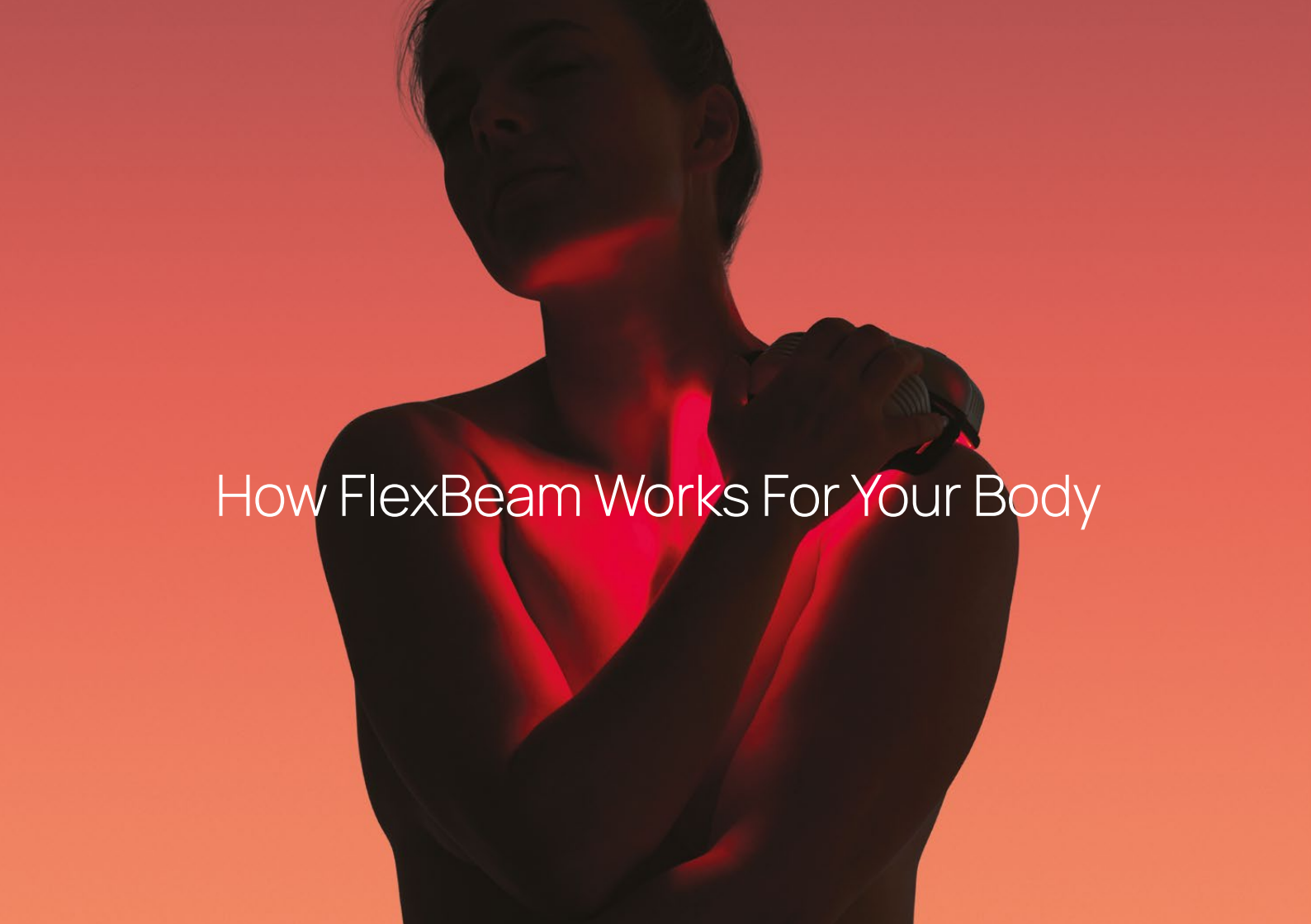

How FlexBeam Works For Your Body

Contents

A New Science

There is a revolution under way in medical science, changing the fundamental view of how our bodies work.

We are not just made of biochemical matter. We are charged energy beings, constantly interacting with and reacting to our environment. Light plays a crucial role in this natural process.

Comprehensive new research has unearthed a whole new understanding about how our cells function optimally. Food is not the only way we obtain energy; we are also charged by our light environment.

In fact, science now shows your body operates like a battery.

It is powered by certain wavelengths of sunlight, and your general health is determined by our ability to receive and maintain a charge.

This is the energy principle behind our game changing therapy.

What is Infrared Therapy?

Light at certain wavelengths is scientifically proven to interact with the body in beneficial ways.

Red and near-infrared wavelengths are a uniquely healing part of the electromagnetic spectrum and it is one of the most natural ways to charge the body. It is now used as a new form of therapy under the umbrella term Photobiomodulation (PBM).

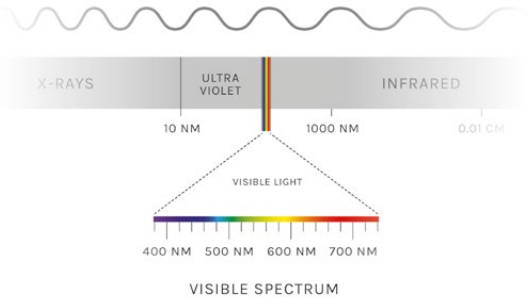
PBM describes approaches based on interactions of light, and after more than 50 years of extensive research on PBM, it has been proven as a non-invasive, non-toxic and non-traumatic therapy. There are no known side effects.

Red Light

Wavelengths ranging from 600-650nm. Red light boosts the formation of collagen and elastin, and assists cell communication. It penetrates superficially (up to 5mm) and is mainly used for skin conditions.

Near Infrared (NIR) Light

Wavelengths ranging from 750–850nm. NIR stimulates healing, increases mitochondrial function and improves blood flow and tissue oxygenation. It penetrates deeper into the body (up to 10cm).



VISIBLE SPECTRUM

The Healing Power of Sunrise

At sunrise and sunset, we are exposed to light that is in the red and near infrared range, and this light has been proven to have a very beneficial healing effect.

Sunlight is essential for good health. We have evolved in an outdoor environment and sunlight contains a broad range of wavelengths that vary at different times of the day.

This circadian biology has a huge effect on our bodies.Within a very short time of human evolution we have moved from living according to the rising and setting of the sun to an indoor life with electricity and artificial light.

This shift turns out to have a major impact on our wellbeing. Science is only now beginning to understand the effect of red light on the body and how vital it is for health and optimal functioning.

Red and Near-Infrared Light
A Timeline of History

1967

Researcher Endre Mester discovers the healing power of red light on a group of animals, testing to see if laser could cause cancer. Not only do they not get cancer but the hair on the laser treated group grows back faster than the untreated group.

1903

Physician Niels Ryberg Finsen wins the Nobel Prize in Medicine for his successful treatment of smallpox and lupus with red light.

1970

By the early 1970s, laser therapy is recognized as a physical therapy modality in Eastern Europe, the Soviet Union, and China. In 1977, it appeared in the United States.

2020

Recharge launches the FlexBeam, the world's first targeted infrared light therapy device designed for the human body.

2002

FDA light therapy has widespread scientific and evidence-based acceptance.

2007

Development of double stack emitter LED – making PBM with LED effective, safe and affordable.

2000

NASA uses red light therapy to help astronauts maintain muscle and bone mass, and to treat chronic wounds.

2016

Red light wall panels based on a 1990s design for plant-growing enter the commercial marketplace for home use.

How to Recharge the Body

Electric charge is a fundamental property of the body. The surfaces in our bodies - such as membranes, proteins and DNA - are all charged, negatively or positively, depending on whether they lose or gain electrons.

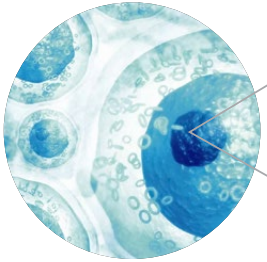
By improving the flow of charged electrons, we can re-energize the body.

At the core of your body's power to heal itself are sub-cellular organelles called mitochondria. The number of mitochondria in a cell varies widely by organism, tissue, and cell type, and are concentrated in organs with high energy demands such as the brain, heart, liver, skin, ovaries and muscles.

This is because mitochondria generate most of the chemical energy supply in the body via the molecule ATP (adenosine triphosphate). They also regulate a wide variety of other tasks, such as signalling, cellular differentiation, and maintaining control of the cell cycle and cell growth. This is why they are often referred to as the 'powerhouse' of the cell. Crucially, within the mitochondrial membrane are chemicals that act as 'light receptors'.

Red light energy is taken up by these receptors, increasing the electron transfer across the mitochondrial membrane via a cascade of reactions, resulting in increased charge, which leads to more available energy all through the body.

Cellular Energy Generators
Mitochondria



① LED light at a wavelength of 625-635nm (red) and between 810-850nm (infrared) is delivered to the tissue via the red light therapy device.

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

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

ATP

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

ROS

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

NO

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

Your Body's Battery
Water

Approximately 55-70% of your bodyweight and 99% of your body's molecules are made of water, and this water is in a charged state.

Recent research by Prof Gerald Pollock of the University of Washington has shown that water adjacent to a cell or mitochondrial membrane is so-called structured water. This is also called EZ (Exclusion Zone) water because it creates a separation of charge. Positive protons are excluded and pushed to the bulk water, and a lattice-like, negatively charged water forms near the membrane. This increases the voltage across the membrane. This charge separation of water in the body functions like the positive and negative poles of a battery.

Red light has been repeatedly shown to increase this EZ zone in water, making cell water in and around the mitochondria able to store and maintain charge - like a liquid crystal.

Infrared light has also been found to increase the electrical capacitance of the membrane, which greatly affects the body's energy conservation.

Where There is Life, There is Charge

Electric charge is the force behind our physical energy as humans. Experiments have clearly shown that infrared light therapy stimulates mitochondrial energy generation in the cells, enhances the voltage across the membrane, and increases the body's capacity for energy storage.

Light enhances the charge of your body and activates its natural healing power. Recharge with infrared light therapy.

Multi-Level Treatment

Infrared light therapy works on multiple levels in the body.

Molecular

- Chromophores, cytochrome c oxidase, water, opsins
- Retrograde mitochondrial signalling
- Light-sensitive ion channels
- Adenosine triphosphate ATP
- Reactive Oxygen Species ROS
- Calcium
- Heat-shock proteins
- Melatonin
- Brain-derived neurotrophic factor
- Gene transcription factors
- Akt/mTOR/CyclinD1 pathway

Cellular

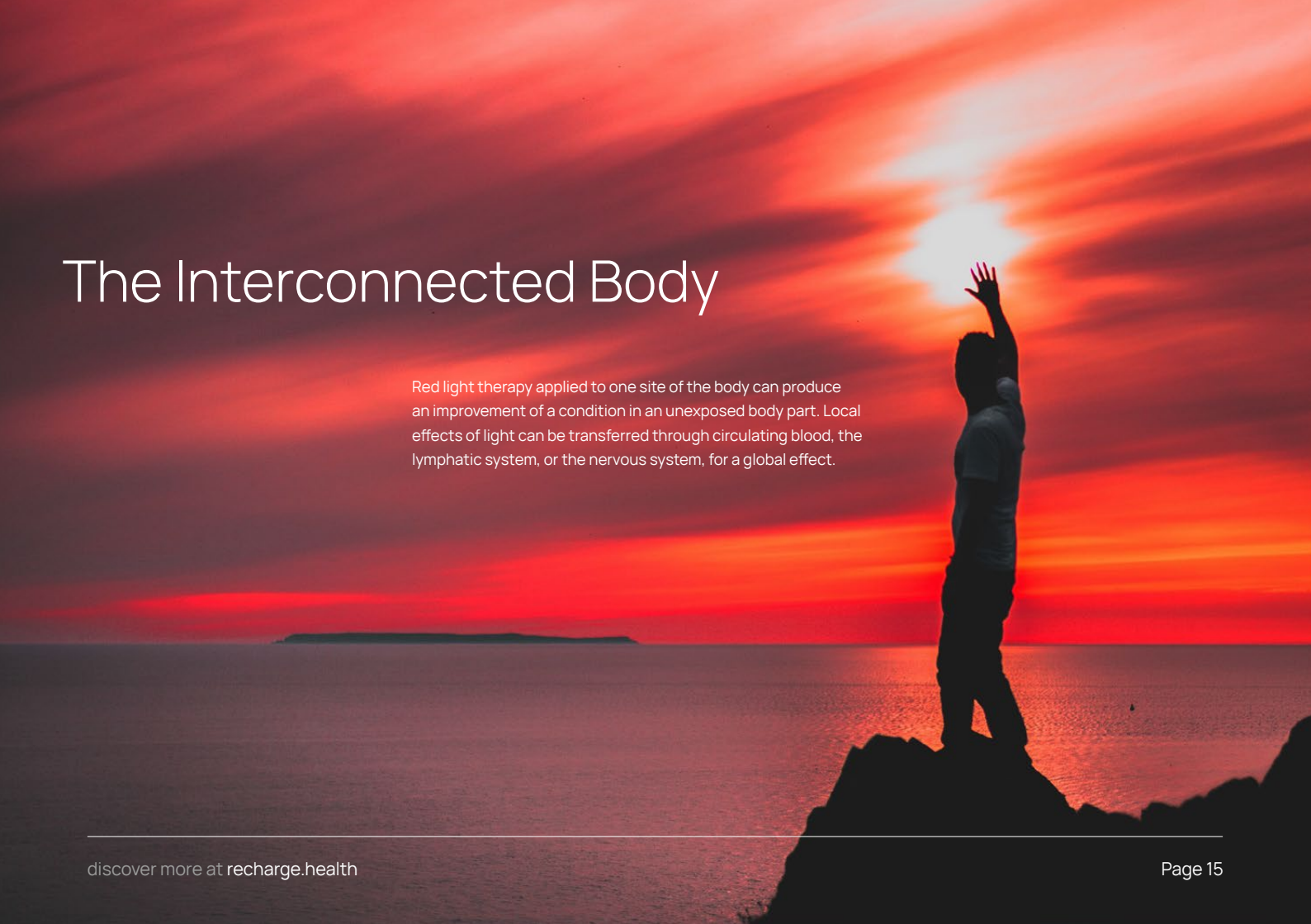
- Inflammation, Cytoprotection, Proliferation
- Protein synthesis
- Stem Cell production and migration
- Immune cell viability
- Retrograde mitochondrial signalling
- Transforming growth factor
- Pro- and anti-inflammatory cytokines
- Vascular endothelial
- Mitochondrial membrane potential

Tissue

- Muscles: Increases endurance, tone, density
- Brain: Improves cognition and immune response, lowers dementia risk
- Nerves: Repair and pain relief
- Healing: Bones, tendons and wounds
- Hair: Increases growth
- Skin: Improvement of collagen network, anti-aging, skin disorders
- Fat: Fat re-absorption improved by enhanced micro-circulation
- Lymph: Improved immunity
- Fascia: Communication, improved tensegrity

The Interconnected Body

Red light therapy applied to one site of the body can produce an improvement of a condition in an unexposed body part. Local effects of light can be transferred through circulating blood, the lymphatic system, or the nervous system, for a global effect.



Systemic Effects

Infrared light therapy affects multiple bodily systems:

1. **Fascia**
   The interconnected collagen matrix in and around organs and tissues.
2. **Gut–Brain Axis**
   The bidirectional communication between the central and the enteric nervous system.
3. **Immune System**
   The defence against infections, including the thymus and lymphatics.
4. **Circulatory System**
   The blood transport system for nutrients and waste removal.
5. **Nervous System**
   Complex network that carries messages to and from the brain and spinal cord to various parts of the body.
6. **Stem Cells**
   Produced mainly in the bone marrow and adipose tissue, circulating throughout the body where needed.

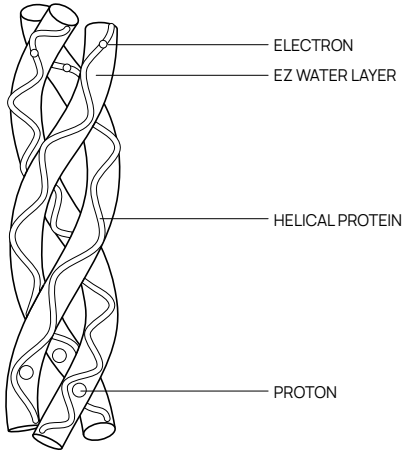
① Fascia

The fascia is a complex web of sensitive and highly interconnected connective tissue beneath the skin that attaches, stabilizes, encloses, and separates muscles and other internal organs.

Fascia is primarily made from hydrated collagen - protein chains in a triple helix formation surrounded by water, with a capacity to generate an electric charge in response to applied mechanical stress (piezoelectric).

The bioelectrical nature of this collagen-rich matrix is the key to understanding how pathological changes in one part of the body may cause a cascade of 'remote' effects in seemingly unrelated areas and organ systems. The fascia is the long overlooked but absolutely crucial interconnecting organ of the human body. The therapeutic effect of red light energy can be carried through the fascia network to other parts of the body where it is needed. This in turn elevates the body's capacity to communicate via this charged matrix, in a positive feedback loop.

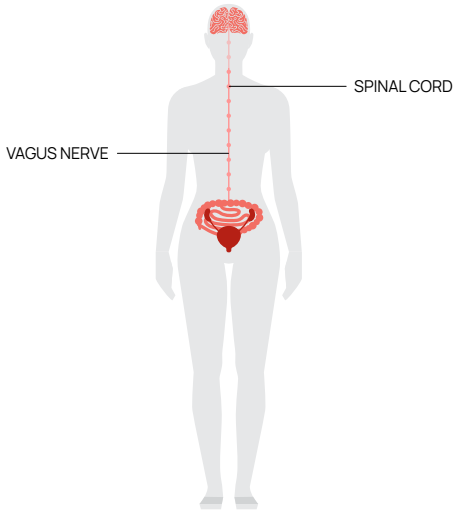
The well known energy meridians of traditional Chinese medicine may actually be low resistance pathways operating through the fascia conveying energy to the rest of the body.



② Gut-Brain Axis

The gut-brain axis links the emotional and cognitive centres of the brain with peripheral intestinal functions. Red light energy applied to the abdomen area can therefore influence mood and neuropsychological issues via several mechanisms:

- Reduction in bowel inflammation and gut spasms.
- Stimulation of neurotransmitters and hormones in the gut including serotonin, leptin and ghrelin.
- Modulation of the microbiome. The microbes in the gut are sensitive to light energy and respond to light energy with differences in growth, migration and proliferation of the different species.
- Increasing availability of neurotransmitters, activating the brain's immune system, increased blood flow and removal of toxins.
- Increased blood circulation and reduced blood pressure leading to a reduction of anxiety and brain fog.
- Modulation of the vagus nerve, one of the biggest nerves connecting the gut and brain. This plays an important role in stress and social communication, communicating motor and sensory impulses to every organ in the body.

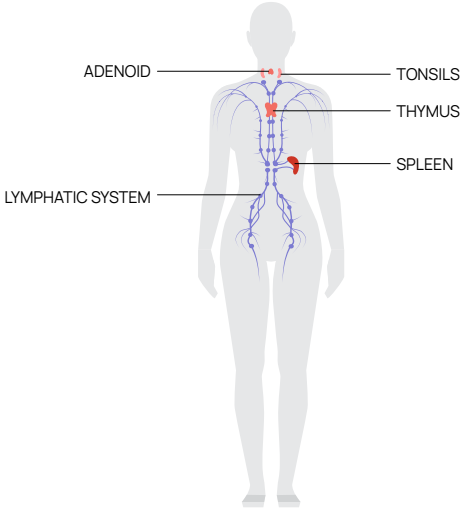


③ Immune System

Beaming red light and near-infrared light onto cells creates a short, low-dose metabolic stress that builds up the anti-inflammatory, anti-oxidant and natural defence systems of the cells, making the body stronger and more resilient to infections.

This is the concept of hormesis; safe, low level exposure to a stressor results in increased resistance to illness. Red light has been shown to influence the immune response in several ways:

- Activation of mast cells leading to movement of leukocytes and reduced inflammation.
- Mast cell de-granulation and the release of pro-inflammatory cytokines.
- Increased infiltration of the tissues by leukocytes.
- Enhanced proliferation, maturation, and motility of fibroblasts.
- Increased production of fibroblast growth factor.
- Lymphocyte activation and proliferation.
- Macrophages activated to act like phagocytes.



④ Circulatory System

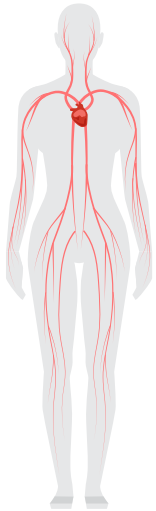
Infrared light therapy has been shown to aid the functioning of the circulatory system and increase micro-circulation of blood, one of the most recognized and well documented effects of this therapy.

Red light stimulates the formation of new capillaries carrying more oxygen to the body.

A good oxygen supply is intricately involved in numerous biological processes, including cell proliferation, angiogenesis, and protein synthesis, which are required for restoration of tissue function and integrity.

Increased circulation allows waste products to be carried away more effectively. It triggers and heightens the body's own process of scavenging for, and ingesting degenerated cells for the purpose of clean-up.

In fact, increased micro-circulation of blood is thought to be the most vital function for healing the body for almost every illness, and for general well-being. Nutrient-rich blood and efficient waste removal is strongly linked to good health.



⑤ Nervous System

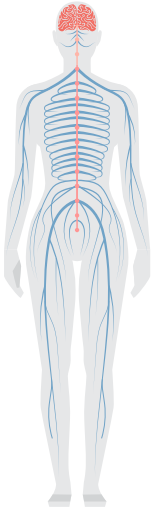
The nervous system is a complex electrical system, including the brain and spinal cord. It collects, processes and responds to input of energy - be it light, sound, heat or pressure - and it relays these messages to the brain and around the body.

Red light energy affects the nervous system in several crucial ways:

- Myelination of fibres and a better lamellar organization of the myelin sheath.
- Improvement of electro-physiological function.
- Facilitation of neural regeneration.
- Release of growth factors.
- Increase of vascular network and collagen.
- Faster regeneration of nerve lesions and functional improvement of damaged nerves.

The peripheral nerves can be damaged by infection or high sugar levels in the case of diabetic neuropathy.

Infrared light therapy is being explored as a promising drug free therapy for all kinds of nerve damage.



⑥ Stem Cells

At the frontier of science, infrared light therapy is showing huge promise in current research to both stimulate growth of stem cells in the body, and to maximize the effect of stem cell implantation for a wide variety of medical purposes.

Red light may therefore be useful after surgery to stimulate stem cells to aid the repair of tissues and possibly organs.

Light at certain wavelengths has also been shown to coax stem cells to repair teeth, so infrared light therapy could soon revolutionize dental treatments. Indeed, some progressive dental clinics now offer infrared therapy as an alternative to conventional drug and drill treatments.

Red light therapy has even been shown to stimulate so-called mesenchymal stem cells in bone marrow to enhance their capacity to infiltrate the brain.

This has implications for healing degenerative conditions such as dementia, Alzheimer's and Parkinson's disease - conditions currently lacking any orthodox treatment solution.

Applications of Infrared Light Therapy

Relieve Pain

Target the root cause of pain instead of suppressing the symptom, including muscle and joint pain, arthritis, menstrual cramps and dental issues.

Repair Skin

Enhance skin elasticity and production of collagen for an anti-aging effect, and speed up healing of wounds and scars.

Revive Immunity

Release nitric oxide and melatonin for powerful antimicrobial effect, and help prevent infection by viruses and bacteria.

Reduce Inflammation

Stimulate the body's natural anti-inflammatory molecules and help your body heal more effectively.

Regain Performance

Reduce delayed onset muscle soreness (DOMS) and give your body increased energy and endurance before and after exercise.


FLEXBEAM

Relieve Pain and Discomfort

In humans, photobiomodulation is reportedly effective against a variety of pain conditions, including mucositis, carpal tunnel syndrome, orthodontic pain, temporo-mandibular joint pain, neck pain, neuropathic pain from amputation and menstrual cramps.

Infrared light therapy significantly reduces the severity of pain hypersensitivity while improving sensorimotor function.

These improvements are preceded by an anti-inflammatory microglia/ macrophage cell population in the injury zone, thereby providing a lasting pain relief effect.

Infrared light therapy has been shown to yield effective pain relief via the modulation of multiple mechanisms:

- Inhibitory cyclooxygenase and prostaglandins
- Modulating nerve transmission
- Increasing endorphins and serotonin release
- Stimulating metabolism
- Activating peripheral opioid receptors


FLEXBEAM

Repair Skin

Infrared light therapy is used for the rapid and safe healing of wounds from burns, surgery incisions, scars, diabetic neuropathy, ulcers and bed sores.

Faster and better wound healing was one of the original findings of NASA's research, and one of the key recognized uses for this technology. Red and near-infrared light promotes beneficial effects during all four phases of the wound-healing process:

- Coagulation
- Inflammation
- Migration
- Remodelling

These processes are regulated by many growth factors and are connected with nitric oxide (NO) signalling release, which is modulated by light energy. A major typical inhibiting factor for the body's ability to recover from a wound is low oxygen flow. Therefore, the unique ability of red light to increase flow of oxygen to the affected area has a massive effect on the healing process.

Through reduction of inflammation, oxygenation of the area, and formation of new blood vessels, a rapid healing process unfolds with less pain and scarring.

Red light energy may also reduce or prevent the need for pharmaceutical painkiller medication during the healing process.

Revive Immunity

If your body is energized on a cellular level, and if the communication between the organ systems is efficient, your body will naturally develop disease resistance.

Your immune defense works to fend off bacteria and viruses all the time. Infrared light therapy boosts this system in several ways.

It releases nitric oxide and melatonin, which are involved in DNA repair, and also proven to have a powerful antimicrobial effect.

It also works through a process known as hormesis. When red and near-infrared light is beamed into cells, it causes mild metabolic stress, which results in cells engaging their anti-inflammatory and antioxidant response.

In this way, the body is primed and ready to respond better to infections. Boosted immunity is also a natural consequence of other systemic effects of infrared light therapy.

Studies have shown a variety of benefits to the immune system:

- Improved melatonin and antioxidant production
- Increased micro-circulation enabling the transportation of immune cells
- Promotes activity in the lymph nodes
- Increased NO levels
- Better flow of neurotransmitters
- Boosted collagen and elastin production
- More efficient function of cells and organelles
- Boosts T cells pre-operatively
- Improved thyroid function

Reduce Inflammation

Inflammation can be acute and topical (short-lived, caused by accidents, sprains and infections), or chronic and general (long-term, caused by persistent conditions).

While acute inflammation is a healthy physical healing response, chronic and general inflammation can be detrimental to health and often goes undetected.

Currently the main treatment for inflammation in the body is NSAID or steroid drugs, both of which have side effects and disrupt the healing process of the body. Red light therapy stimulates the body to activate its own healing mechanism, dramatically reducing the health risks associated with long-term drug use.

Red light therapy works by decreasing the number of inflammatory cells, increasing fibroblast proliferation (the cell that synthesizes the extracellular matrix and collagen), stimulating angiogenesis (the formation of new blood vessels), and activating the body's innate anti-inflammatory, antioxidant defences.

The following conditions, associated with both chronic and acute inflammation, are currently being investigated as highly promising targets for infrared light therapy:

- Arthritis
- Asthma
- Sinusitis
- Muscular sprains
- Fibromyalgia
- Neuroinflammatory disorders such as Alzheimer's
- Irritable bowel syndrome and colitis
- Rheumatic conditions

Regain Performance

Infrared light therapy has become a hot topic in sports and performance. Not only is it safe and non-toxic - it yields rapid and lasting results in many areas of application.

Besides the overwhelmingly beneficial effects on health overall, infrared light therapy supports muscle growth and repair by increasing the amount of ATP available, which allows for better performance and faster recovery.

Infrared light therapy used before training is known to prepare and strengthen the body, and after physical exertion to help with recovery.

Documented effects from infrared light therapy include:

- Reducing DOMS (Delayed Onset Muscle Soreness)
- Greater endurance and performance
- Improving sleep quality
- Increasing sexual function and libido (including testosterone)
- Aiding weight loss
- Boosting cognitive function
- Reversing skin ageing
- Reducing cellulite

Powerful. Portable. Targeted.
The FlexBeam Difference

Technical Specifications

Wavelength
2 infrared and 1 red LED in each light pod.
6 x 815nm, 3 x 625-635nm.

Max. Optical Power Density
127mW/cm2 IR, 60mW/cm2 red.

Treatment Programs
3 presets with automatic shutdown at the end of each 10 minute program.

Penetration depth
0-2.5cm red LED's, 0-10cm NIR LED's.

Active Cooling
Built-in fan system to regulate temperature from high-power bulbs.

Battery
Rechargeable Lithium-ion battery,
lasts 5-8 sessions on a single charge.

The FlexBeam delivers high-power therapy in a compact and ergonomic shape for use anytime, anywhere.

Designed for the Human Body

The FlexBeam is ergonomically designed to enable more effective and more targeted therapy.

The unique design of the FlexBeam allows light to penetrate deep into difficult-to-reach areas of the body – such as the knee and shoulder joint – which is impossible with flat light panels.

Because the FlexBeam is designed to be worn on the skin, each session yields a consistent dose and is not dependent on distance from the light source.

This means less power is needed to deliver energy directly to the affected site.

In turn, this reduces treatment time, making it possible to deliver a targeted therapeutic dose in 10 minutes for a single placement.

Inspired by Nature

The FlexBeam delivers biocompatible dosing for an optimal natural stimulation of red light energy.

Waves

In nature, most signalling is rhythmical and cyclical. The wave pattern is everywhere, from sunset to sunrise to brain patterns to how we experience pain - it comes and goes like waves in the sea. In the FlexBeam, frequency and power output increase in a steady wave-like fashion and ramp down at the end of the cycle.

Pulsing

The body pulses naturally. Heart rate variability (HRV) is a pulsating indication of our health condition, muscles are controlled with electrical impulses. The Earth itself pulses at around 7.8Hz. The FlexBeam operates on specific pulsed frequencies to harmonize with nature.

Synergistic Wavelengths

The FlexBeam uses both red light at 625-635nm and near-infrared at 815nm in a combined composition that sweeps through frequencies for optimal effect.

This combination of Red and Near-infrared wavelengths, along with the high power output tuned to natural frequencies, sets the unique technology inside the FlexBeam apart from any other red light therapy device.

Ingeniously designed for an optimal physiological response, the result is a powerful healing experience that feels as good for your body as a glorious sunrise and a glowing sunset.

Resources

Below is a list of suggested reading material, including a select few clinical studies, out of the thousands of studies already conducted, proving the true benefits of infrared light therapy.

RECOMMENDED READING:

Hamblin, Michael et al, Low-Level Light Therapy: Photobiomodulation, 2018, SPIE press

Pollack, Gerald, Fourth Phase of Water: Beyond Solid, Liquid & Vapor, 2013, Ebner & Sons

Whitten, Ari, The Ultimate Guide To Red Light Therapy, 2018, CreateSpace Independent Publishing Platform

Becker, Robert The Body Electric: Electromagnetism And The Foundation Of Life, 1998, William Morrow Paperback

Know, Lee, Mitochondria and the Future of Medicine: The Key to Understanding Disease, Chronic Illness, Aging, and Life Itself, 2018, Chelsea Green Publishing

Kruse, Jack, Epi-paleo Rx: The Prescription for Disease Reversal and Optimal Health, 2013, Optimized Life PLC

Lane, Nick Power, Sex, Suicide: Mitochondria and the Meaning of Life, 2006, Oxford University Press

Ott, John, Light, Radiation, and You How to Stay Healthy, 1985, Devin-Adair Pub USA

REERENCES:

Arthritis
https://www.ncbi.nlm.nih.gov/pubmed/1727843

Asthma
https://pdfs.semanticscholar.org/e722/09632795a8eca46bf0933ad045a007caff23.pdf

Bone repair
https://www.ncbi.nlm.nih.gov/pubmed/25653816
https://www.ncbi.nlm.nih.gov/pubmed/12928816

Brain health
https://www.ncbi.nlm.nih.gov/pubmed/25196192
https://www.mdpi.com/2304-6732/6/3/77/htm

Circadian biology
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2717723/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2290997/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5863078/

Collagen
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5963836/
https://iopscience.iop.org/article/10.1143/JJAP.3.117/meta
https://research.qut.edu.au/pmbm/projects/understanding-and-exploring-piezoelectricity-in-collagen

Diabetic neuropathy
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4639677/
https://www.liebertpub.com/doi/abs/10.1089/pho.2009.2680

Dosing
https://www.spiedigitallibrary.org/journals/journal-of-biomedical-optics/volume-23/issue-12/120901/Review-of-light-parameters-and-photobiomodulation-efficacy-dive-into/10.1117/1.JBO.23.12.120901.full?SSO=1

Fat reduction
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5225499/

Gut-brain
https://link.springer.com/article/10.1007/s10103-018-2594-6
https://www.ncbi.nlm.nih.gov/pubmed/29890728
https://www.ncbi.nlm.nih.gov/pubmed/27424097

Hair growth
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3944668/

Immune system
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3643261/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5215870/
https://www.ncbi.nlm.nih.gov/pubmed/21955546
https://www.jstage.jst.go.jp/article/islsm/3/4/3_91-OR-23/_pdf
https://link.springer.com/article/10.1007/s10103-012-1129-9
https://www.aafp.org/afp/2011/1215/p1412.html§

Mechanisms
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5215870/
https://www.ncbi.nlm.nih.gov/pubmed/24379964

Meridians
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3838801/
https://www.ncbi.nlm.nih.gov/pubmed/29103083

Mitochondria
https://ghr.nlm.nih.gov/primer/mutationsanddisorders/mitochondrialconditions
https://www.ncbi.nlm.nih.gov/pubmed/16124858
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3316879

Muscle
https://link.springer.com/article/10.1007/s10103-017-2368-6
https://onlinelibrary.wiley.com/doi/abs/10.1002/jbio.201600176
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026559/

Nervous system
https://www.ncbi.nlm.nih.gov/pubmed/23492552
https://www.ncbi.nlm.nih.gov/pubmed/20358337
https://www.ncbi.nlm.nih.gov/pubmed/24093608
https://www.ncbi.nlm.nih.gov/pubmed/29890728

Pain
https://jneuroinflammation.biomedcentral.com/articles/10.1186/s12974-016-0679-3
https://www.ncbi.nlm.nih.gov/pubmed/21725826?dopt=Abstract
https://www.ncbi.nlm.nih.gov/pubmed/16706688?dopt=Abstract
https://www.ncbi.nlm.nih.gov/pubmed/18754533?dopt=Abstract
https://www.ncbi.nlm.nih.gov/pubmed/16979496?dopt=Abstract
https://www.ncbi.nlm.nih.gov/pubmed/23329239?dopt=Abstract
https://www.dovepress.com/use-of-low-intensity-laser-treatment-in-neuropathic-pain-refractory-to-peer-reviewed-article-IJGM
https://www.ncbi.nlm.nih.gov/pubmed/20682161

Sinusitis
https://www.ncbi.nlm.nih.gov/pubmed/21290392
https://www.sciencedirect.com/science/article/abs/pii/S1081120610632024

Skin
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4126803/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4745411/

Stem Cells
https://www.bioopticsworld.com/biomedicine/article/16429152/photobiomodulation-regeneration-without-risk-lightenabled-tissue-repair
https://www.liebertpub.com/doi/abs/10.1089/pho.2016.4216?journalCode=pho
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6499560/
https://www.ncbi.nlm.nih.gov/pubmed/21674545
https://www.ncbi.nlm.nih.gov/pubmed/24871130
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4146146/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4291821/

Teeth
https://medicalxpress.com/news/2014-05-coax-stem-cells-regrow-teeth.html
https://www.ncbi.nlm.nih.gov/pubmed/17052624
https://www.ncbi.nlm.nih.gov/pubmed/21473840
https://www.newscientist.com/article/dn25649-forget-the-dentists-drill-use-lasers-to-heal-teeth/

Water
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4256027/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6462613/
https://www.ncbi.nlm.nih.gov/pubmed/20649429
https://www.nature.com/articles/srep12029?fbclid=IwAR0XjgQDuULmfjUSAt7ETy8Y90Vm-fJXtETyMlinNwzTKUKS_g25T8KFT7k

Wound healing
https://www.bioopticsworld.com/biomedicine/article/16429152/photobiomodulation-regeneration-without-risk-lightenabled-tissue-repair
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5991292/
https://www.ncbi.nlm.nih.gov/pubmed/25411997
https://www.ncbi.nlm.nih.gov/pubmed/11776448
https://www.futuremedicine.com/doi/abs/10.2217/rme.15.82

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