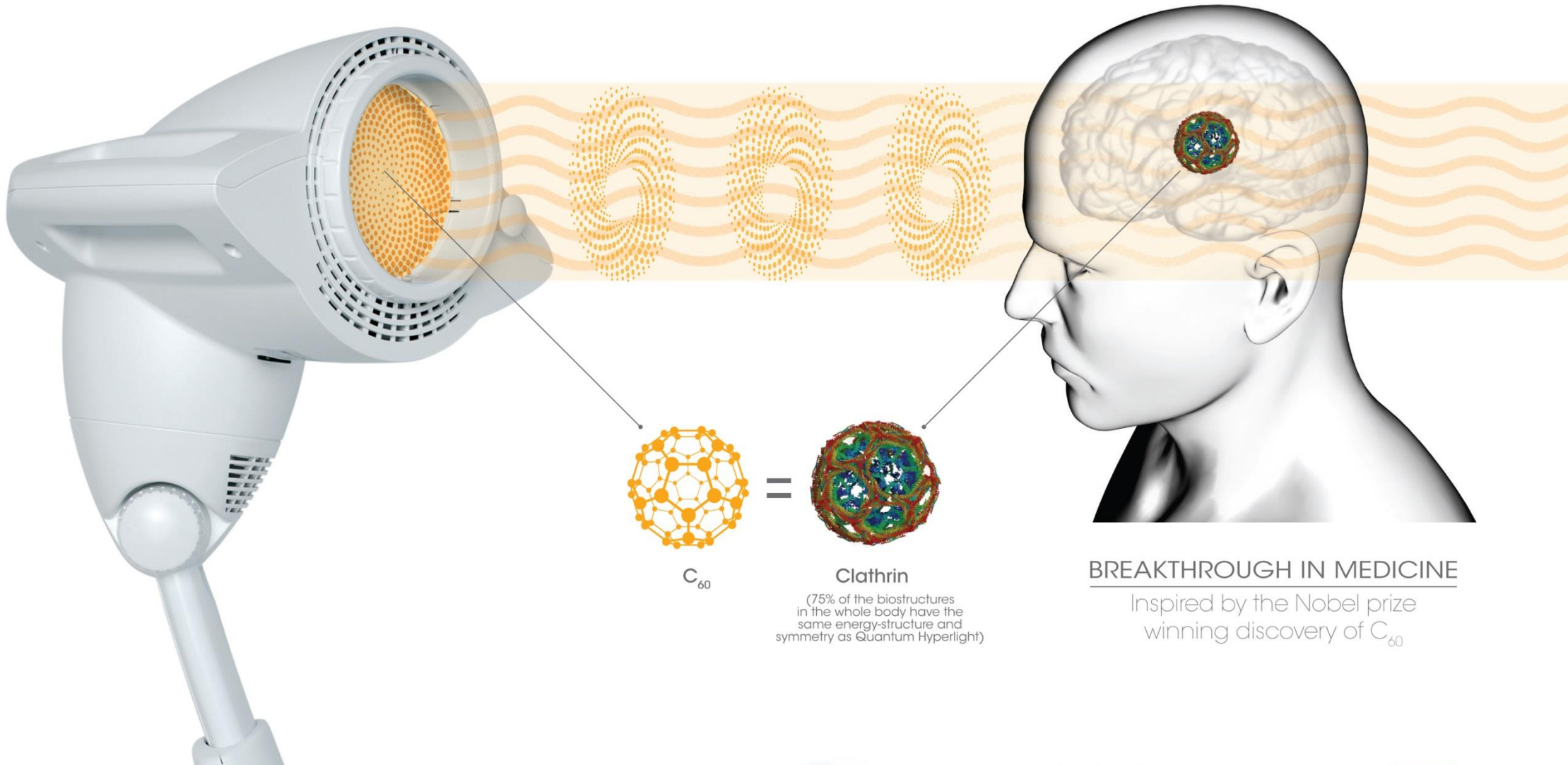


BIOPTRON® QUANTUM HYPERLIGHT®

(hyperpolarized light)



C₆₀

Clathrin

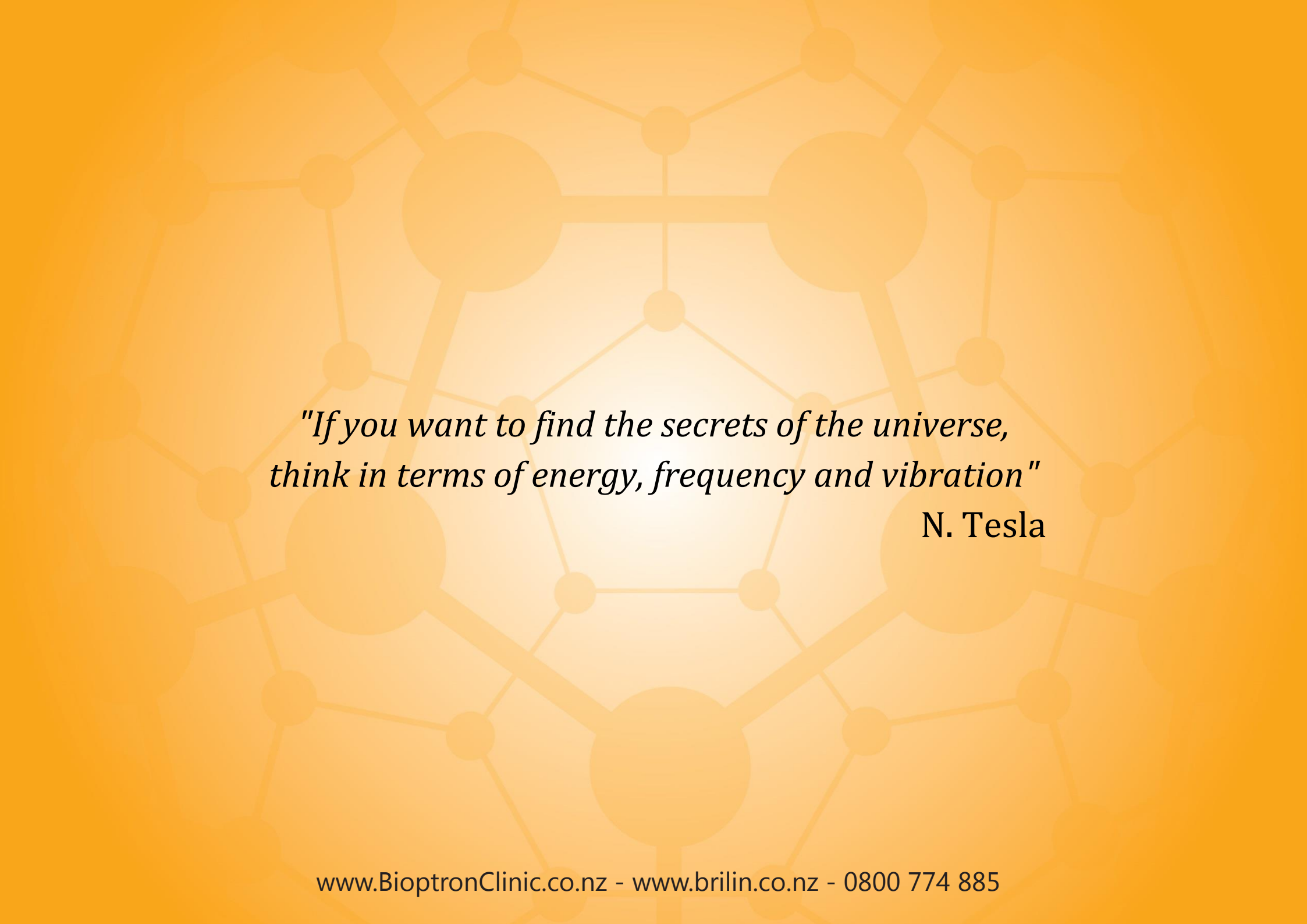
(75% of the biostructures
in the whole body have the
same energy-structure and
symmetry as Quantum Hyperlight)

BREAKTHROUGH IN MEDICINE

Inspired by the Nobel prize
winning discovery of C₆₀

Sales, Service, Training & Treatments call 0800 774 885

BIOPTRON® 
HYPERLIGHT THERAPY SYSTEM By Zepter Group



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

N. Tesla

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BIOPTRON® QUANTUM HYPERLIGHT AS QUANTUM MEDICINE

**Natural prevention and natural healing without side effects!
Prolonging the life-span and improving the good quality of life!**

**EVERY YEAR, WORLDWIDE MILLIONS OF PEOPLE SUFFER FROM INJURIES AND ILLNESSES
IN EUROPE ALONE:**

- *60 million people suffer from injuries*
- *1 in 5 adults suffer from chronic pain*
- *100 million people suffer from muscle and joint pain*
- *100 million people in Europe are affected by arthritis/rheumatism*
- *67 million people suffer from lower or upper back pain*
- *4 million people suffer from wounds*
- *12 million people in northern Europe suffer from SAD (seasonal affective disorder)*



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*

All these painful and life threatening conditions have to be medically treated. Every year, worldwide **600 billion US dollars** are spent on **chemical drugs**. Despite the efficacy, the risk of serious side effects and the costs involved treatment with medicaments is both dangerous and expensive. **It makes no sense.**



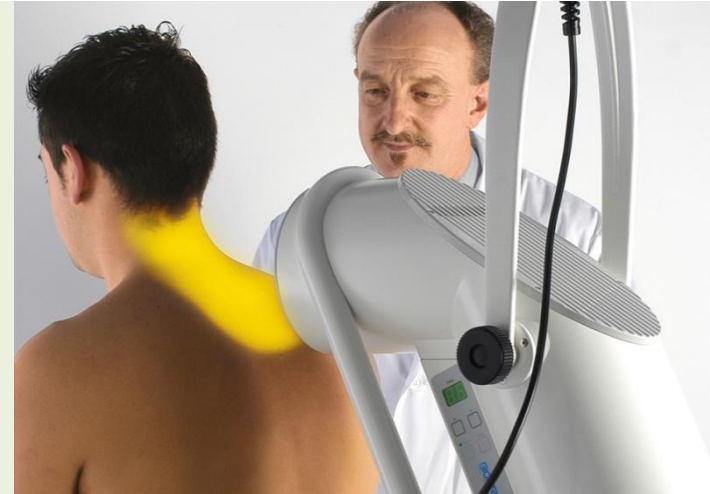
Chemical Drugs - Common Side Effects

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

The challenge is to provide a medical treatment WITH EXCELLENT RESULTS and WITHOUT SIDE EFFECTS that is at the same time economical!

BIOPTRON® Light Therapy System is the solution. Clinically tested and certified medical device, for successfully treatment of various health issues. A user-friendly, painless, safe, effective and economical treatment!

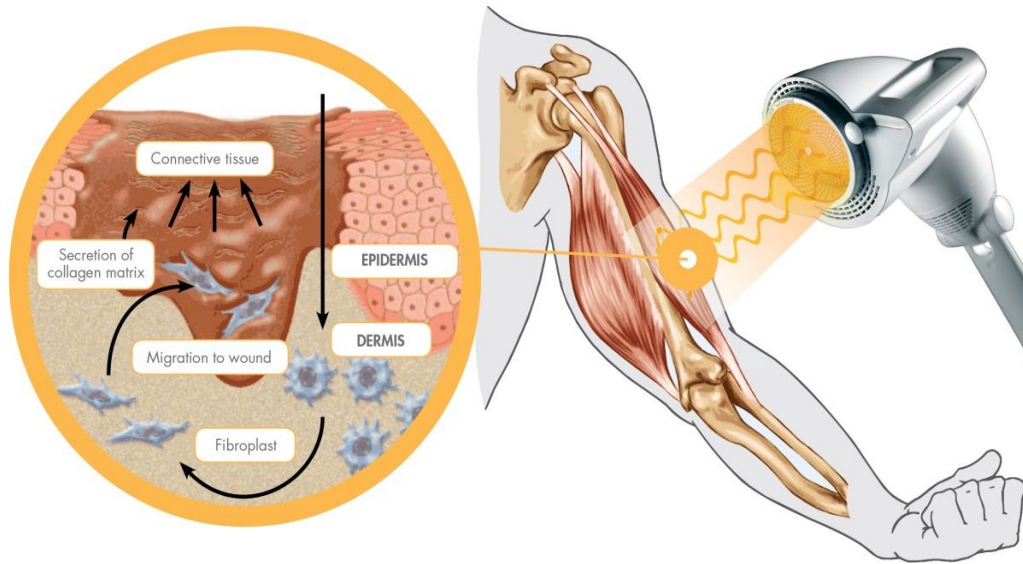
BIOPTRON® Quantum Hyperlight restores and heals the body with positive local and systemic effects, thus healing the whole body system at the QUANTUM LEVEL! NO SIDE EFFECTS!



BIOPTRON® Quantum Hyperlight has been accepted as a unique form of treatment, **DISEASE PREVENTION, THERAPY** and **RECOVERY** for various medical indications and health issues:

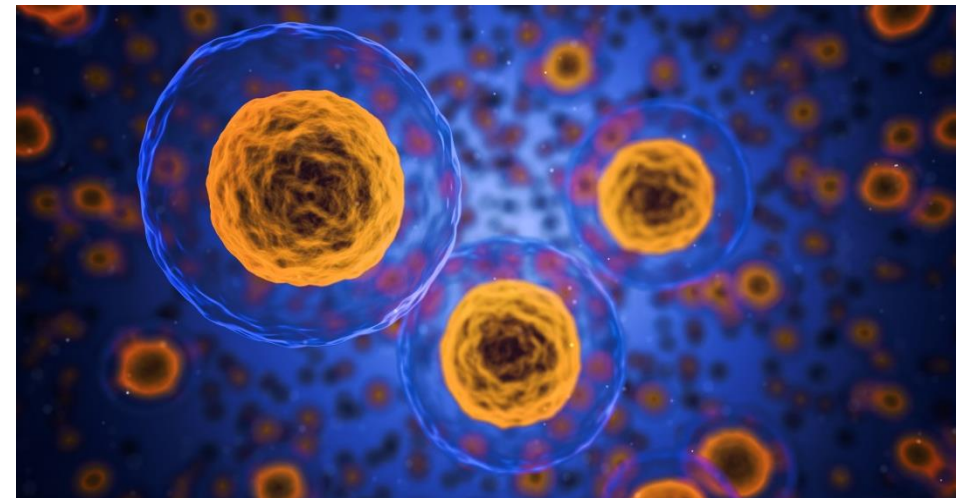
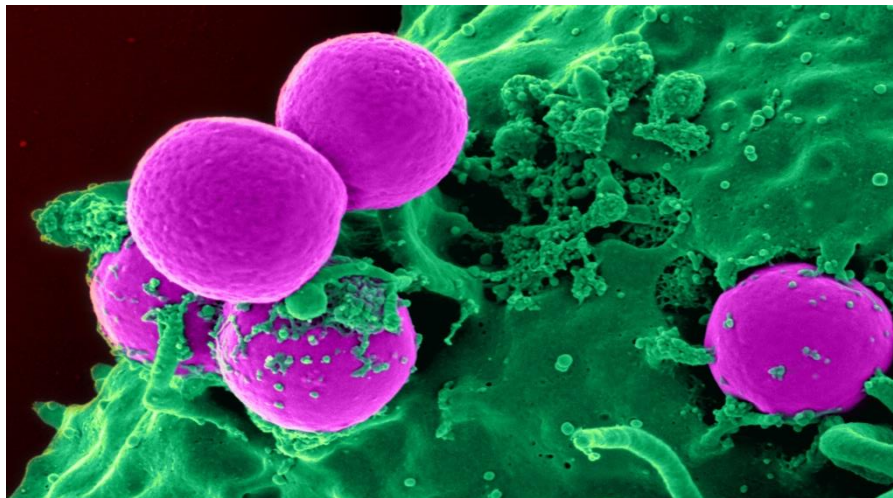
- *Wound healing*
- *Pain relief*
- *Skin diseases - dermatological disorders*
- *Seasonal affective disorders (SAD)*
- *Mental disorders*
- *Pediatrics*
- *Dentistry*
- *Anti-ageing*
- *Veterinary care*





All over the world, in reputable hospitals and institutions, wellness and sports centers, health professionals are using BIOPTRON® Quantum Hyperlight and are reporting the following significant improvements while treating patients who suffer from various medical conditions:

- ***Faster and painless healing of (chronic) wounds***
- ***Dilatation of blood vessels and improved local blood circulation, thus improving healing processes***
- ***Increased delivery of oxygen and nutrients and reduced edema in affected areas - improved regeneration***
- ***Decreased pain and improved recovery from trauma and injuries***
- ***Significant pain reduction in arthritis and neuropathy***
- ***Gibbs free energy regulation.***



The Swiss company BIOPTRON AG was founded in 1988 and in 1996 became a part of the Zepter Group. BIOPTRON® became a brand that stands for innovative medical healthcare products that are unrivalled in both prevention and recovery in a number of medical conditions. **BIOPTRON® QUANTUM HYPERLIGHT helps millions of people** to live a better and healthier life: wherever and whenever applied, it accelerates the natural healing process in both acute and chronic conditions. It improves our body's ability to repair itself and maintain **optimal health**, it speeds up the healing process, **restores impaired body functions** and its metabolic balance, it increases resistance to external stressors and increases immunity.



BIOPTRON® production facilities in Switzerland



Certificates: BIOPTRON® is in full compliance with the highest quality standards and medical device requirements in accordance with the EU Medical Devices Directive, 93/42/EEC. It is also approved by the FDA (510 (k) clearance for pain, No.: K032216) for the US market and is registered as a medical device in Australia (TGA certificate) and Canada (Health Canada certificate).

INTERNATIONAL AWARDS AND GOLD MEDALS FOR THE INVENTION OF BIOPTRON® QUANTUM HYPERLIGHT (HYPERPOLARIZED LIGHT) AND TESLA HYPERLIGHT EYE WEAR



Gold Medal,
China
Association
of Inventions,
Foshan, 2018



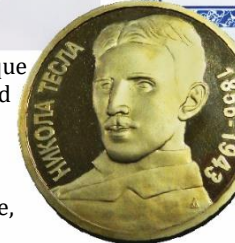
Gold Medal,
Invent
Arena,
Trinec,
2018



Gold Medal,
International
Federation
of Inventors'
Association,
Geneva, 2018



Gold Plaque
and Gold
Medal,
Inven-
tions
Belgrade,
2018



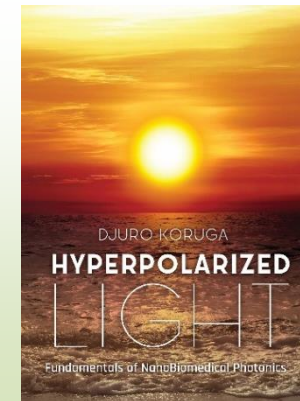
FIRI
Award for
the Best
Invention,
Tehran,
2018



**Prof. in Nanotechnology
Dr. Djuro Koruga**

*Recipient of several
prestigious awards from
the International Federation
of Inventor's Association.*

*Author of the book
"Hyperpolarized light".*



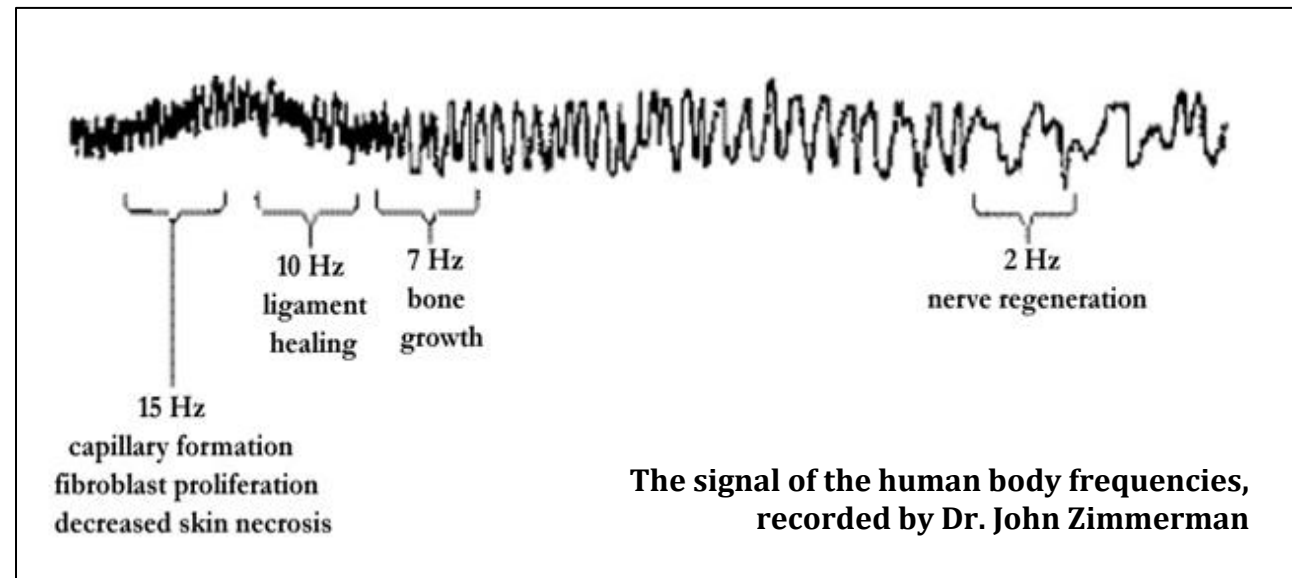
BIOPTRON® QUANTUM HYPERLIGHT FOR A QUANTUM BODY

BIOPTRON® AG works at the highest scientific level, taking reference and developments from physics, chemistry, quantum mechanics and medical science. The company develops and produces clinically tested and certified high-tech medical devices that generate Hyper Linearly Polarized Light (HLPL), further abbreviated as Hyperpolarized light and or **Quantum Hyperlight**), that **acts at the quantum level, restoring the whole body system.**

The term “**quantum medicine**” became familiar in Brussels, in 1989, when a team of quantum physicists presented a radically new approach to comprehending live systems.

The word *quantum* is derived from the Latin word *quanta*, which denotes the smallest amount of energy information **influencing body molecules and atoms** responsible for healthy elementary processes.

The main principle of quantum physics teaches that absolutely everything that exists has a certain frequency. So, **every healthy cell in the body must have own ideal frequency.** Due to different stress factors, the body frequencies change, which radically disrupts the biophoton communication (electromagnetic radiation); in the long run, it results in illnesses. Quantum medicine observes an illness as “disrupted frequencies in energy body”. Instead of suppressing the symptoms in physical body with synthetic drugs (migraine, PMS etc.), **Quantum Hyperlight with its quantum energetic properties restores the energy and frequency in stagnation in the disturbed areas** (biophotons communication, energy centers, cells and the vital organs).

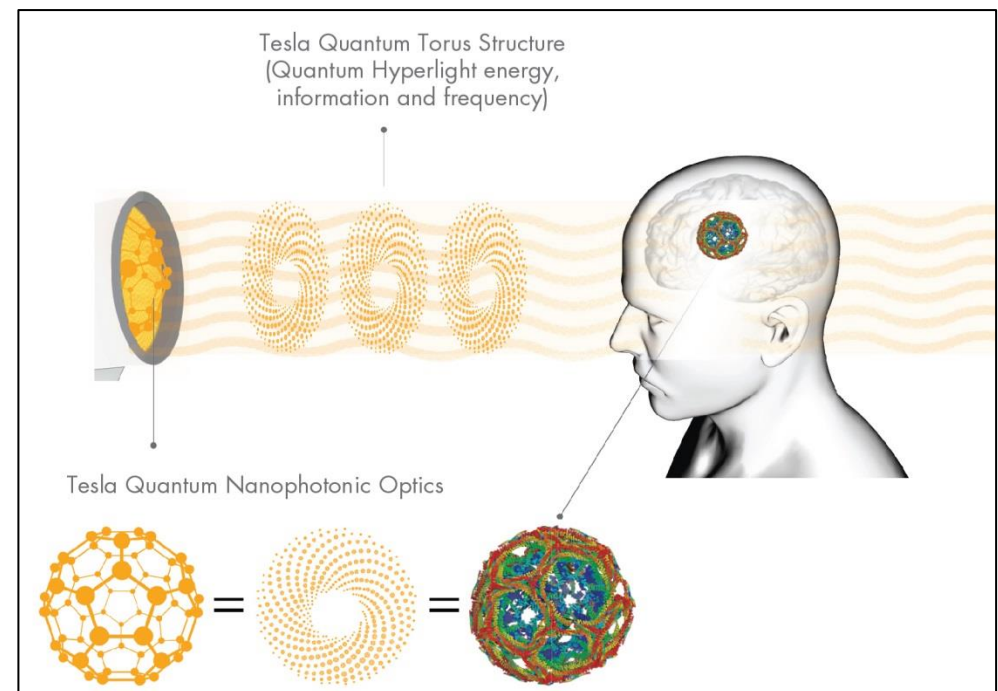
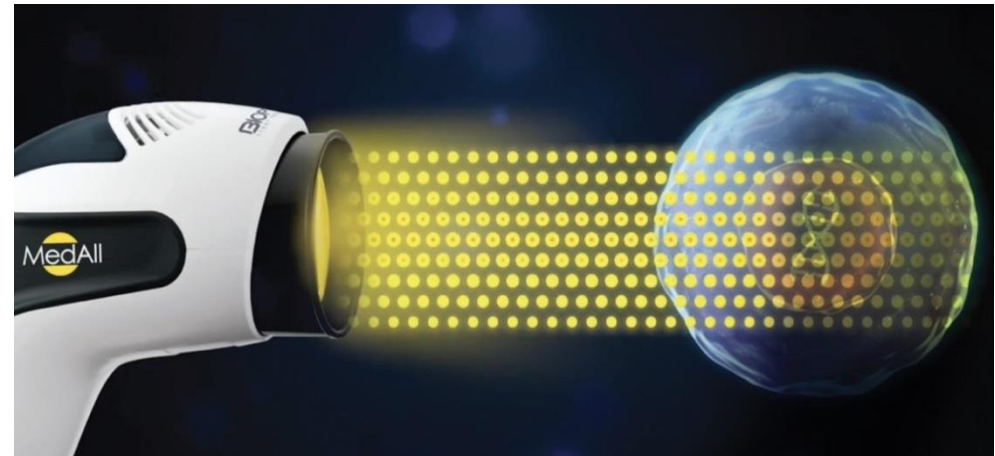


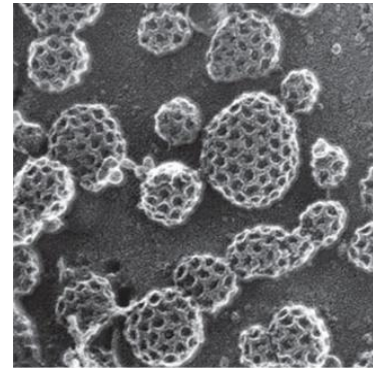
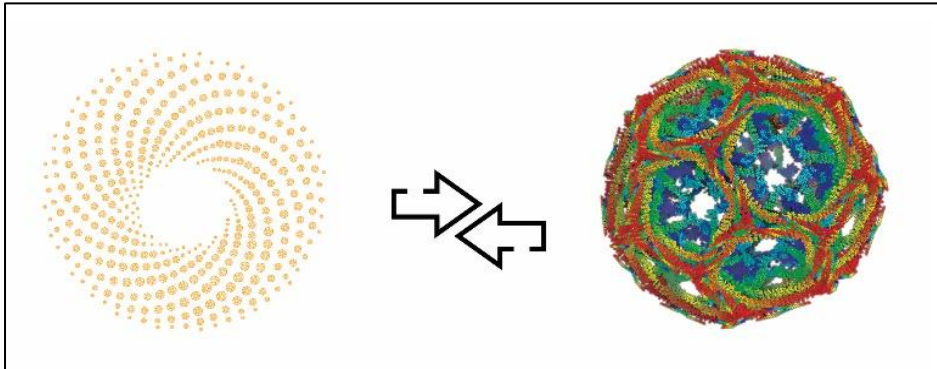
STRUCTURED HYPERLIGHT RESTORES SELF-SIMILAR STRUCTURED BODY-MATTER

Due to the ageing process or illness, the natural healthy state in biological structures becomes unordered, causing continued illnesses and accelerated ageing. **Quantum Hyperlight** (structured light) **maintains and restores the disturbed biological structures** (structured matter), **bringing them into a natural healthy state** through the resonance principles of biomimicry, where pattern seeks identical pattern. According to the quantum mechanics principles, if two entities possess the same type of symmetry, the perfect structured entity such as HLPL will prevail and **impose its energetic properties** on the other disturbed entity, bringing it into **homeostasis**. The serendipitous **discovery of C₆₀** awarded in 1996 with the **Nobel Prize** in chemistry, triggered a new field of research, introducing the world to a new kind of symmetric quantum nanomaterials, thus opening an entirely new chapter of nanotechnology and nanomedicine: the studies led scientists and engineers to think of the multiple applications that the **C₆₀ could contribute, e.g. new medical treatments even to prolong life.**

In 2017, inspired by the properties of the Nobel Prize winning discovery of fullerene molecule and understanding the biology of life, our scientists have developed and patented the unique **Tesla Quantum Nanophotonic Optics** which acts as a **nanophotonic generator that transforms Vertically Linearly Polarized Light (VLPL) into Horizontally Linearly Polarized Light (HLPL) - the Quantum Hyperlight with quantum properties.**

At the quantum level, such light provides: 1. information, 2. energy and 3. vibrations deep into the body, biostructures and organs, **bringing the whole body system into homeostasis** (internal natural stability).





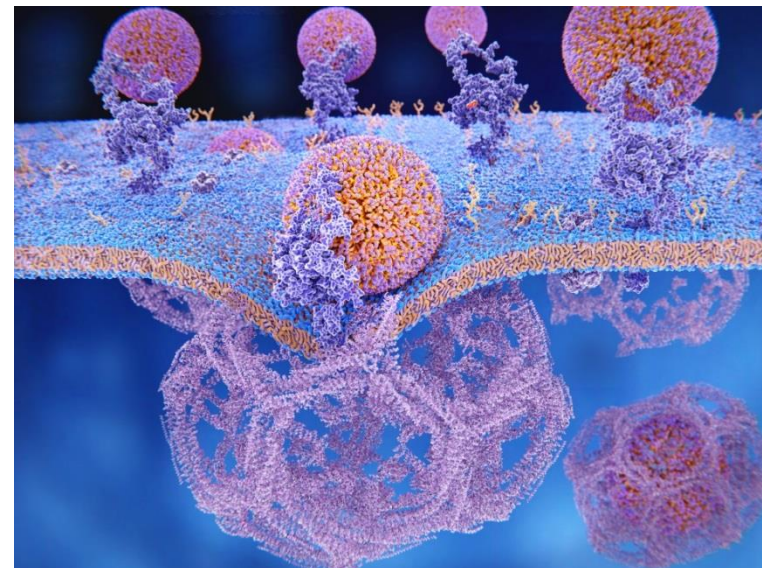
A microscopic view of a clathrin

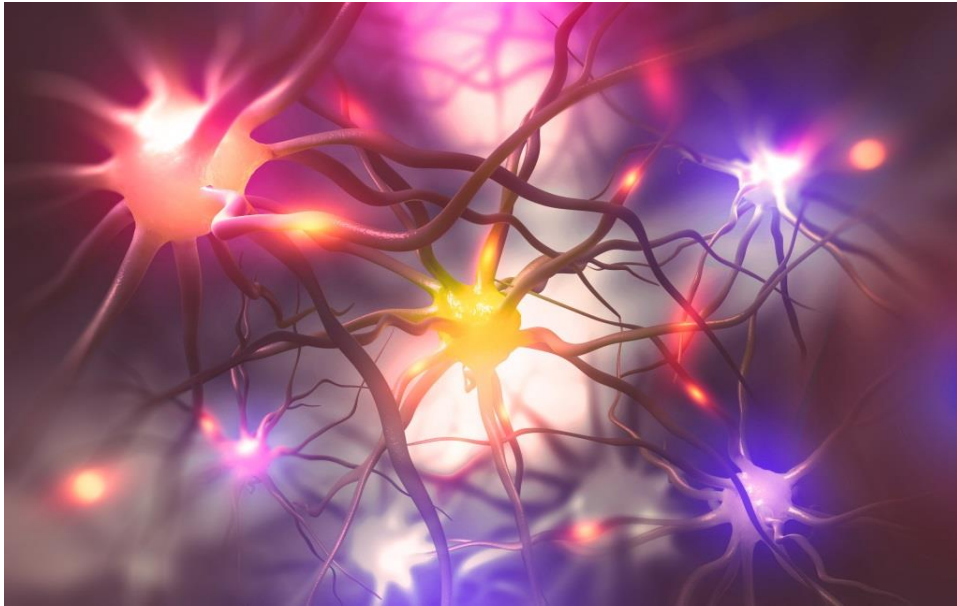
75% of the human body has **the same ideal type of symmetry as HLPL**: biomolecules, water-chains, clusters, clathrin, microtubules, collagen, centrioles, targets, flagella and processes based on Gibbs free energy/negative ions, water 65%, proteins 15% and lipids 5%.

Due to its Tesla Quantum **toroidal** properties, based on Fibonacci Law, this light emission penetrates deep through the tissue, reaching the very important protein – clathrin, and harmonizing it.

Clathrin recognizes a self-similar Quantum Hyperlight symmetry pattern and **through the energy resonance principles** conveys the proper necessary energy information, at the quantum level, into the cell. The endocytic pathways are thereby ideally **energized directly with Quantum Hyperlight as the source of proper energy** (even without “classic” food as the main energy-mediator)!

*Clathrin is the main protein responsible for the two crucial processes: endocytosis and exocytosis. **Endocytosis** is the process where clathrin transmits the **necessary energy** (metabolites, hormones, other proteins etc.) into the cells for their optimal intracellular communication and functioning. **Exocytosis** is the process where the cell debris is eliminated by the tissue inflammation.*





*“If all the information required to control the body’s biochemical processes is in the light that the body emits, and if disturbances in that light disrupt biochemical processes and cause disease, then it must be possible to **“examine” the light and remove the disease.**” - Dr Fritz Albert Popp.*

All consist of light and are built and maintained by **light as the main source of energy, information and frequency.**

The thought processes of the human brain are also fed from light as the **main energy source.** An improper "light diet" (not enough light) causes malillumination, which implies serious illnesses: **light is the basic nutrient** of all life.



Light is a fundamental part of our being: through evolution, **we have become light bodies**, living photoreceptors, we consume light (through food and photosynthesis processes), our thoughts consist of light; the nervous system, as well as our DNA, produce light: **every cell in our body emits more than 100,000 light photon impulses** per second, called biophotons, responsible for **maintaining our good health.** This light emission is responsible for information and energy exchange and for the proper communication between adjacent cells, which is a crucial steering mechanism behind all biochemical reactions (Ref.: 16.1-16.6).

BIOLIGHT is made up of **biophotons** (from the Greek word “βίος” meaning “life” and “φως” meaning “light”). Biophotons must be distinguished from the more commonly discussed physical photons. Biophotons are defined as electromagnetic radiation of biomolecules. Dr Popp, F.A. demonstrated that cells are emitting either a structured healthy light responsible for good health, or a **chaotic light** which **indicates disease**. The explanation is simple: if biophotons manage the body’s biochemical processes in a chaotic manner, the symmetry will be disrupted.

The healthy human body possesses the highest level of harmony. Sick individuals with weak immune systems have a poor and chaotic level of harmony, disturbed coherence and disturbed biophoton cellular communication.

Once the cellular metabolism is compromised, the cell becomes isolated from the regulated process of natural growth control. Such structured light could establish the natural healthy state in the biophoton cellular communication. (*Influence of light on biophotons, Dr. Johan Boswinkel, Institute for Applied Biophoton Science IABS*). **BIOPTRON® Quantum Hyperlight is identically hexagonally structured as biophotons.**

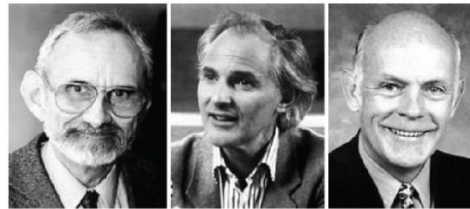


QUANTUM HYPERLIGHT (perfectly ordered photon stream) = BIOPHOTONS
 (perfectly ordered electromagnetic radiation of biomolecules)

When Quantum Hyperlight is applied, “the pattern seeks the identical pattern” and a resonant energy interaction occurs: the biological structures are supplied with additional electrons (energy) and information, which is transmitted through the hydrogen water-bond chain.

A perfect match between BIOPTRON® Quantum Hyperlight and biophotons is achieved, through the identical symmetry, on the quantum level. By symmetry, BIOPTRON® Quantum Hyperlight maintains and restores structured biophotons and their communication.

BIOPTRON® TECHNOLOGY INSPIRED BY THE NOBEL PRIZE WINNING DISCOVERY OF C₆₀



Robert F. Curl Jr. | Sir Harold W. Kroto | Richard E. Smalley



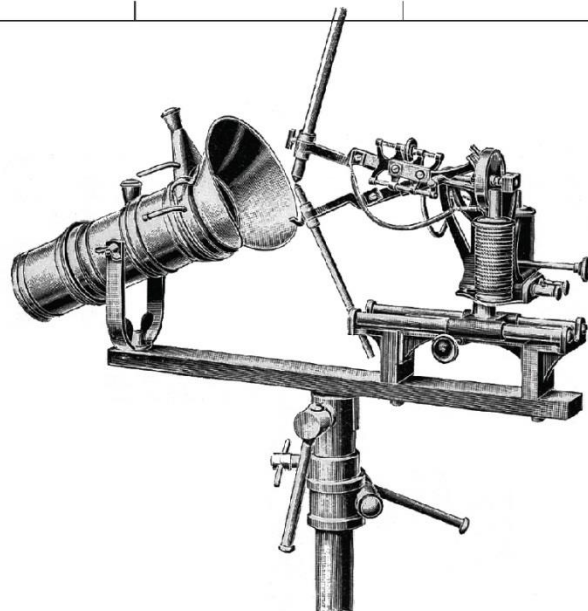
Dan Shechtman



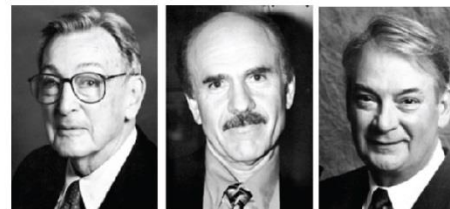
Jeffrey C. Hall | Michael Rosbash | Michael W. Young



Niels Ryberg Finsen



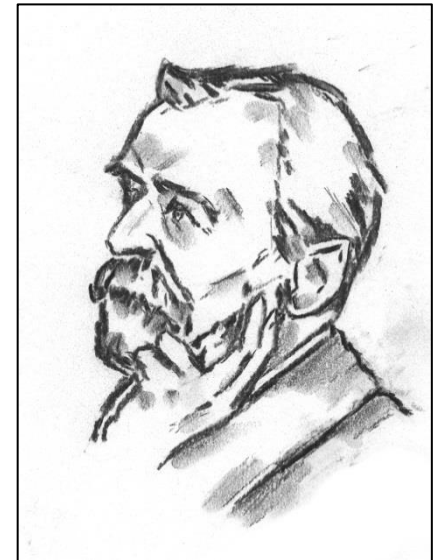
1998



Robert F. Furchgott | Louis J. Ignarro | Ferid Murad



- The Nobel Prize in physiology or medicine in 1903 was awarded to Niels Ryberg Finsen. He demonstrated the efficacy of **ordered light for medical treatment of various diseases**, such as Lupus Vulgaris, also known as tuberculosis of the skin (cutaneous tuberculosis). He 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 C_{60} as 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 C_{60}** during experiments with graphite. Based on C_{60} discovery, BIOPTRON® scientists invented the C_{60} Tesla Quantum Nanophotonic Optics that acts as a nanophotonic generator of Quantum Hyperlight. The influence of BIOPTRON® Quantum Hyperlight on matter (biostructures) is at its most efficient. This is the quantum phenomenon whereby the information is able to modify the matter. **Such structured light interacts with the structured matter (that shares the same properties of symmetry), bringing the whole body into homeostasis.**
- 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® Quantum Hyperlight 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 or medicine 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® Quantum Hyperlight is medically certified for SAD, as it regulates the circadian rhythm** (see section for SAD, page No.:37).



MOLECULE C₆₀

C₆₀ belongs to the Fullerene family (C₆₀, C₇₀, C₇₆, C₈₂ and C₈₄ molecules).

It is the third and unprecedented new allotropic form of **carbon in nature** (the other two forms being **graphite and diamond**).

Carbon, along with hydrogen, oxygen, nitrogen, phosphorus and sulfur is the basis of biological life and a **building block of genes, proteins, lipids and other important biomolecules.**



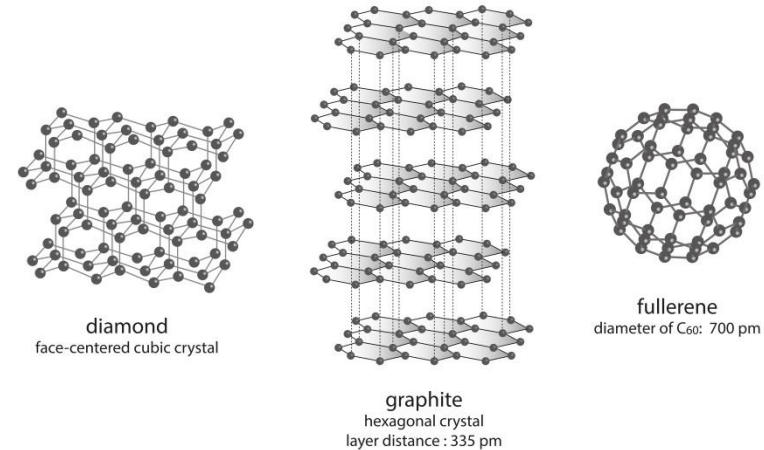
In a natural state it is so rare that it may be found in the most hidden places and only in trace amounts. It was found in a meteorite in Canada and it has been established that it was older than the solar system.



It is believed that it came from cosmic realms from **red giant stars**, where it was synthesized and ejected into space.

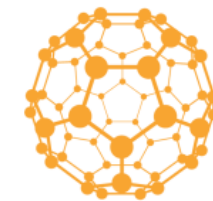


C₆₀ can be found in trace amounts in a **burning candle**, as activated carbon, and in Russia in a mineral called **shungite**.



C₆₀ is a molecule composed of 60 carbon atoms arranged in a geometric shape called a truncated icosahedron with the Fibonacci structure. It is the only molecule of a single element to form a spherical cage: C₆₀ has **12 regular pentagonal** and **20 regular hexagonal faces**. No two pentagons share an edge, which could destabilize the structure.

The C₆₀ colour is originally black in nature. The patented technology process of fullerene application changes it into the unique BIOPTRON® Quantum Hyperlight colour.



Quantum Medicine
for a quantum body



C60 and its healing properties are dating back to 18th century

In the early 1700's, Tzar Peter the Great had a palace in Karelia, near a magic spa center named "Martial Waters". The water at the Martial spa went through the thick layers of **shungite (C60)** in order to cure **weak stomach, vomiting, diarrhea, hypochondria, kidney problems, different skin conditions and many other ailments.**

Peter the Great instigated its use in providing purified structured drinking water for the Russian army and he required every soldier to carry a piece of this energy-potent stone in his backpack. Many believed that the reason the Russians prevailed in the battle of Poltava was due to shungite C60 that they carried with them.

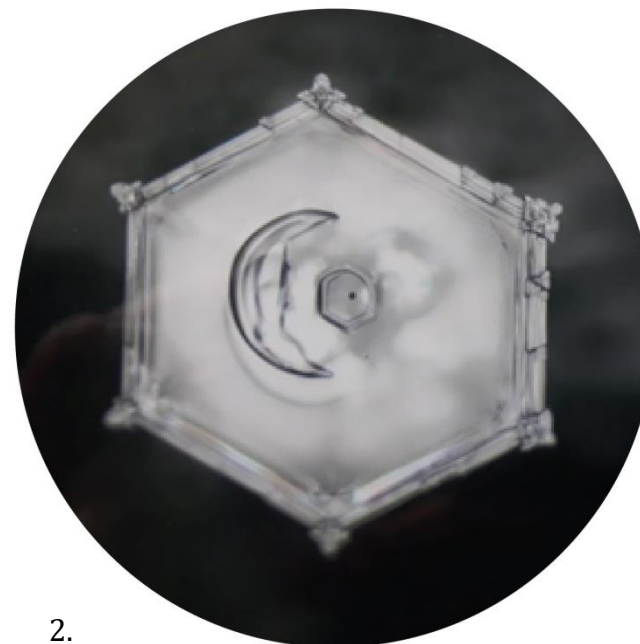
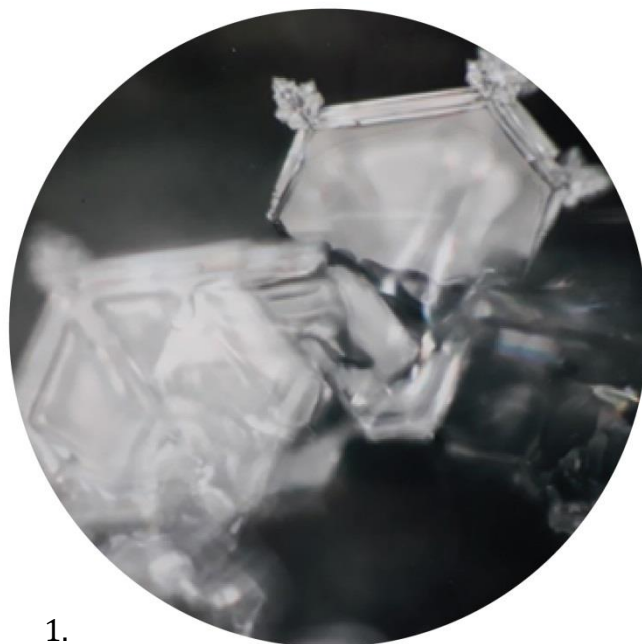


THE EMOTO EXPERIMENT REVEALED THAT QUANTUM HYPERLIGHT RESTORES WATER STRUCTURES TO THEIR HEXAGONAL SHAPE LIKE HEALTHY BIOSTRUCTURES



Since 1994, the Emoto Institute has been providing the evidence that different emitted **energy, information and frequencies** (music, sound or light) could change the water structure by assembling various coherent or non-coherent water crystals. Under the influence of diverse contents (energy, information and frequency) from transmission sources (like BIOPTRON Quantum Hyperlight), the treated tap water as matter is modified into the new pattern that is equal to the Quantum Hyperlight pattern- carrying the same energy structure as its informational Hyperlight source. This is the quantum phenomenon whereby the **information is able to modify the matter** which is confirmed in the Masaru Emoto experiment. When tap water is exposed to BIOPTRON® Quantum Hyperlight, it affects the water structure, modifying it into the same **hexagonal water shape like Hyperlight** that represents the ultimate state of '**molecular coherence**'. Analogously to this, HLPL has the same harmonizing effect on water in the human body. Since the human body consists of +/- 70 percent of body water, Quantum Hyperlight could ideally **restore and maintain the body water structure to its optimal hexagonal energetic state of coherence, enhancing the healing processes which leads to homeostasis.**

Emoto's Quantum Hyperlight Experiment



1. Tap-water crystal (molecule) is irregular, incoherent – unstructured, representing 'molecular incoherence', meaning that it is not symmetric to the body water.
2. Emoto's experiment reveals that when tap-water is exposed to BIOPTRON® Quantum Hyperlight, it affects the water structure, modifying it into a **hexagonal water shape crystal** that represents **the ultimate state of 'molecular coherence'**.

Observation report:

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

The number of observed ice drops: 50

Observation apparatus: Olympus optical microscope (magnification: x 200)

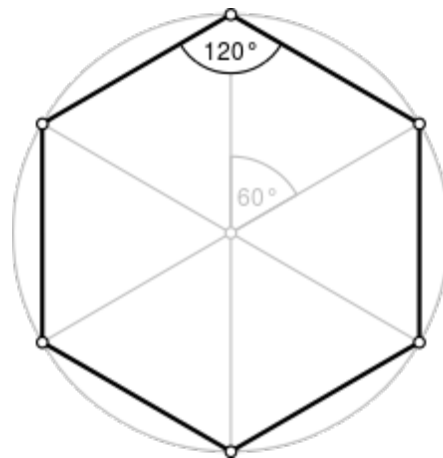
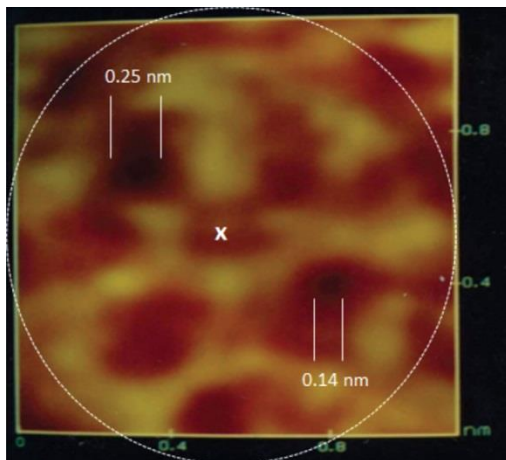
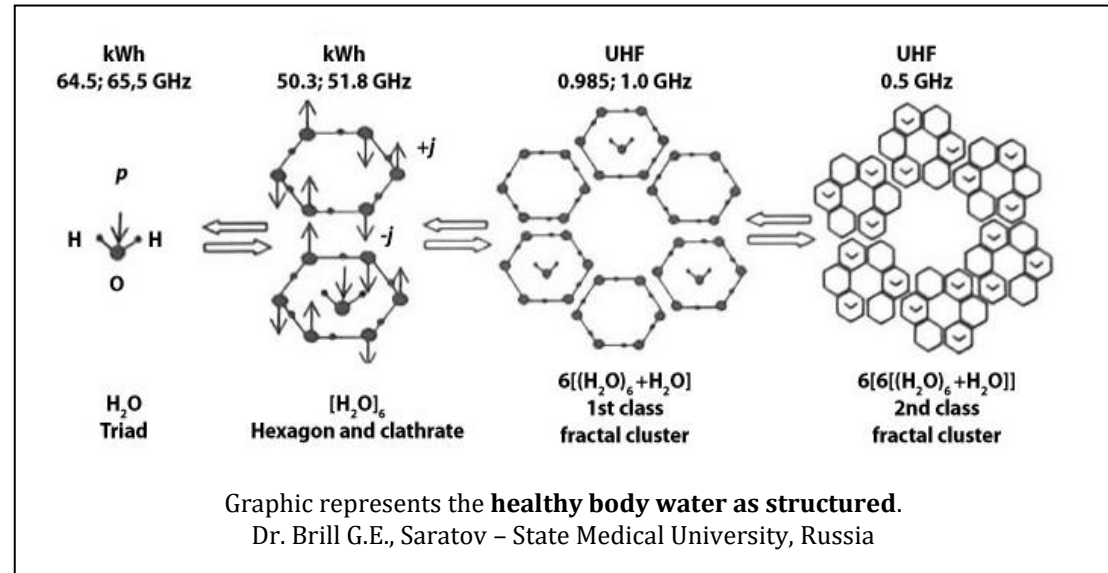
Photographing conditions: freezing temperature: - 25 degrees, freezing time: 4 hours,
 observation temperature: - 3 degrees

Place & date: Emoto Institute, Japan, March 2018

Graphic “**Structured (hexagonal) body-water**” presents the **healthy coherent state of body water** (Dr. Brill G.E., Saratov - State Medical University, Russia).

Scientific evidence assumes that the **hexagonal body water structure is preferred by all biological organisms**.

Structured water is involved in the healthy function of the DNA, enzyme reactions and numerous metabolic functions. (Ref.: Dr. Mu Shik Jhon, Dr. G. Pollack, Dr. Yang Oh and Gil Ho Kim). Therefore, **Quantum Hyperlight has enormous positive impact on health**: as perfectly harmonized energy-structured light, could revive and arrange body water into a healthy structured state of coherence.



A photograph of **fullerene C₆₀**, taken by Professor Dr Đuro Koruga and his team of researchers with a scanning tunneling microscope (STM) at the Nano Laboratory of the University of Belgrade (1992). This photograph confirms quantum mechanical equations governing the **hexagonal “openings” of the C₆₀ molecule**.

After 10 minutes of BIOPTRON® Quantum Hyperlight exposure: live blood cell analysis (dark-field microscopy)

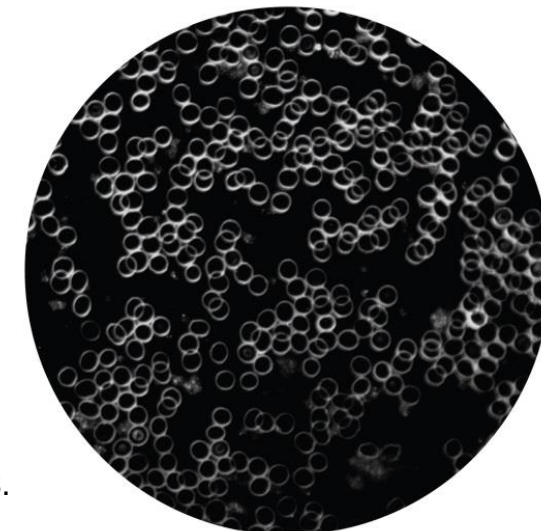
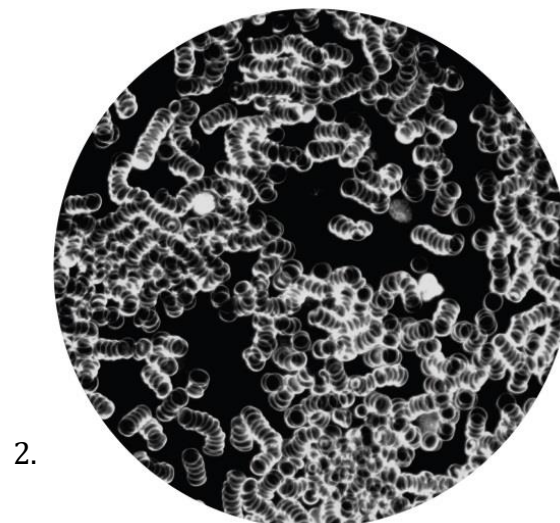
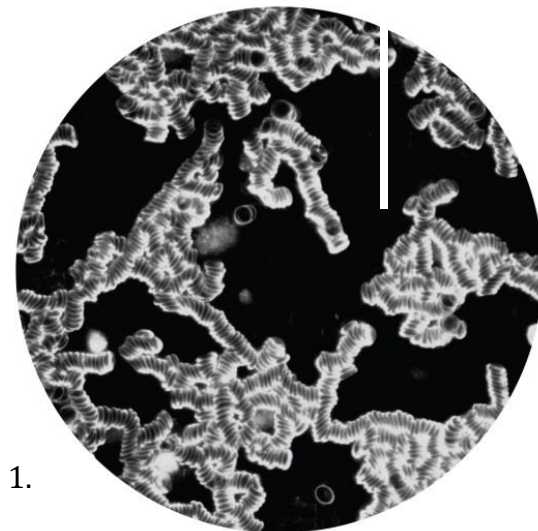
Comparison and evaluation:

(Picture 1) Red blood cells are clotted, unordered and inactive (clustered structures), which could reveal or lead to cardiovascular diseases, inflammations and oxygen deficiency at the tissue level (hypoxia).

(Picture 2) After only 10 minutes of VLPL exposure, the previous blood formation (clotted, unordered and inactive blood cells), converts (from clustered structures) into separated groups or isolated red-blood cells with significant improved blood cell condition: better blood flow and increased oxygenation - better regeneration.

(Picture 3) After 10 minutes of Quantum Hyperlight (HLPL) exposure, previous clustered structures change into entirely separated blood cells which embody the entire blood revitalization: from the unhealthy state, microtubules are modified into a torus shape, obtaining the same energy structure as Quantum Hyperlight, the initial natural healthy state, according to the Golden Mean Ratio. Empowered with such inconceivable light energy (energy, information and frequency), cells move faster (remarkable anti-coagulating effect). The red cells revive from inactivity into healthy live active cells, proving that HLPL has quantum properties – it heals on the quantum level. The energized blood flows unrestrictedly through the veins, effortlessly conveying oxygen into the vital organs, improving the processes of nutrient transport into the cells and easier flushing of the debris out of the cells possibly preventing hypertension, thrombosis (hazardous blood coagulation), stroke, heart attack, inflammation, etc.

BIOPTRON® Quantum Hyperlight rejuvenates unhealthy cells and recreates vigorous, healthy blood cells (an ideal healthy cell condition and cell formation) - a must to maintain the entire healthy body system.



GENERAL BIOPTRON® HYPERLIGHT CHARACTERISTICS

- *Brewster optical unit*
- *Tesla Quantum Hyperlight Medical filter and other six medical filters that generate unique medical Hyperlights*
- *Low energy light*
- *Incoherent light*

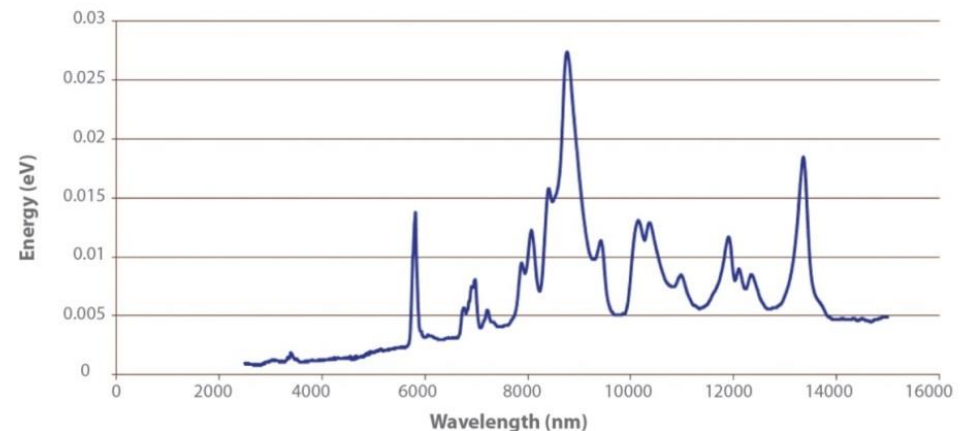
1. BREWSTER'S OPTICAL UNIT

The high-quality Brewster's Optical Unit is positioned at a specific angle in the BIOPTRON® device. When the diffuse unordered non-polarized light from the light source is incident on the Brewster's optical unit, it reflects with minimal intensity loss and becomes a perfectly vertically linearly polarized light (VLPL).

2. MEDICAL HYPERLIGHT OPTICS (filters designed for specific medical conditions)

BIOPTRON® can be equipped with six medical UV blocking optics:

2.1. *Tesla Quantum Hyperlight Medical filter* generates hyperpolarized light that has rotation/vibration energy of nanophotonic material with 16 peaks in the range of 3000 nm to 15000 nm. There are three characteristic peaks: 5811 nm (0.0133 eV), 8732 nm (0.0268 eV) and 13300 nm (0.0181 eV) which have **significant influence on the quantum state of biological structures** (conformational state of biomolecules).



- 2.2. **“Tesla Hyperlight Medical General Filter”** generates 480 nm - 3400 nm, maintaining and restoring cells, tissues and organs to their healthy state (30 years of excellent medical results). The general medical optics generates light in the visible spectrum as well as a portion of infrared wavelengths, ranging from 480 nm to 3400 nm, that is 1.15 - 2.90 eV (with a pronounced peak at 720 nm, 1.70 eV). The light penetrates deep into the tissue, activating various cellular and biological processes that accelerate regenerative and reparative healing processes.
- 2.3 **“Tesla Hyperlight Medical White Filter”** - (400-700 nm, visible light without UV and IR) acts efficiently as a nerve tonic that positively influences the pineal gland/ hypothalamus, and promotes inner balance and a peaceful mind. In use as Psychotherapeutic and Psycho - Stimulating White Light
- 2.4 **“Tesla Hyperlight Medical Blue Filter”** - (405-510 nm) is used in dentistry (to fight against bacteria’s/ periodontitis) and in cosmetic branches of aesthetic medicine (to treat acne vulgaris or rosacea).
- 2.5 **“Tesla Hyperlight Medical Green Filter”** - (520-580 nm) is used for glaucoma prevention and post-operative treatment of glaucoma.
- 2.6 **“Tesla Hyperlight Medical Red Filter”** - (625-740 nm), penetrates deep into in to the body, greatly reducing pain. Exposure to such light activates the analgesic systems of the brain. Sensitivity to pain and painful edema decrease, while microcirculation improves. It treats muscle pain and rheumatoid arthritis and it is effective for use in physiotherapy.



Tesla Quantum
Nanophotonic Optics
(VLPL 430 - 13300 nm)



General Medical Optics,
UV blocking
(VLPL 480 - 3400 nm)



Psychiatry Healing
White Light Optics
(VLPL 400 - 700 nm)



Bactericidal Blue Optics
(VLPL 405 - 510 nm)



Anti-Glaucoma Optics
(VLPL 520 - 580 nm)



Analgesic Red Optics
(VLPL 625 - 740 nm)

In addition to medical optics, BIOPTRON® can be equipped with orange, yellow, indigo and violet optics

1. *Low energy light*
2. *Incoherent light*
3. *Vertically linearly polarized light*
4. *Horizontally linearly polarized light/Hyperpolarized light*

1. Quantum Hyperlight is a Low Energy Light

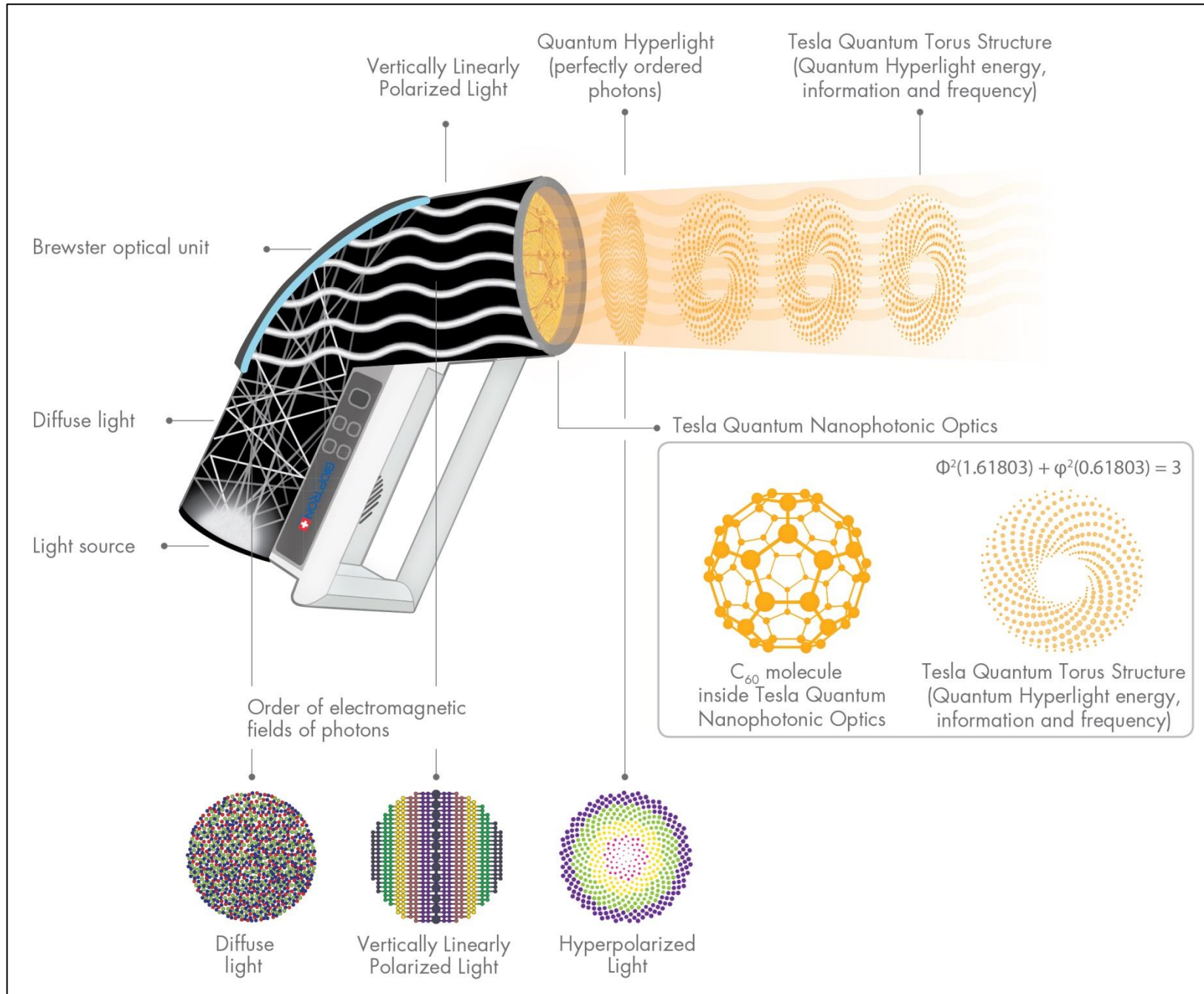
BIOPTRON® delivers a consistent stream of light with a steady intensity (also known as power density) of abt. 40 mW/cm² at a distance of 10 cm from the treated area. The dosage of BIOPTRON® Quantum Hyperlight can be precisely determined. It has two components, power and time: Energy (J) = Power (W) × Time (s) (the Bunsen-Roscoe rule of reciprocity in photobiology). In other words, if power is doubled and exposure time halved, the same amount of energy will be delivered, but very different biological responses will be achieved and observed. This light emission delivers a dose of light equivalent to an average energy density of 2.4 J/cm² per minute. This represents a low and safe dosage of light energy with a great response in the living matter that stimulates natural healing with no side effects. *Hyperlight lux with an optimal specific power density of 40 mW/cm² and an energy density of 2.4 J/cm², predominantly covers the electronic energy states of biomolecules from 1.4 to 3.4 eV.*

2. Quantum Hyperlight is an Incoherent Light

Out-of-phase or unsynchronized light is characterized by light waves that are not temporally or spatially synchronized. Frequent and random changes of phases between light photons of different wave frequencies and wavelengths make this a low-intensity light. BIOPTRON® incoherent light promotes safe, non-invasive and effective healing processes without the risk of developing resistance to the therapy. In contrast to this, most laser lights have a high intensity, coherent light which has a high potential for tissue damage.

3. Vertically linearly polarized light (See page number 23).

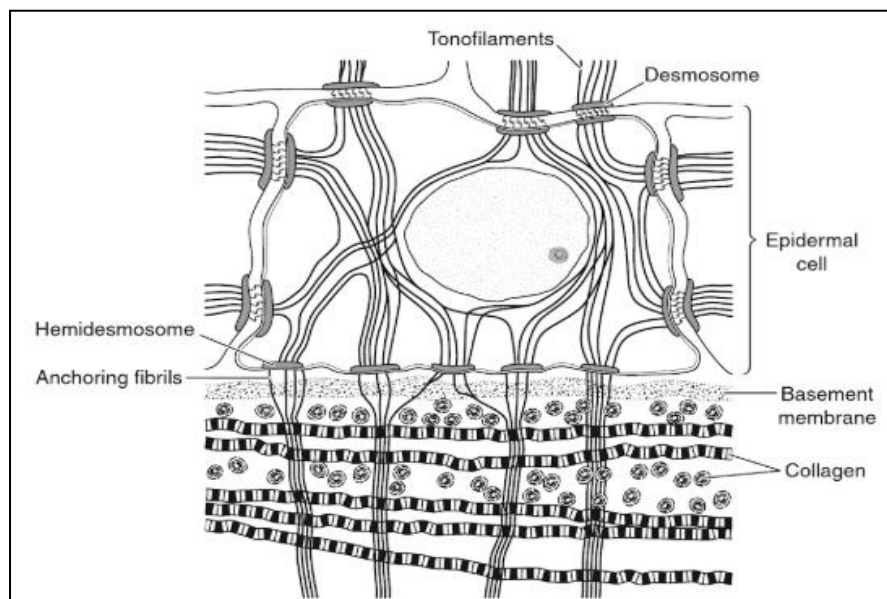
4. BIOPTRON® Quantum Hyperlight is a Horizontally Linearly Polarized Light (HLPL)



Generating Quantum Hyperlight with Quantum Nano Properties

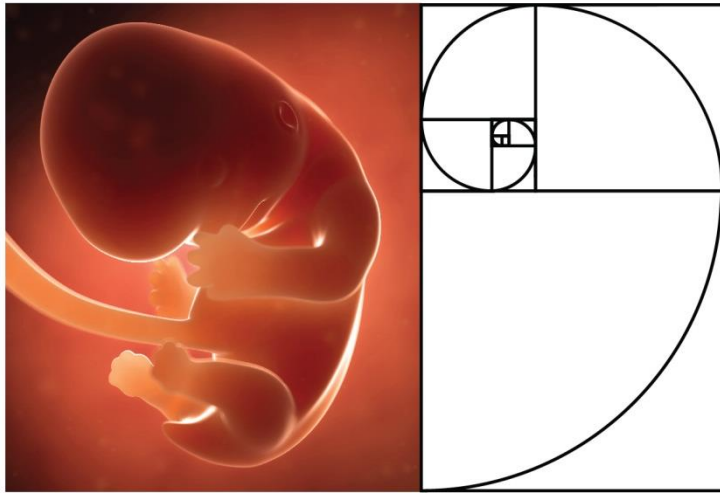
1. When diffuse light emitted by a halogen bulb collides with the Brewster Optical Unit, it reflects and becomes a vertically linearly polarized light with waves that propagate in vertical parallel planes in one direction.
2. When such VLPL passes through the **Tesla Quantum Nanophotonic Optics**, it becomes unprecedented, perfectly-ordered **Horizontally Linearly Polarized Light (HLPL) – Hyperpolarized light** with quantum nano properties, called **Quantum Hyperlight**.

VLPL **interacts with** C₆₀ molecules integrated in the optics, whereby C₆₀ **twists** at a near-inconceivable **18 billion times per second**. C₆₀ molecules reflect from each other without friction (paramagnetic and diamagnetic properties). As a result of VLPL interaction (in Tesla Quantum Nanophotonic Optics) with twisting C₆₀, VLPL photons start changing orientation (the hexagons in C₆₀ obtain the Faraday's effect: the plane of photon polarization rotates in hexagons, while the pentagons in C₆₀ obtain Fibonacci-sequential moment: the photons rotate and twist in all directions). The photons' electrical plane of polarization **changes** position from vertically linearly polarized light into horizontally linearly polarized light, step by step, thus becoming "sunflower pattern photons". Such Tesla Quantum toroidal perfectly ordered light maintains and restores the disturbed biological structures (matter), bringing them into a natural healthy state through the resonance principles of biomimicry, where pattern seeks identical pattern. According to quantum mechanical principles, if two entities possess the same type of symmetry, the perfect structured entity such as Quantum Hyperlight will prevail and impose its energetic properties on the other disturbed entity, bringing it into **homeostasis**.



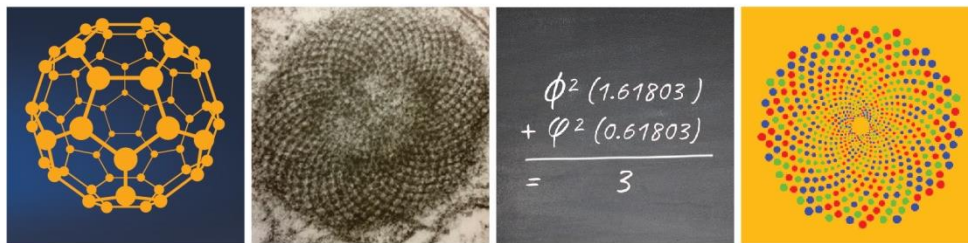
Arranged by the Fibonacci Law, such light propagates using electromagnetic interaction between molecules (non-covalent bonds). Due to its quantum properties, Quantum Hyperlight is unstoppable and unlimited, **spreading information, energy and frequency through the body's Living Matrix** of biomolecules cells and organs (as showed left in the illustration).

Quantum Hyperlight as the perfect structured entity, imposes its ideal energetic properties on the other disturbed entity (biomolecules), bringing the whole body-system into homeostasis. (Ref. J. Oschman, scientist, who developed the Living Matrix Theory, based on Supramolecular chemistry).



FIBONACCI SEQUENCE

In mathematics, the Fibonacci numbers are in the following integer sequence, called the Fibonacci Law, and characterized by the fact that every number, 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... Around 1200 AD, the mathematician Leonardo Fibonacci discovered the unique properties of the **Fibonacci sequence**. This sequence directly relates to the **Golden Ratio**. It can be applied to the proportions of a rectangle, called the Golden Rectangle. This is known as one of the most visually satisfying ones of all geometric forms: hence the appearance of the Golden Ratio in art (e.g., the Mona Lisa and the Last Supper).



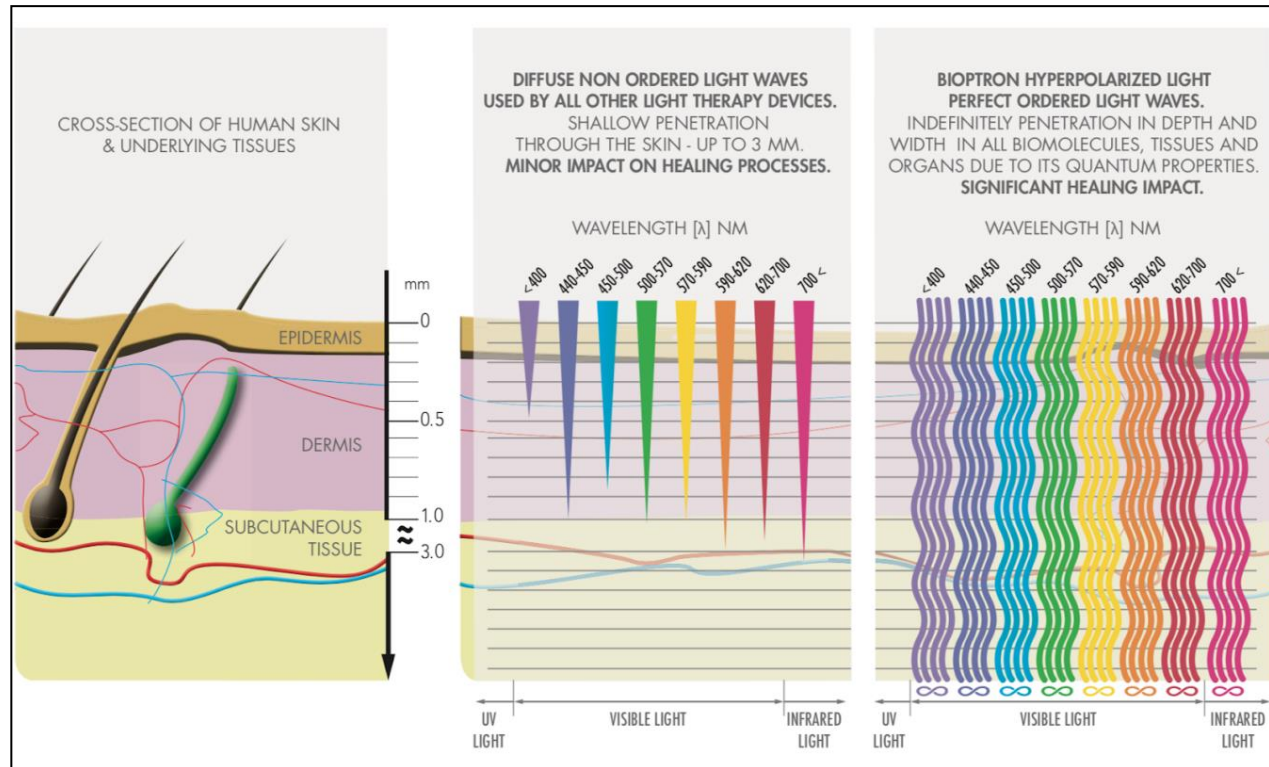
The Fibonacci numbers also appear in biological settings, fruit sprouts, echinacea, sunflower, pineapple seeds... even in the whole universe.



75% of the biomolecules are arranged in accordance to Fibonacci sequence, which resembles the look of Fibonacci's spiral – the **golden ratio**.



DISTINCTION IN LIGHT PENETRATION AND THE HEALING EFFECTS OF DIFFERENT KINDS OF LIGHT



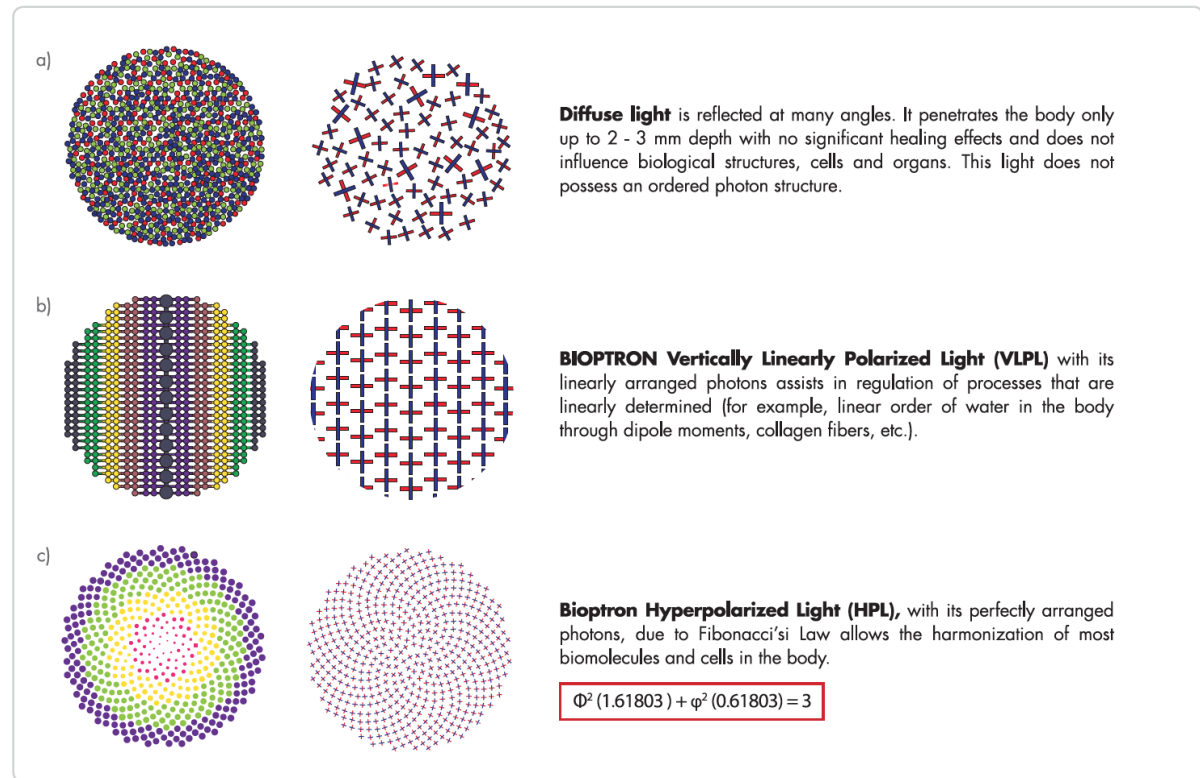
In general, the penetration of light depends upon both tissue type and the kind of light.

Penetration of diffuse light and its health efficiency

Diffuse light is chaotic, with the **disordered electromagnetic fields of photons**. This “chaos” acts disorderly on body water molecules with its dipole moments and on biomolecules with its positive and negative charges (their reunion again creates dipole moments). Diffuse light penetration is **shallow**: from a depth of about 100 microns to 2 - 3 mm; the penetration is limited, with **no efficient healing effect**; the benefit of diffuse light to repair imbalances exists, but is of minor importance for healing.

Penetration of VLPL and its health efficiency

VLPL with its **linearly arranged photons** assists in the regulation of processes that are linearly determined and has the ability to arrange body water and dipole moments of biomolecules (for example, linear order of water in the body through dipole moments, collagen fibers, etc.). VLPL penetrates some tissues to a depth of up to 2 - 10 mm. When the tissue is rich in water, the penetration is as deep as 20 mm. **Vertically linearly polarized light achieves much deeper and wider penetration than diffuse light, with efficient healing effects.** Due to its linear character, if VLPL encounters denser obstacles, it will be absorbed by the tissue, thus bringing therapeutic healing effects to the organism.

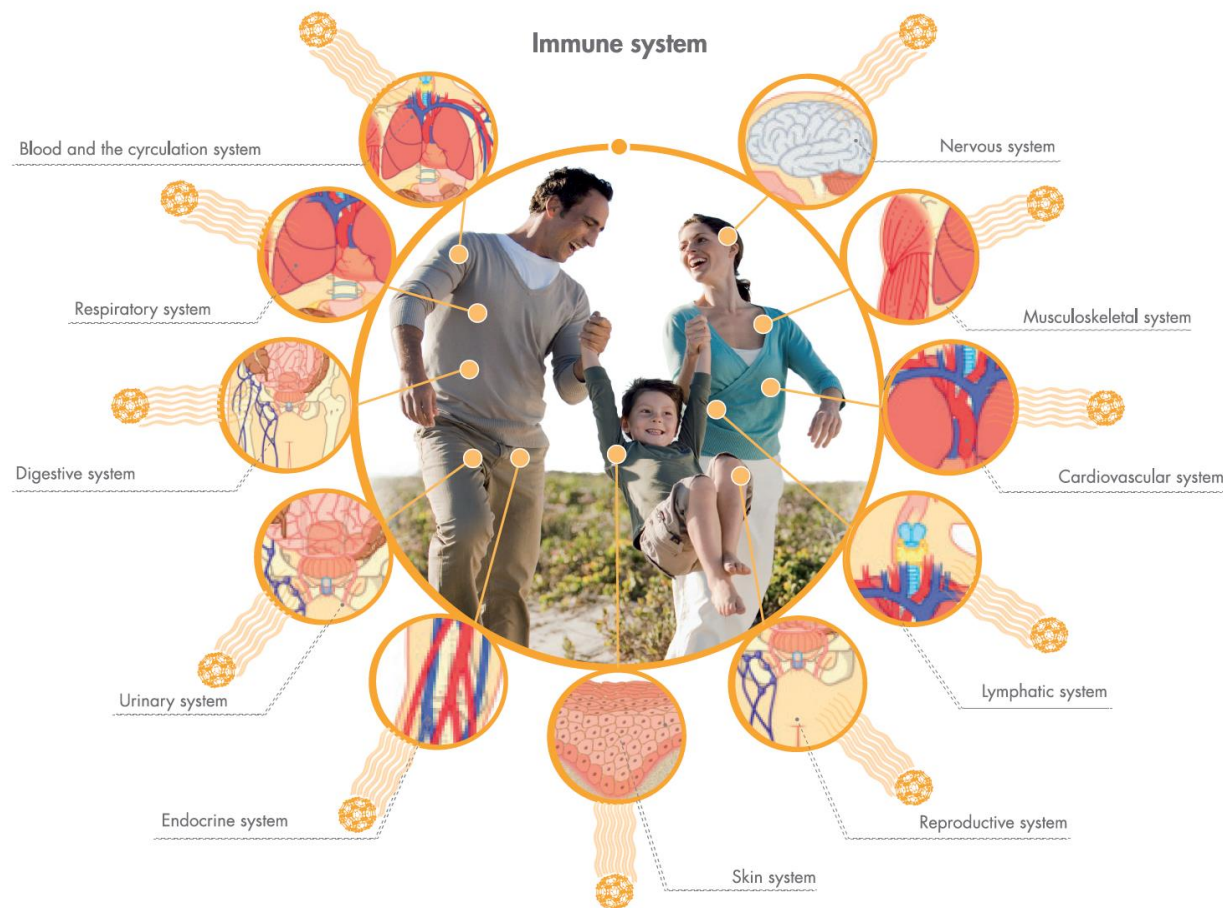


BIOPTRON® HLPL, its penetration and its health efficiency

HLPL as a unique quantum light with its perfectly ordered photons, according to the Fibonacci Law, **penetrates deep into the body.** According to the Fibonacci Law $\Phi^2 (1.61803) + \varphi^2 (0.61803) = 3$, dipole moments and biomolecules and electromagnetism in tissue have the same arrangement as Quantum Hyperlight photons, making **HLPL fully compatible with biological structures.** HLPL communicates with the molecules, cells and tissues, **conveying the ideal C₆₀ harmony** and its energetic state, inducing harmonization and equilibrium in energetically disturbed biological structures **accelerating natural healing processes.**

At the same time, because of the perfect Quantum Hyperlight symmetry, biomolecules directly absorb the energy necessary for life that results from the electrical and magnetic characteristics of **Tesla Quantum toroidal Hyperlight.** In effect, under its influence, the cell is stimulated to heal itself, regaining its natural equilibrium and energetic properties.

BIOPTRON® QUANTUM HYPERLIGHT IS RECOGNIZED AS A UNIQUE METHOD OF TREATMENT FOR DIFFERENT MEDICAL INDICATIONS



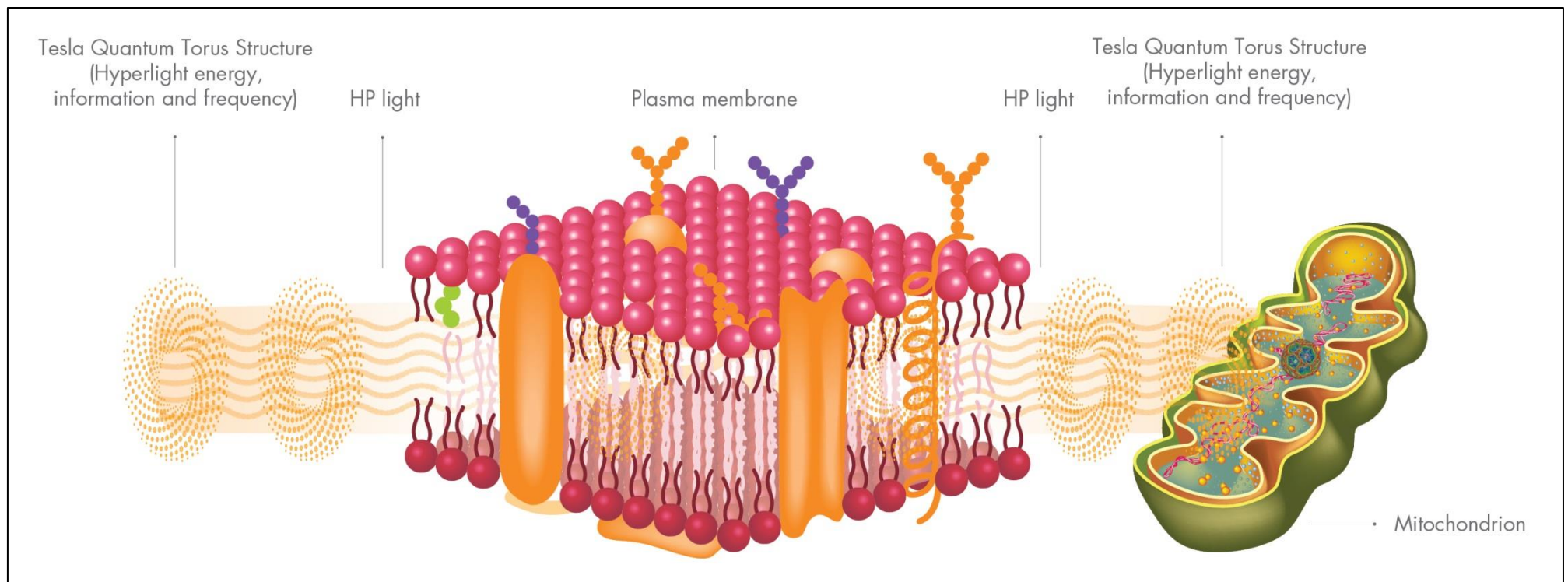
Information:

We recommend consulting a physician before using BIOPTRON® Hyperlight therapy in order to receive professional advice as to whether this treatment is advisable or some other medical treatment may be necessary. Due to the Tesla Quantum toroidal property of HLPL, the list of medical conditions that can be treated is long. It can be used efficiently in all medical branches and for all parts of the body [Ref 2.5-13.4]. The duration of daily treatment for each disease is usually 4 - 10 minutes per zone of treatment, once or twice a day.

According to BIOPTRON® scientific research:

1. Quantum Hyperlight maintains cells delaying the apoptosis process (natural cell death). It has been shown that Quantum Hyperlight stimulates cell plasma membranes to **promote an optimal healthy state of the cell**.
2. Quantum Hyperlight maintains cells function, **reducing the number of necrotic cells**, thus reducing the necrosis processes (premature cell death) [Ref 12.6].

When **HLPL** is applied, it penetrates the plasma membranes of dysfunctional cells and creates a spatial rearrangement of their structural components; it **maintains and restores cells in the whole body into their natural, healthy state**.



THE MAIN THERAPEUTIC EFFECTS OF BIOPTRON[®] QUANTUM HYPERLIGHT:

1. Stimulation of tissue self-repair processes and prevention of tissue degradation (even for deeper systems, such as nerves, tendons, cartilage, bones, and internal organs)

- **Improved** regulation of cellular proliferation
- **Enhanced** cellular energy
- **Release of growth factors**
- **Excellent neovascularization** and promotion of angiogenesis
- **Accelerated** wound healing (by increased RNA and protein synthesis, particularly the production of collagen and elastin)
- **Significant improvement** in the quality of scar tissue
- **Stimulation** of nerve functions
- **Increase in cellular oxygenation** and detoxification

2. Stimulation of the body's natural defenses (activation of nonspecific cellular and humoral immunity)

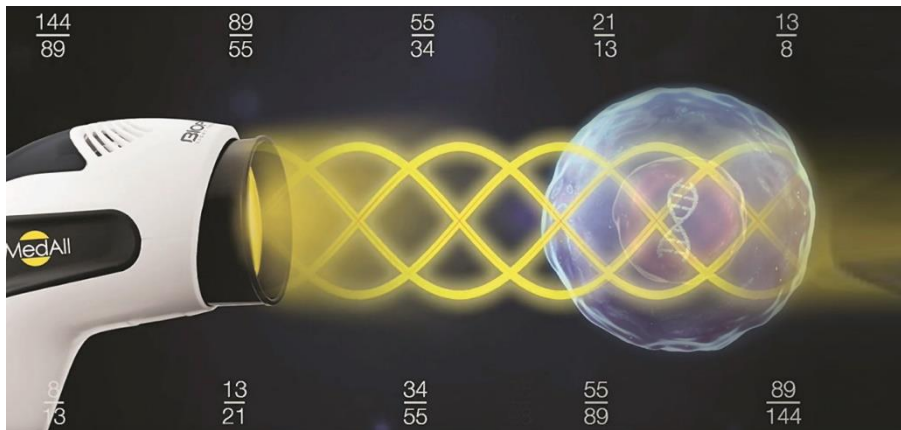
- **Eradication of pathogenic microorganisms** (e.g. different bacteria in acne conditions and viruses in various skin infections, such as herpes simplex and zoster viruses)
- **Activation** of neutrophils, monocytes/macrophages, mast cells and lymphocytes
- **Stimulation** of natural killer (NK) cells

3. Significant reduction of pain sensation

- **Reduced swelling** and hematomas as well as the resolution of inflammation caused by injuries, degenerative diseases or autoimmune diseases
- **Improved** deep microcirculation
- **Reduction** of muscle spasms
- **Activation** of natural pain killing processes
- **Decreased pain** transmission by direct action on peripheral nerves

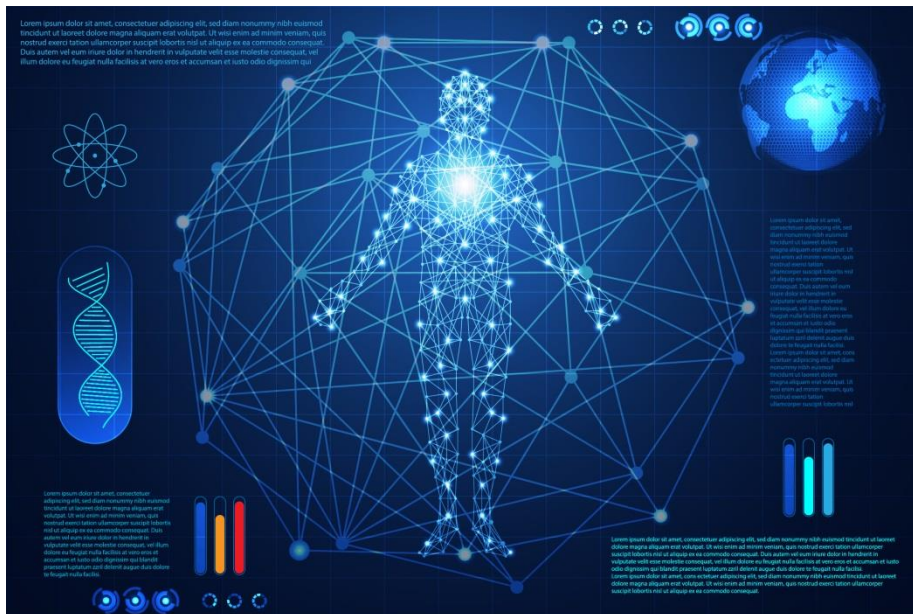
4. Thermo-sensory and opto-sensory stimulation

BIOPTRON[®] Quantum Hyperlight has sensory and neural effects that can reduce the symptoms of seasonal SAD and non-seasonal depression. It can be sensed by the skin (thermo-sensory stimulation) as well as by photoreceptors in the eye (opto-sensory stimulation).



Quantum Hyperlight accelerates the healing processes - it promotes deep microcirculation and cell biostimulation at the quantum level, and in this way improves the body's defence system.

Due to its quantum properties, HLPL has a positive and long-lasting effect not only on the treated area, but also **on the whole body**.



The results:

- Light is **absorbed** by living tissues, **increasing** the level of atp (adenosine triphosphate), which improves the cell metabolism
- **Increased** cellular energy
- **Increased deep microcirculation and cell biostimulation**
- **Increased** protein synthesis (production of collagen and elastin)
- **Reduced** swelling and inflammation
- **Reinforces the body's defence system**
- **Stimulates regenerative and reparative processes** in all biological structures
- **Significant acceleration** of wound healing
- **Relieves pain** or decreases its intensity - efficient natural analgesic, no side effects

1. BIOPTRON® QUANTUM HYPERLIGHT FOR WOUND HEALING

BIOPTRON® Quantum Hyperlight significantly **reduces the time** required for complete epithelialization (dermal regeneration) of damaged skin and reduces scar formation. It helps to accelerate the healing time and reduces the length of hospital stays while improving life quality.

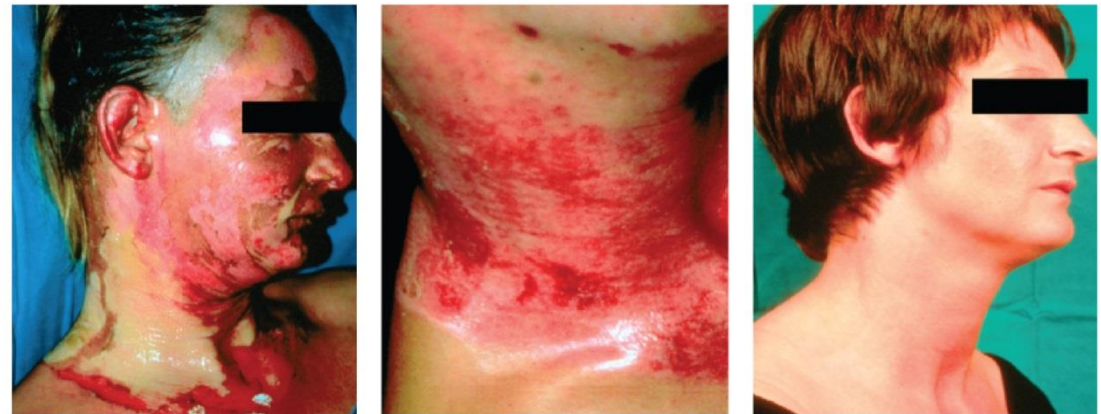


RETROAURICULAR EXULCERATION: Healing was achieved after 7 weeks of BIOPTRON® light treatment



ULCERA PEDIS: Diabetes mellitus healing was achieved after 9 months with BIOPTRON® exposure

Conservative approach to deep dermal burn wounds with BIOPTRON® Light Therapy



Start therapy

After 12 days

After 15 months

Monstrey et al (2002a)



Start therapy

After 15 days

After 19 days

After 29 days

After 9 months

Monstrey et al (2002b)

Hyper Light in the treatment of 2nd degree burn



The first day

The third day

The fifth day

The seventh day

A second degree burn was caused by hot cosmetic wax. HL was applied for 7 days and complete healing occurred in 14–21 days. Wound healing of this kind normally takes up to 40 days.

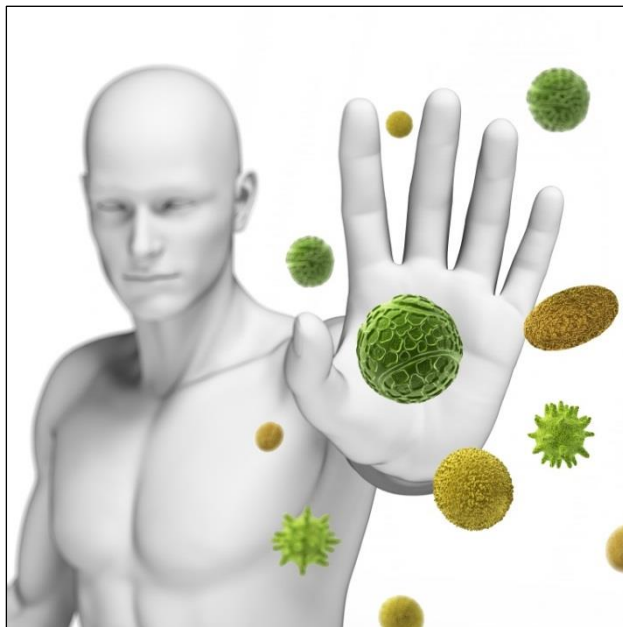
Source: Dr Biljana Lučić and Dr Milica Komnenić, ZEPTEK MEDICAL General practice, Belgrade

Quantum Hyperlight 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**
- **Less hypertrophic scarring**

First-degree and superficial second-degree burns can be treated with conventional local medical treatments in combination with Quantum Hyperlight treatment. **Several studies showed that the routine use of HLPL 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, HLPL 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 (e.g., hands, head and neck area). These wounds often require the surgical removal of dead tissue and transplantation of the skin (skin grafting).

BIOPTRON® QUANTUM HYPERLIGHT AS NATURAL IMMUNE BOOSTER



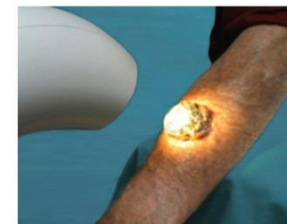
Activation of nonspecific cellular and humoral immunity [Ref 6.1 - 6.27]:

eradication of pathogenic microorganisms (e.g. different bacteria in acne conditions and viruses in various skin infections, such as herpes simplex and zoster viruses), activation of neutrophils, monocytes/macrophages, mast cells and lymphocytes, stimulation of natural killer (NK) cells

BASALIOM - linker Unterarm - 5 Monate behandlungszeit
 Rasch wachsendes basaliom
 Anwendungen: 1x/Tag 20 min



14. November 2011



29. November 2011



14. April 2012

SKIN TUMOR: Treatment with BIOPTRON® Quantum Hyperlight (Courtesy of Dr. Surböck, Mariazell)



2. BIOPTRON® QUANTUM HYPERLIGHT FOR PAIN RELIEF

BIOPTRON® Quantum Hyperlight **significantly reduces pain sensation** [Ref 7.1 - 7.22], **swelling and hematomas**, it reduces inflammation caused by injuries, degenerative diseases or autoimmune diseases, it improves microcirculation, reduces muscle spasms, activates natural pain-killing processes and it decreases pain transmission by direct action on peripheral nerves. In the field of pain treatment, **HLPL can be used as a monotherapy and/or a complementary therapy** in the following cases:

Rheumatology: osteoarthritis, rheumatoid arthritis (chronic) and arthrosis

Physiotherapy: lower back pain, shoulder and neck pain, carpal tunnel syndrome, scar tissue, injuries of the movement apparatus - locomotor system

Sports medicine: injuries to the soft tissues or muscles, tendons and ligaments:

muscle cramps, sprains, strains, bruises, tendon inflammations, ligaments and muscle tears, tennis elbow

HLPL optimizes muscle metabolism, accelerates tissue development in athletes and promotes healing after sports injuries, so **reducing the treatment time** [Ref 5.1 - 5.8].

It is effective for: ***muscle spasms, sprains, strains, tendonitis, ligament and muscle tears, contusions, tennis elbow/golfer's elbow, shoulder rotator cuff strain, calf and hamstring injuries, back pain, swelling, spasms and knots, neck pain, pre- and post-training stiffness, plantar fasciitis etc.***



3. BIOPTRON® QUANTUM HYPERLIGHT IN DERMATOLOGY/SKIN DISEASES

BIOPTRON® QUANTUM HYPERLIGHT can help significantly in skin diseases [Ref 4.1 - 4.5]: *atopic dermatitis, herpes simplex, herpes zoster, psoriasis, eczema, rosacea, mucosal injuries, acne, surface bacterial infections.*

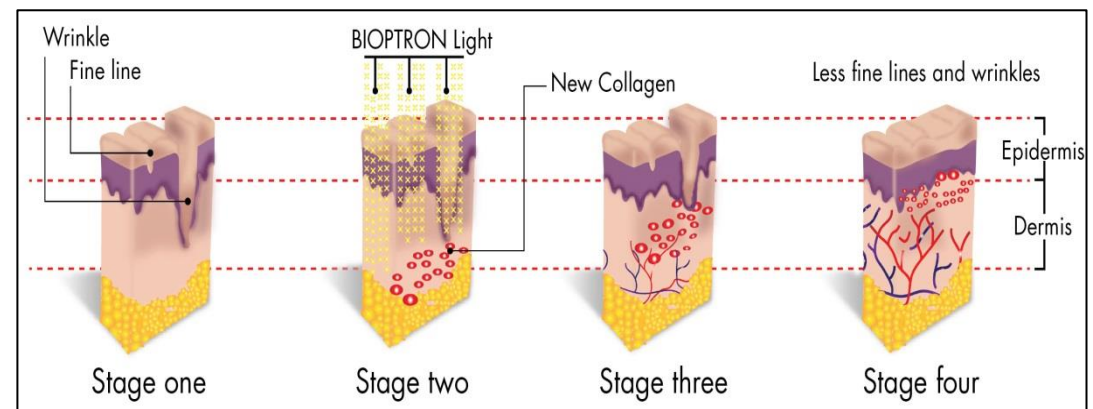
HLPL stimulates tissue self-repair processes and prevents tissue degradation (even of deeper structures, such as nerves, tendons, cartilage, bones and internal organs).

- **Improved** regulation of cellular proliferation
- **Enhanced** cellular energy
- **Release** of growth factors
- **Excellent** neovascularization and promotion of angiogenesis
- **Accelerated wound healing** (by increased RNA and protein synthesis, particularly the production of collagen and elastin)
- **Significant improvement** in the quality of scar tissue

HLPL accelerates wound and burn healing, making it up to twice as fast, at the same time reducing pain, discomfort and scarring [Ref 3.1 - 3.16]. In the field of wound healing, it could also help as a complementary therapy for the following conditions:

Post-surgical wounds, burns, transplants, healing after trauma, venous ulcers (stasis ulcers), pressure ulcers, skin grafts, venous leg ulcers (stasis ulcers), decubitus (pressure) sores, diabetic foot ulcers.

The main mechanism of Quantum Hyperlight and its **influence on healing wounds without scarring** is related to the orthogonal arrangement of collagen type I and III with collagen type VII in the basal membrane. At the quantum level, **it stimulates the basal membrane very rapidly**, which reduces, prevents and averts the formation of scars.





BIOPTRON® QUANTUM HYPERLIGHT FOR DERMATOLOGICAL SCALP AND HAIR DISORDERS

Such light stimulates the immune system and **stabilizes the production of keratinocytes**, whilst minimizing the occurrence of scaly, flaky scalp patches and eliminating dryness of the scalp, it also brings back hair shine and strengthens hair follicles. Early clinical testing has demonstrated a **60% reduction in hair loss** during only one month of treatment [Ref 14.1 - 14.3].



4. BIOPTRON® QUANTUM HYPERLIGHT IN AESTHETICS & ANTI-AGING

BIOPTRON® Quantum Hyperlight slows down the skin ageing process. It stimulates specific cells in the skin known as fibroblasts which produce collagen and elastin and **it is a natural rejuvenation treatment for the skin** [Ref 13.1 - 13.7].

- **Reduces both fine and deep wrinkles** by stimulating elastin, promoting fibroblast activity and collagen production
- **Rejuvenates the skin**
- Provides a **smoother and more radiant complexion**
- Helps **improve skin texture**
- **Restores the original luminosity of the skin and strengthens the hair follicles.**

The BIOPTRON® Quantum Hyperlight spectrum promotes a series of soothing processes in the skin:



Improvement of microcirculation:

The 590 nm and 840 nm stimulate the formation of new blood vessels.

The 900 nm promote peripheral vasodilatation, improving deep skin circulation.

Increased cell activity:

The 633/640 nm stimulate the production of adenosine triphosphate (ATP, the molecule that transfers energy to cells). The increase in cell activity **stimulates skin repair and regeneration** processes and **combats the appearance of fine wrinkles**.

Better skin hydration:

The 590 nm helps the skin to maintain moisture and retain its elasticity.

Stimulation of elastin and collagen synthesis:

The 660 nm stimulates collagen production and thus contributes to tighter, firmer skin and reduces the traces of ageing.

Higher degree of tissue repair:

The 830 nm provide protein delivery to mastocytes which are associated with tissue repair.

Strengthening the immune system:

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: The Quantum Hyperlight wavelengths of 525 nm reach and eliminate melanosomes (skin cells that contain melanin). This process helps to correct and standardize the complexion.

5. BIOPTRON® QUANTUM HYPERLIGHT IN DENTISTRY - ADJUVANT ORAL TREATMENT



The Blue Quantum Hyperlight is efficiently **fighting oral infections and/or inflammation**, stimulating elastin and collagen production for **faster oral healing** [Ref. 8.1].

Clinical Research Box [Ref 8.2]:

Clinical studies have shown that blue Quantum Hyperlight applied into the oral cavity for 10 minutes during 5 consecutive days significantly reduces plaque formation in adult dental patients. Besides, phototherapeutic treatment of dental diseases of various etiopathogenesis with BIOPTRON® blue spectrum showed positive influences on immune cells (T lymphocytes for cell immunity), increased the local concentration of immunoglobulins (B lymphocytes for humoral immunity), stimulated the proliferation of fibroblasts for the formation of collagen and stimulated angiogenesis (the formation of new blood vessels).

In patients with parodontium diseases, the treatment with blue Quantum Hyperlight of 4 - 6 minutes for 8 - 10 sessions shortened the recovery time and reduced the consequences of cryotherapy and facilitated epithelization by 1.5 to 2 times. More importantly, such Blue light reduced **drug load and local anesthesia** and induced local regenerative and immunostimulating actions. All these, taken together, contribute to the improvement of the treatment quality and shortening of disease duration.

Blue Quantum Hyperlight has the following properties: ***antibacterial and antiviral action, it accelerates healing processes after oral surgery, supports the periodontal regeneration process after clinical therapy (periodontal disease and dental plaque), reduces swelling, increases tissue regeneration, assists in orthodontal pain reduction.***

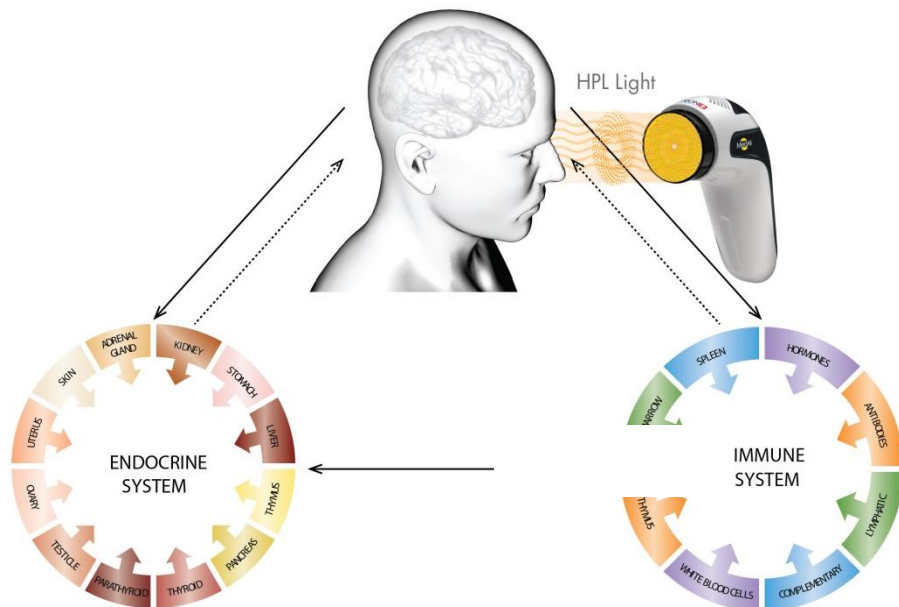
6. BIOPTRON® QUANTUM HYPERLIGHT FOR SEASONAL AFFECTIVE DISORDER (SAD)

Skin-sensory and optic-sensory stimulation

Light deprivation and consequently the disruption of the circadian rhythm is associated with the increased risk of serious psychological disorders, including depression.

Quantum Hyperlight has sensory and neural effects that can reduce the symptoms of seasonal affective depressive disorder (SAD) and nonseasonal depression: it has an intensity of more than 10,000 Lux. This is a clinically tested minimum SAD treatment dosage.

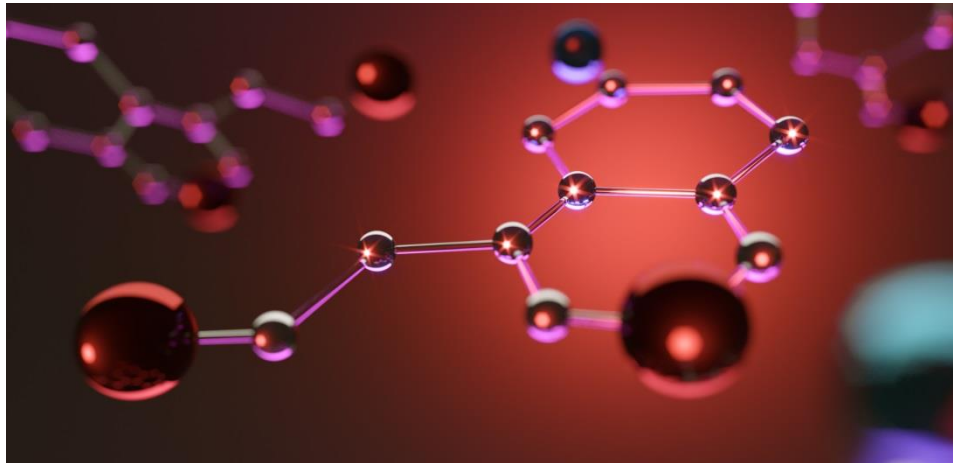
(Conventional light therapy devices provide a light intensity of 10,000 light units (called Lux). A daily treatment of about 30 minutes is considered effective. The light intensity in all BIOPTRON® products (BIOPTRON® MedAll, BIOPTRON® Pro 1 and BIOPTRON® 2) exceeds 10,000 Lux. For comparison, the luminance of standard room light is approx. 500 Lux; a cloudy day equals up to 5,000 Lux and mid-day summer sunlight reaches at least 50,000 Lux) - [Ref 9.1-9.6]



BIOPTRON® Quantum Hyperlight is medically approved and ideal for the treatment of seasonal depression.

This system can be used as a monotherapy or in combination with other medical treatments.

Clinical Research Box:



Scientific studies showed that there is a change in the EEG signal under the influence of medical Quantum Hyperlight and that this effect can be used to alleviate depression or help in its treatment.

Exposure: 20 - 40 min. = 20 cm distance, for 40 - 60 min. = 30 cm distance or 60 - 120 min. = 40 cm distance

The BIOPTRON®'s pilot study - current scientific research, on the neuroendocrine effects of HLPL in the domain of visible and infrared light, specifically the secretion of **serotonin, melatonin, dopamine** and their possible positive effects.

Further, the researchers investigated the effects of the Quantum Hyperlight through the neuroendocrine-immune system on general blood parameters (red and white blood cells, hemoglobin, potassium, sodium, etc.) as well as insomnia, depression, heart rhythm, blood pressure, other parameters and the psychological parameters of personality.

The participants in the study were exposed to BIOPTRON® Quantum Hyperlight in 10-minute sessions (3 x per week on the face, with open eyes, at a 40 cm distance).

The results indicated a significant decline in anxiety, even for the subjects within the normal range of values. There was a considerable improvement regarding the somatization of anxiety disorder, i.e. a reduction of cardiovascular, respiratory and digestive symptomatology, as well as a significant improvement in the quality of sleep (evident by improvements in the melatonin levels).

The results showed **increases in serotonin and dopamine** levels (associated with well-being and happiness), but decreases in cortisol levels (associated with stress) during the treatment, indicating a **decline in anxiety** and associated symptoms. At the same time, the exposure to such light is beneficial for sleep because of the effects on melatonin, as shown by clinical parameters.

As a result, the general recommendation for sleeping problems with the Quantum Hyperlight is 5 minutes per day at a distance of 40-60 cm.

7. BIOPTRON® QUANTUM HYPERLIGHT IN PEDIATRICS

HLPL light can be used in children as a complementary therapy to reduce pain and promote healing in various types of conditions, such as:

pediatric dermal affections, endogenous eczema, upper respiratory tract infections, allergic respiratory diseases, pediatric musculoskeletal disorders and neurological disorders and deficits. [Ref 10.1 - 10.4]

Clinical Research Box:

Clinical studies for newborn babies in the intensive care unit (including life support systems) with various conditions listed above demonstrated that the exposure to BIOPTRON® Quantum Hyperlight for 10 minutes, 3 or 4 times daily, improved treatment responses without negative side effects. Pain was relieved within 24 hours and skin problems decreased within 2 to 3 days. The best results have been obtained in the treatment of venous infections [Ref 10.2].



BIOPTRON® Quantum Hyperlight is also suitable for newborns:



It can be used in cases of **venous infections - after injections, blood collections, fluid or blood infusion, pressure sores in movement-impaired babies, skin rash caused by moist heat, diaper rash and frequently accompanied yeast infections, skin diseases, such as phlebitis, decubitus, intertrigo.**

BIOPTRON® Quantum Hyperlight may only be used under medical supervision for children **under 6 years of age!** Treatment of the eye area should not be performed.

8. BIOPTRON® QUANTUM HYPERLIGHT IN VETERINARY MEDICINE

Similar to the medical effects on humans, BIOPTRON® Quantum Hyperlight is also a recommended and successfully used therapy in veterinary medicine, in the professional and home care of animals, ensuring fast and effective healing of common problems. It is an **easy, effective, non-invasive method of treatment of wounds of different origins, skin problems** (e.g., trichophytia, alopecia, bacterial and allergic dermatitis, demodicosis), as well as **arthritis pain, problems with cramping syndrome and inflammatory disorders** (e.g., otitis externa, mastitis, etc.). Under the influence of HP light, cell disorders can be restored to their natural state, bringing the animal body to a natural energetic equilibrium. [Ref. 11.1 - 11.6].



The images are of a two-year-old horse. The wound was one day old when the treatment started. The course of treatment ended 7 weeks later with comprehensive results. The effects reported on biological structures are the same as in humans.

Clinical Research Box:

BIOPTRON® Quantum Hyperlight in cow mastitis treatment 24 hours after the first exposure, had positive effects and the following results were achieved:

1. In subclinical mastitis: 40% leukocyte reduction and 43% somatic cell-reduction in milk (in relation to baseline);
2. In clinical mastitis, there were no inflammation symptoms, pain, nor redness; with no need for another exposure and no need for classical antimicrobial drugs.

NOTE: Those satisfactory results from veterinary medicine are promising solutions for successful human medicine mastitis treatments in the future (Ref.: 11.7).



TECHNICAL INFORMATION - ADVANCED SWISS TECHNOLOGY AND DESIGN - 3 BIOPTRON® DEVICES

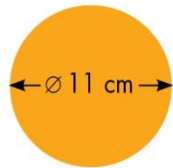
The essence of the BIOPTRON® light therapy system consists of five crucial elements:

1. **Light source** emits (conveys to Brewster's optical unit) non-polarized, polychromatic and incoherent light,
2. **Brewster's optical unit** (a patented five-layered optical system) provides vertical linear polarization of up to 95%,
3. **Safety glass**,
4. **Patented Tesla Quantum Nanophotonic Optics and other medical optics** (see page 19),
5. **Special certificates** for medical devices.

There are three models of the BIOPTRON® device: *BIOPTRON® 2*, *BIOPTRON® Pro1* and *BIOPTRON® MedAll*. All BIOPTRON® devices have the same physical characteristics of light and therefore the same beneficial medical effects on the human body and are differing only in treatment area size and design.



The *BIOPTRON® 2* HLPL therapy device is primarily designed for use by **health professionals in medical facilities**. We offer three different stands (home, professional and wall-mounted) to assure the best space-saving and practical solutions. The device can be positioned so as to ensure comfort for both the patient and the medical staff. The control panel allows the operator to easily program treatment sessions lasting up to 95 minutes, divisible into one-minute increments. The optics diameter (approx. 15 cm) permits the **treatment of larger areas** and hence offers time-effective therapy. The *BIOPTRON® 2* guarantees the highest degree of comfort for all applications and, like other BLT devices, is very easy to use.



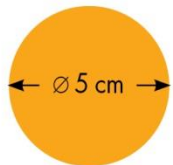
OPTICS DIAMETER



BIOPTRON® Pro1



The **BIOPTRON® Pro 1** therapy device is designed for use **at home, in hospitals, in treatment centers** and other beauty or health care facilities. The device is available either with a functional floor stand or an ergonomic table stand for more user-friendly handling. Easily adjustable height and head inclination, as well as the ability to rotate the device head up to 360°, allows more convenient use. The treatment time can be easily set using the control panel down to 30 second intervals. The optics diameter of the **BIOPTRON® Pro 1** (approx. 11 cm) allows the **treatment of various medium-sized areas**. An optional wheel set is also available for easier mobility.



OPTICS DIAMETER



BIOPTRON® MedAll



The **BIOPTRON® MedAll**, small yet powerful, is easy to use, absolutely safe, with a stylish design and state-of-the-art technology. It is intended as a personal polarized light therapy medical device for use **in all circumstances and locations**. Ergonomic, easy to handle and portable, it can be carried anywhere, even on business or leisure trips, easily fitting into your handbag or luggage. It is available with a floor stand and a handy stylish case for safe storage and transport. With the 5 cm diameter optics you can cover **small, yet precise, treatment areas** while experiencing the benefits throughout your entire body. The innovative standby mode saves energy, time and money, as this function uses only 0.5 W of power. The LED timer display (common to all three models of the BIOPTRON® devices) ensures better visibility in all light conditions and highly effective resolution for easy reading. The user-friendly device control interface, consisting of smartly designed buttons, ensures more practical and easy usage. The ergonomic anti-slip grip, in combination with modern design and biocompatible allergy-free material, guarantees easy handling, more safety and comfort while holding the device.

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