Berkeley, Sub-Membrane Mesh Key to Red Blood Cell Flexibility UNIVERSITY OF CALIFORNIA – BERKELEY).



HYPERPOLARIZED LIGHT AS MEDICAL DEVICE

**PAIN MANAGEMENT
WOUND HEALING
DERMATOLOGICAL DISORDERS
SEASONAL AFFECTIVE DISORDER
&
AESTHETIC MEDICINE**



**HYPERPOLARIZED
LIGHT**

Biopton® Hyperpolarized Light for Pain Relief

Hyperpolarized light significantly reduces pain sensation, Ref.7.1–7.22Ref. 7.1 - 7.22, swelling, and hematomas while also alleviating inflammation caused by injuries, degenerative diseases, or autoimmune conditions. It enhances microcirculation, reduces muscle spasms, and activates the body's natural pain-relief mechanisms.

In the field of pain management, HPL can be used either as a monotherapy or as a complementary therapy in the following cases:

- Rheumatology: Osteoarthritis, chronic rheumatoid arthritis, and arthrosis
- Physiotherapy: Lower back pain, shoulder and neck pain, carpal tunnel syndrome, scar tissue, and injuries affecting the locomotor system
- Sports Medicine: Injuries to soft tissues, muscles, tendons, and ligaments, including: Muscle cramps, sprains, and strains, Bruises, tendon inflammation, ligament and muscle tears, Tennis elbow.



Hyperpolarized light plays a crucial role in optimizing muscle metabolism, accelerating tissue regeneration in athletes, and promoting faster recovery from sports injuries, thereby reducing downtime Ref.5.1–5.8Ref. 5.1 - 5.8Ref.5.1–5.8

HPL is particularly effective for:

Muscle spasms, sprains, strains, and tendonitis

Ligament and muscle tears, contusions, and tennis/golfer's elbow

Shoulder rotator cuff strain, calf and hamstring injuries

Back pain, swelling, muscle knots, and neck pain

Pre- and post-training stiffness

Plantar fasciitis and related musculoskeletal conditions

Biopton® Hyperpolarized Light for wound healing

Less hypertrophic scarring and superficial second-degree burns can be treated with conventional local medical treatments in combination with Hyperpolarized light treatment.

Several studies have shown that the routine use of Hyperpolarized light for the treatment of these burns can significantly reduce the time necessary for complete epithelialization (regeneration of the skin) of the damaged skin (complete healing), reducing the risk of scar formation that is functionally and aesthetically unacceptable. Further, HPL can reduce the need for surgery in the treatment of deep dermal burns, particularly those located in the areas where the likelihood of scar formation after surgery is extremely high.

HPL is a highly valuable choice of treatment in avoiding surgery in patients with deep dermal burns:

- No operation risks
- Less pain
- No skin grafts needed

These wounds often require the surgical removal of dead tissue and transplantation of the skin (skin grafting).



Start therapy After 15 days After 19 days After 29 days After 9 months

Monstrey et al (2002b)



ULCERA PEDIS: Diabetes mellitus healing [A1] was achieved after nine months with BIOPTRON® exposure.

Clinical studies indicate that BIOPTRON® Hyperpolarized light accelerates wound and burn healing by up to 2X, significantly reducing pain, discomfort, and scarring Ref.3.1–3.16Ref. 3.1 - 3.16. It is also beneficial as a complementary therapy for:

- Post-surgical wounds and burns
- Skin grafts and transplant healing
- Venous ulcers (stasis ulcers) and leg ulcers
- Diabetic foot ulcers and decubitus (pressure) sores

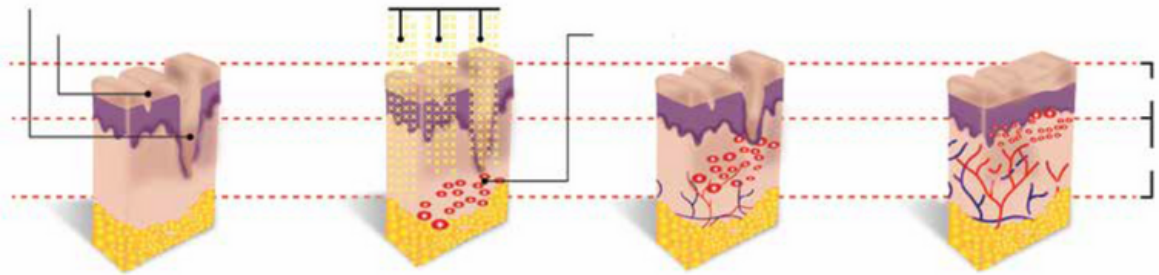


The primary mechanism behind HPL's ability to heal wounds with minimal scarring lies in its effect on collagen synthesis and alignment. At the quantum level, it rapidly stimulates the basal membrane, ensuring the orthogonal arrangement of collagen types I, III, and VII, which prevents and minimizes scar formation

Biopton® Hyperpolarized Light in dermatology

- skin diseases

BIOPTRON® Hyperpolarized light has been shown to significantly aid in the treatment and healing of various skin diseases. It has therapeutic applications for conditions such as: atopic dermatitis, herpes simplex and herpes zoster, psoriasis and eczema, rosacea and mucosal injuries, acne and surface bacterial infections.



HPL stimulates tissue self-repair mechanisms and prevents tissue degradation, even in deeper structures such as nerves, tendons, cartilage, and bones.

It facilitates skin regeneration through several key biological processes:

- Regulates cellular proliferation for balanced skin renewal
- Enhances cellular energy metabolism, improving skin vitality
- Triggers the release of growth factors, accelerating healing
- Enhances neovascularization and promotes angiogenesis for improved microcirculation
- Accelerates wound healing by increasing RNA and protein synthesis, particularly stimulating collagen and elastin production



Ref.4.1-4.5Ref. 4.1 - 4.5

Bioptron® Hyperpolarized Light for seasonal affective disorder (SAD)

1. Impact of Light Deprivation on Psychological Health

Skin-sensory and optic-sensory stimulation are crucial for maintaining a stable circadian rhythm. Light deprivation disrupts this balance, increasing the risk of serious psychological disorders, including depression.

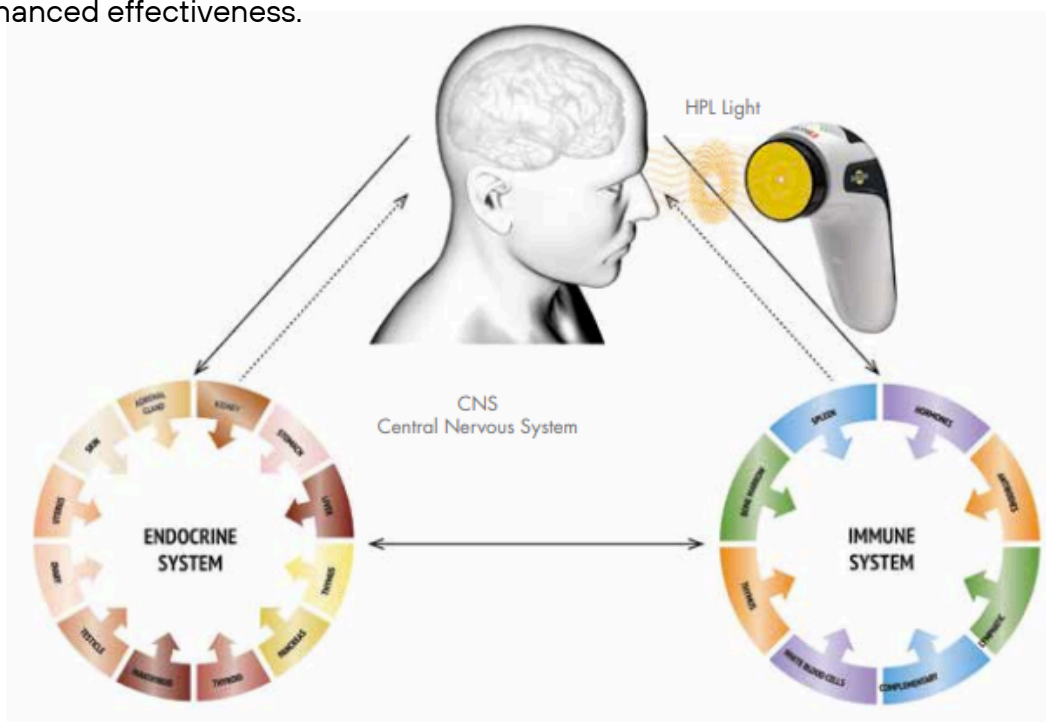
2. Hyperpolarized Light for Seasonal Depression

Hyperpolarized Light is a medically approved therapy and is particularly effective for the treatment of seasonal depression.

3. Treatment Flexibility

This system can be used:

As a monotherapy (standalone treatment) In combination with other medical treatments for enhanced effectiveness.



HYPERPOLARIZED LIGHT has sensory and neural effects that can reduce the symptoms of seasonal affective disorder (SAD) and nonseasonal depression: it has an intensity of more than 10,000 Lux. Conventional light therapy devices provide a light intensity of 10,000 light units (called Lux). A daily treatment of about 30 minutes is considered effective. The light intensity in all BIOPTRON® products (BIOPTRON® MedAll, BIOPTRON® Pro 1 and BIOPTRON® 2) exceeds 10,000 Lux. As a point of comparison, the luminance of standard room light is approximately 500 Lux; a cloudy day equals up to 5,000 Lux and mid-day summer sunlight reaches at least 50,000 Lux.

Effects of Hyperpolarized Light on EEG, Neuroendocrine System, and Mental Health

Clinical Research Box

1. EEG Changes and Depression Treatment

Scientific studies have shown that exposure to Hyperpolarized Light causes changes in EEG signals, which can be beneficial in alleviating depression or aiding its treatment.

2. Exposure Guidelines

The recommended exposure times and distances for Hyperpolarized Light therapy are:

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

3. BIOPTRON® Pilot Study on Neuroendocrine Effects

A BIOPTRON® pilot study explored the effects of High-Level Polarized Light (HLPL) in the visible and infrared spectrum. Researchers examined its impact through the neuroendocrine-immune system on:

- General blood parameters (red and white blood cells, hemoglobin, potassium, sodium, etc.)
- Insomnia and depression
- Heart rhythm and blood pressure
- Other physiological and psychological parameters

4. Study Methodology

Participants were exposed to BIOPTRON® Hyperpolarized Light in ten-minute sessions (3 times per week), targeting the face with open eyes at a 40 cm distance.

5. Key Findings

The study results showed:

- Significant reduction in anxiety, even in subjects within the normal range.
- Decreased somatization of anxiety disorder, including improvements in cardiovascular, respiratory, and digestive symptoms.
- Better sleep quality, as evidenced by higher melatonin levels.
- Increased serotonin and dopamine levels (neurotransmitters linked to mood regulation).
- Decreased stress hormone levels.

6. Benefits for Sleep Improvement

Hyperpolarized Light exposure positively influences melatonin production, making it beneficial for sleep.

Biopton® Hyperpolarized Light in Pediatrics

1. Suitability for Newborns

BIOPTRON® Hyperpolarized Light is also safe for newborns and can be used to support healing in cases such as:

Venous infections (after injections, blood collections, or infusions)

Pressure sores in movement-impaired babies

Skin conditions (rash caused by moist heat, diaper rash)

2. Complementary Therapy for Children

Hyperpolarized Light can be used to reduce pain and promote healing in various pediatric conditions, including:

Dermatological issues (pediatric dermal affections, endogenous eczema, skin diseases)

Respiratory conditions (upper respiratory tract infections, allergic respiratory diseases)

Musculoskeletal disorders

Neurological disorders and deficits

Yeast infections, phlebitis, decubitus, and intertrigo

⚠ **Precaution**

Treatment of the eye area should be avoided, and blindfolds are provided for children undergoing light therapy.

3. Clinical Research Findings

Clinical studies conducted on newborns in intensive care units (ICUs), including those on life support systems, demonstrated that exposure to BIOPTRON® Hyperpolarized Light for ten minutes, three to four times daily resulted in:

Improved treatment responses without negative side effects

Pain relief within 24 hours

Reduction of skin problems within 2-3 days

Best results observed in the treatment of venous infections



[Ref. 10.1 - 10.4]

Biopton® Hyperpolarized Light in Aesthetic Medicine

The Hyperpolarized Light spectrum promotes a series of soothing processes in the skin:

- The 900 nm promotes peripheral vasodilatation, improving deep skin circulation.
- The 830 nm provides protein delivery to mastocytes, which are associated with tissue repair.
- The 660 nm stimulates collagen production and thus contributes to tighter, firmer skin and reduces traces of ageing . The 633 - 640 nm stimulates the production of adenosine triphosphate (ATP, the molecule that transfers energy to cells).
- The increase in cell activity stimulates skin repair along with the regeneration processes and combats the appearance of fine wrinkles.
- The 590 nm stimulate the formation of new blood vessels, helping the skin maintain its moisture and retain its elasticity. 525 nm eliminates melanosomes (skin cells that contain melanin).



The Quantum Hyperlight wavelengths of more than 400 nm penetrate into the layers of the dermis and epidermis by interacting with lymphocytes, strengthening the immune system as well as skin repair processes. Regeneration and tensioning the skin for a visibly younger appearance.

Biopton® Hyperpolarized Light in Veterinary Medicine

1. Effective Therapy for Animals

Similar to its medical effects on humans, BIOPTRON® Hyperpolarized Light is also a recommended and successfully used therapy in veterinary medicine, both for professional and home animal care.

This non-invasive, easy, and effective therapy promotes fast and effective healing for a range of common animal health conditions, including:

Wound healing (various origins), Skin disorders (trichophytia, alopecia, bacterial and allergic dermatitis, demodicosis), Pain relief (arthritis, cramping syndrome), Inflammatory conditions (otitis externa, mastitis, etc.)

2. Clinical Research Findings

A BIOPTRON® Hyperpolarized Light study on cow mastitis treatment demonstrated positive effects within 24 hours after the first exposure:

Subclinical mastitis results:

40% leukocyte reduction

43% somatic cell reduction in milk (compared to baseline)

Clinical mastitis results:

No inflammation symptoms, pain, or redness, No need for additional exposure, No need for classical antimicrobial drugs.

💡 Note

Promising veterinary results suggest potential solutions for successful mastitis treatment in human medicine.



Under the influence of Hyperpolarized Light, cell disorders can be restored to their natural state, helping the animal's body regain its energetic equilibrium.

[Ref. 11.7]



Case Study: Wound Healing in a Horse

The images document a two-year-old horse with a one-day-old wound at the start of treatment. The treatment lasted seven weeks, showing comprehensive healing results. The biological effects observed in animals are identical to those in humans.

[Ref. 11.1 - 11.6]



Biopton® medical device models

There are three models of the BIOPTRON® device, all of which share the same physical characteristics of light and provide identical medical benefits. The only differences are in design, treatment area, and size.

1. BIOPTRON® 2 – For Medical Professionals

- ✓ Designed for use in medical facilities
- ✓ Available with three stand options: home, professional, and wall-mounted
- ✓ Comfortable positioning for both patients and medical staff
- ✓ Control panel allows treatment sessions up to 95 minutes, in 1-minute increments
- ✓ Large filter diameter (15 cm) enables treatment of larger areas
- ✓ Time-efficient therapy with maximum comfort and ease of use

2. BIOPTRON® Pro 1 – For Home & Professional Use

- ✓ Ideal for home, hospitals, treatment centers, beauty & healthcare facilities
- ✓ Available with a functional floor stand or ergonomic table stand
- ✓ Adjustable height and head inclination for better positioning
- ✓ 360° rotation of the device head for convenience
- ✓ Treatment times adjustable down to 30-second intervals
- ✓ Medium-sized filter diameter (11 cm) for treating various areas
- ✓ Optional wheel set for enhanced mobility

3. BIOPTRON® MedAll – Portable & Compact

- ✓ Designed for personal use in all environments
- ✓ Ergonomic and portable, easy to carry for business or leisure trips
- ✓ Comes with a floor stand and sleek carrying case
- ✓ Small yet precise filter diameter (5 cm) – targets small treatment areas while benefiting the entire body
- ✓ Energy-saving standby mode (0.5W power consumption)
- ✓ LED timer display ensures better visibility in all lighting conditions
- ✓ User-friendly interface with smartly designed buttons for easy operation
- ✓ Anti-slip grip & biocompatible allergy-free material for safety and comfort



Glossary of quantum medicine terms

A

Acupuncture: a traditional Chinese medical practice that involves inserting thin needles into specific body points to balance energy flow (Qi) and promote healing. It is used to stimulate the body's natural regenerative processes for both physical and mental health conditions.

Acupuncture Points – Specific locations along energy meridians where acupuncture needles are inserted. These points are believed to regulate Qi flow, influencing organ function and overall health.

B

Biophotons – Weak emissions of light naturally radiated by biological organisms, believed to play a role in cellular communication and regulation.

Bioresonator – A system or entity that emits electromagnetic frequencies to correct imbalances in the body, restoring energetic harmony.

BIOPTRON® – A medical Hyper light therapy device that emits (hyper)polarized light to stimulate cellular processes, accelerate healing, and support well-being.

E

Electromagnetic Field (EMF) – A physical field produced by electrically charged objects. EMFs can be natural (e.g., the Earth's magnetic field) or artificial (e.g., emitted by electronic devices), affecting biological processes.

F

Fibonacci Spiral – A mathematical pattern found in nature, following the Fibonacci sequence. This spiral represents optimal growth patterns and energy efficiency in biological structures.

Fibonacci Structure – A geometric and biological pattern ensuring optimal energy flow and harmony in living organisms.

Fullerene C60 – A carbon molecule with powerful antioxidant properties, known for protecting cells from oxidative stress, aging, and environmental damage.

H

Hexagon – A six-sided geometric shape found in nature, representing stability, efficiency, and balance. It is closely associated with structured water, cellular arrangements, and energy coherence.

Hyperpolarized Light (HPL) –Vertically Linearly Polarized Light passing through Fullerene C60 Optics, enhancing its bio-stimulating and regenerative effects. It is used in medical light therapy to support cellular and tissue healing.

L

Light Puncture – A non-invasive therapy that applies specific light wavelengths to acupuncture points and meridians, stimulating energy flow and healing without needles.

P

Photon Energy – The energy carried by a photon, a fundamental particle of light. It is integral to light-based therapies that influence cellular and molecular functions.

Q

Quant Light – A structured photon-based therapy that regenerates self-similar biological structures, promoting cellular repair and energetic balance.

Quantum Coherence – A state in which particles such as atoms or molecules act in unison, leading to more efficient biological processes and cellular harmony.

Quantum Healing – A holistic approach that integrates quantum physics principles to enhance healing, energy balance, and well-being.

Quantum Medicine – An interdisciplinary field combining quantum physics, biology, and holistic health to develop innovative disease prevention and healing approaches.

Connected to Informational Medicine – A field of medicine that focuses on the informational aspects of biological systems, utilizing informational pathways for therapeutic intervention.

R

RBC (Red Blood Cells) Erythrocytes – The most abundant blood cells in the human body, responsible for transporting oxygen from the lungs to tissues and removing carbon dioxide.

S

Structured Hexagonal Water Crystal – A highly organized water molecule arrangement associated with improved cellular hydration, stability, and coherence.

Structured Water – Water with a hexagonal molecular structure, also known as EZ (Exclusion Zone) water. It is believed to enhance nutrient absorption, detoxification, and cellular efficiency.

T

Torus – A doughnut-shaped geometric figure representing vortex energy fields, commonly used to describe the human energy field and the heart's electromagnetic field. In the context of Hyperpolarized light, it is the pattern of polaritons, shown in 3D.

V

VLPL (Vertically Linearly Polarized Light): Light that has passed through Brewster's Optical Unit (polarizer), where the oscillation of light waves is restricted to a single vertical plane. This polarization enhances directional coherence and can improve penetration into biological tissues.

Meet the Team

The booklet on BIOPTRON Hyperpolarized light from the Quantum Medicine Perspective was crafted by an exceptional team of three distinguished experts, each bringing a unique scientific and holistic viewpoint to the subject. Their combined expertise bridges the gap between biophysics, quantum medicine, physics and holistic healing, offering a comprehensive and scientifically grounded understanding of BIOPTRON Hyperpolarized Light therapy.



James L. Oschman

PhD biophysics



Olja Lopushansky

PhD Quantum
Healing Therapy



Danijela Šijačić

PhD Physics

By bringing together a biophysicist, a quantum medicine researcher, and a physicist, this booklet merges rigorous scientific inquiry with holistic healing perspectives. This unique synergy ensures that BIOPTRON therapy is presented not just as a medical technology, but as a science-backed, energy-based approach that aligns with the laws of quantum physics and human bioenergetics.

Dr. James L. Oschman is a renowned biophysicist and expert in the field of energy medicine. He has made significant contributions to understanding the scientific foundations of alternative and complementary therapies by bridging conventional science with holistic practices.

With a PhD in Biological Sciences, Dr. Oschman has authored several influential works, including "Energy Medicine: The Scientific Basis" and "Energy Medicine in Therapeutics and Human Performance", which provide evidence-based insights into how energy fields interact with the human body to influence health and healing. Dr. Oschman's research focuses on the role of bioelectricity, connective tissue, and the body's energy systems in supporting optimal function and self-healing. His work has inspired practitioners worldwide to integrate energy-based approaches into their therapeutic practices. He is widely regarded as a pioneer in demonstrating the scientific validity of practices such as acupuncture, grounding, and light therapies. Through his groundbreaking research and publications, Dr. Oschman has significantly advanced the understanding of how energy dynamics affect the human body, paving the way for a more integrative approach to medicine.

Dr. Olja Lopushansky is a visionary leader in holistic health, integrating Traditional Medicine with cutting-edge quantum science. Her expertise spans Quantum Medicine, Epigenetics, Light-Puncture Therapy, Veda Pulse Diagnostics, Life Coaching, Drama Therapy, Holistic Psychotherapy, and Spiritual Energy Medicine—bridging neuroscience, ancient wisdom, and innovative therapies.

With an insatiable thirst for knowledge, she has pursued an extensive educational journey. After earning a master's degree in Dramatic Arts from the University of Novi Sad, she completed four years of study at the Yoga Academy, specializing in Ayurvedic Medicine, Hatha Yoga, Zen Buddhism, Holistic Psychotherapy, Meditation, Psychology, Anatomy and Physiology. She further specialized in Children's Yoga Therapy for ADHD and Autism, as well as Chakra Psychology, completing a two-year specialization program at the Saswitha School of Yoga and Philosophy, in The Netherlands. Her seven-year research on the quantum effects of hyperpolarized light, particularly its influence on biomolecules, culminated in a PhD from Selinus University of Science and Literature in Quantum Healing Therapy. She has since pioneered groundbreaking research on the energy-information effects of BIOPTRON Hyperpolarized Light, advancing the understanding of health, disease prevention, and holistic well-being.

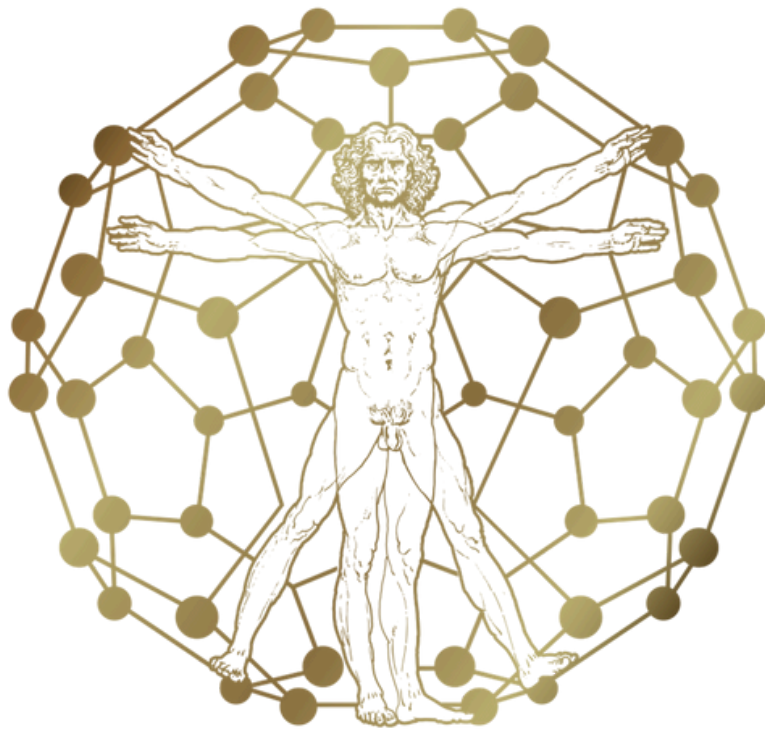
Dr. Danijela Sijacic is a physicist whose journey through the realms of physics has been deeply intertwined with her fascination for the mysteries of the universe and the interconnectedness of micro and macro realms. She began her academic path at the Faculty of Science, University of Novi Sad, where her passion for quantum physics was first ignited. Her thesis in the Department of Theoretical Physics focused on low-dimensional quantum systems, specifically thin films and quantum dots, laying the foundation for her lifelong exploration of the quantum world.

Dr. Sijacic pursued her PhD at the Physics Department of Eindhoven Technical University in the Netherlands, where her research delved into pattern formation, nonlinear dynamics, and plasma physics. Her work not only advanced theoretical understanding but also found practical applications, particularly at the Philips Lighting Laboratory, where her insights contributed to innovative developments in lighting technology. Throughout her career, Dr. Sijacic has worked across diverse fields of physics, holding research positions at prestigious institutions such as Delft University of Technology, Amsterdam University of Applied Sciences, and the renowned Dutch research institute TNO.

Her scientific contributions have spanned multiple disciplines, reflecting her versatility and dedication to pushing the boundaries of knowledge.

Beyond her technical achievements, Danijela's work has always been guided by a profound sense of wonder about the nature of reality and the human existence. Her amazement with quantum physics and the "theory of unified field" has remained a central theme in her life, inspiring her to explore not only the physical laws but also their deeper implications for human existence, their health and well-being.

THE SCIENCE AND ART OF FULLERENES WITH SUPERIOR PERFORMANCE



From a quantum perspective, Hyperpolarized Light operates at a subatomic level, optimizing bioenergetic interactions and cellular function.

Aligning with quantum physics principles and human bioenergetics, which study energy dynamics and electromagnetic interactions in biological systems, it goes beyond classical medical treatment, playing a key role in prevention. Understanding this mechanism is crucial, as it opens new possibilities for non-invasive, energy-information-based therapies that support both local and systemic regeneration, enhancing overall health and resilience.