



Paws, Claws & Wings

Physical and Behavioral Rehabilitation for Animals



Photizo

Light therapy is a safe, non-invasive treatment which has proven to be effective for the treatment of

- Chronic pain & Arthritis
- Muscle Pain / Sports Injuries
- Anti Ageing
- Wounds and Skin Conditions
- Domestic animals and Livestock

Photizo offers an easy to use product with pre-programmed dosages ensuring optimal treatment every time. Our patented technology varies the frequency and intensity of the light emission during the treatment cycle to deliver optimal healing power specific to the condition to be treated.

Photizo is available for use by professionals such as Physiotherapists and Veterinarians (Photizo Professional) and NOW also for the home user in a small, portable unit which is easy to use (Photizo Home Care).

What Is Light Therapy?

Light Therapy works by energising compromised cells and increasing the blood flow using LED light of a highly beneficial wavelength. In this way, the process of cell death is reversed, leading to quicker healing and recovery following injury.

This process has been optimized with the patented Photizo® light therapy device. During tissue damage, cellular integrity and function is compromised. Without a means to quickly and effectively reverse such damage on a cellular level, damaged cells will die.

A major drawback of almost all other light therapy units currently available, whether laser or LED-based, is that they are large, expensive, fragile, and very complex to use. Accordingly, only skilled clinicians and specialists can use such devices and obtain successful results in clinical settings only. Some light therapy units currently available produce light having a wide range of non-beneficial wavelengths (from 440 nm to 3500 nm), which impairs their efficacy due to the fact that the truly beneficial wavelengths make up a very small proportion of the total light emitted. Photizo® only produces light of the most beneficial wavelength, hence the shorter treatment times experienced by our users. Some of the protocols take only a minute to administer, once a day, with healing results seen within a day or two. This is not the case with other light therapy units, where healing is a slow process taking weeks or months. In addition, most currently available units have low power 10 to 40 milliwatt light diodes, while Photizo® has a 150mW diode. In certain applications, such as in a hospital or clinical setting, a 600mW probe as well as a 1200mW probe is available as an accessory to treat larger

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affected areas at a time. There is, however, a limit to the amount of light therapy that can be administered in a treatment regimen before healing or tissue repair and Photizo® provides optimal application of light therapy in each protocol.

Photizo® has been designed around the needs and feedback of our clients, who told us they needed a small, portable, easy to understand and simple to use light therapy unit, with a high power diode for quick and simple treatments. Accordingly, Photizo® has been designed with the professional and the layman in mind, and is easy enough for everyone.

Photizo® incorporates built-in treatment protocols for some of the most common conditions which have been proven to be treatable by light therapy in the fields of cosmetics, healing and wound treatment. All the parameters necessary to treat, for example a wound, have been incorporated in a single protocol button for such condition - merely by pressing the appropriate button, the whole protocol is run to treat the appropriate condition, taking a minute or two per application per day. This is a major advance over other systems which are currently available, as the device can be operated intuitively by unsophisticated users with a minimum of training. This allows clinicians and physiotherapists to quickly yet safely treat their patients before tissue decay sets in, while the layman and even children can treat themselves safely on a non-invasive basis. With no moving parts, Photizo® is and remains the leader in reliability and performance. Photizo® has worldwide patent applications to stop cheap imitations.

Photizo® makes use of a near-coherent light beam produced by a high intensity LED array. The probe is robust enough to survive most conditions, while the operational unit has been designed to be resistant to accidental spills. This device has been designed to withstand conditions in rural areas, and is a major distinguishing factor between Photizo® and other light therapy devices, which tend to be fragile and break easily. In addition, the Photizo® device is assembled on an ISO 9000 assembly line and has extensive product back-up and warranty maintenance. While most other light therapy devices have light sources, which only last for 500 to 1000 hours, the

Photizo® diode can perform for up to 50,000 hours without a significant loss of output.

A Step-by-Step Guide

1. Photizo® stimulates the production of ATP in the mitochondria
ATP is the major carrier of energy in the cells and is made by the cell's power units, the mitochondria. Without ATP, all cellular functions cease, and an increase in ATP allows the cells to accept nutrients faster and to dispose of waste products by increasing the energy levels in the cell. ATP provides the chemical energy that drives the chemical reactions of the cell. ATP production is enhanced by light therapy, as light of a coherent, optimal wavelength energizes the cytochrome b structure, allowing it to donate electrons to the electron transport chain at a greater rate to increase ATP

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production.

2. Photizo® reverses cell death process and ensures cell repair

Following injury, a cell quickly approaches a point of no return, after which cell death is a certainty. Photizo® light therapy, if administered immediately, can reverse most such cell death processes by increasing ATP production.

3. Cellular regeneration

Once a cell has died, the body needs to make new cells to replace the compromised or damaged cells. Light therapy prevents the overproduction of scar tissue and ensures quicker (up to 250X) cellular regeneration. This is of major importance for accident victims to regain full functionality. This accelerated "replacement" effect is seen in all cell types. Once cells have been boosted with light therapy they can resume their normal functioning and make new blood vessels, nerve tissue, bone cells, cartilage, etc. Light therapy does not cause cellular overgrowth or cancer - cells are merely recharged to resume their normal functions.

4. Clearing of inflammation and increased lymphatic activity

Local inflammation, although necessary, chokes a cell. Photizo® lessens inflammation and ischemia, helping the cell to take up nutrients and oxygen from surrounding tissue and blood vessels. Light therapy relieves ischemia and stops cell "choking". Edema has two components i.e. a liquid part, which can be evacuated by the blood system and a proteinaceous component which is comprised of proteins which have to be evacuated by the lymphatic system. Research has shown that the lymph vessel diameter and the flow of the lymphatic system can be doubled with the use of light therapy. The venous and arterial diameters can also be increased. This means that both components of edema can be evacuated faster to assist in the reduction of swelling.

5. Increased immune system activity

Near-infrared light has been shown to increase immune system functioning. The exact mechanism by which this occurs has not been elucidated, but several studies have shown a systemic effect in subjects on whom light therapy was used. This means that local treatment of a wound with Photizo® has a general immune enhancing effect.

6. Photizo® increases blood supply

Increases blood supply to areas by stimulating the formation of new capillaries and blood vessels to replace damaged ones. This speeds up the healing process by providing more oxygen and nutrients needed for healing to the damaged cells. It also accelerates waste and debris removal from the site of injury. Light therapy has a vasodilatory effect.

7. Systemic effect and reduced excitability of nervous tissue

Photizo® assists in reducing the excitability of nerve tissue, thereby relieving pain. There is also a sharp increase in endorphins and serotonin, providing a further systemic pain-relieving and calming effect. This is of importance in acute and chronic pain relief.

8. Photizo® regulates collagen production

Collagen is the most essential protein building block used to repair damaged tissues, and to replace old tissues. By increasing and regulating collagen production less scar tissue is formed. Photizo® does not result in an overproduction of collagen - rather, it helps the cell produce optimal levels needed for healing.

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Treatment Benefits

Although light (Photon) Therapy has been documented in medical literature as early as 1500BC, it was the Danish physician Nils Finsen, who is believed to be the father of phototherapy that received a Nobel Prize for his work in 1903. Since then, numerous authors have advocated treatment by phototherapy for many different diseases ranging from acne, vitiligo, jaundice in babies, wound healing and rheumatoid arthritis to name only a few.

Throughout the ages, sunlight (as the earliest form of phototherapy) has been known to have both healing and wellness properties. Light is energy, and energy sustains life - it cannot be destroyed, but it can be transformed into other forms.

The Photizo Light Therapy Device is an LED device that emits red and infrared light that penetrates the skin to stimulate the energy production and other metabolic processes in targeted areas. The device provides relief of aches and pains and in addition, infrared light is one of the only physical therapies that acts to create a healing effect. Cells that are injured can actually be rejuvenated by light.

Light Emitting Diodes (LED's) have been around for a long time, but have only been introduced as a legitimate therapy option in recent years. LED's are similar to lasers in that as they can emit the same light but differ in the way that the light energy is delivered. Lasers are focused-beam single-wavelength light emitters that can be intense enough (a 'hot' laser) to burn/cut tissue or 'cold' enough to only have light therapy effects. LED's do not deliver enough power to damage the tissue, but they do deliver enough energy to promote natural self-healing and pain relief. With a low peak power output, the LED's provide a much gentler delivery of the same healing wavelengths of light, as does the laser but without the same risk of accidental eye damage that lasers do.

LED's are merely convenient devices for producing light at specific wavelengths, and several studies established that it is the light itself at specific wavelengths that is therapeutic in nature. All biological systems have a unique absorption spectrum that determines what wavelengths of radiation will be absorbed to produce a given therapeutic effect. The visible red and invisible infrared portions of the spectrum have been shown to have highly absorbent and unique therapeutic effects in living tissues. LED's also allow the light beam to spread out instead of being a pinpoint light beam. The wide-angle diffusion of the LED confers upon it a greater ease of application, since light emissions are thereby able to penetrate a broader surface area, and this results in a faster treatment time for a given area than laser.

Infrared light is one of the safest therapies on the market today. When infrared light is administered, it reduces sensitivity of neural pathways and causes the body to release endorphins that provide a nontoxic, natural form of pain relief. Unlike ultrasound and electrical stimulation, infrared technology is so gentle that patients can use it frequently without causing more damage to injuries or other chronic pathologies.

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Light therapy has broad treatment applications. Using these devices, wounds and other injuries can heal faster and chronic conditions can be managed without the over use of pain and anti-inflammatory medications within a few treatments.

People with back problems, nerve damage, muscular diseases, tennis elbow, burns and other ailments have all shown marked signs of improvement using infrared light therapy.

The technology can also offset the long-term costs of surgery, pain medicines and physical therapy visits. We will be seeing infrared light used for all kinds of healing and pain control in the future. There will always be a place for medication and other modalities such as ultrasound and electrical stimulation, but now doctors will also start using light for treatment.

The FDA has approved light therapy for the treatment of head and neck pain, as well as pain associated with CTS (Carpal Tunnel Syndrome). In addition to these conditions, the literature indicates that light therapy may be beneficial in three general areas:

1. Inflammatory conditions (e.g., bursitis, tendonitis, arthritis, etc).
2. Wound care and tissue repair (e.g., diabetic ulcers, venous ulcers, bedsores, mouth ulcer, fractures, tendon ruptures, ligament tears, torn cartilage, etc).
3. Pain control (e.g., low back pain, neck pain, and pain associated with inflammatory conditions—carpal tunnel syndrome, arthritis, tennis elbow, golfer's elbow, post-herpetic neuralgia, etc).

Clinical Benefits

Photons of energy cause our cells to operate at their peak when various wavelengths of light are transformed to workable energy in the form of Adenosine Triphosphate (ATP) inside the cells. Energy production inside the cell is vital to sustain its function, ensuring that all processes are regulated, and injured cells are healed.

The clinical benefits of light include:

- Stimulates the energy production (ATP) inside cells up to 250X. The cell has therefore the energy needed to function at optimum levels.
- Promotes healing, raises white blood cell counts and improves cell growth as well as stimulation and regulating DNA, RNA synthesis and protein synthesis.
- Increased circulation by increasing the diameter of the blood vessels and stimulating the formation of new capillaries, which are additional blood vessels that replace damaged ones. New and wider capillaries speed up the healing process by carrying more oxygen and more nutrients needed for metabolism and healing and they can also carry more waste products away.
- Eases acute and chronic inflammatory conditions, such as in injuries and rheumatism or arthritis.

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- Pain relief by stimulating serotonin and endorphin secretion, clearing the swelling and inflammatory process, reducing the excitability of the pain conducting nerves.
- The photons of light energy enter the body as negative ions. This calls upon the body to send positive ions like calcium among others to enter the area being treated. These ions assist in firing the nerves thereby relieving pain. Light therapy is successfully used in pain therapy, dermatology and rheumatology with excellent therapeutic effects in the treatment of shoulder pain, tendonitis, carpal tunnel syndrome, bursitis, tendonitis (elbow, shoulder or knee), ankle sprain and temporo-mandibular joint (TMJ) dysfunction, neck and shoulder pain, arthritis, sciatica, post-herpetic neuralgia, ulcers, fractures, soft tissue and nerve injuries.
- Increases lymphatic system activity. Edema, which is the swelling or natural splinting process of the body, has two basic components. The first is a liquid part that can be evacuated by the blood system and the second is comprised of the proteins, which have to be evacuated by the lymphatic system. Research has shown that the lymph vessel diameter and the flow of the lymph system can be doubled with the use of light therapy. The venous diameter and the arterial diameters can also be increased. This means that both parts of edema (liquid and protein) can be evacuated at a much faster rate to relieve swelling.
- Detoxification or clearing toxins from the body. Stimulates metabolism, promoting the elimination of toxins that accumulate in cells (i.e., poisons, carcinogenic heavy metals, toxic substances from food processing, lactic acid, free fatty acids and uric acid.
- Helps sports-related and musculoskeletal injuries such as repetitive strain injury or bursitis.
- Stimulate and regulate the production of collagen. Collagen is the most common protein found in the body. Collagen is the essential protein used to repair damaged tissue and to replace old tissue. It is the substance that holds cells together and has a high degree of elasticity. By regulating and increasing collagen production, less scar tissue is formed at the damaged site.
- Stimulate tissue granulation and connective tissue projections, which are part of the healing process of wounds, ulcers or inflamed tissue.
- Accelerates metabolism, thereby preventing or slowing down the aging process. Improves skin conditions (including cellulite).
- Increase the immune response and phagocytosis, which is the process of scavenging for and ingesting dead or degenerated cells by phagocyte cells for the purpose of clean up. This is an important part of the infection fighting process. Destruction of the infection and clean up

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must occur before the healing process can take place.

More about the light wavelengths used in Photizo Light Therapy

Visible Red Light: Light that lie within the visible spectrum, from 400nm (violet) to 700nm (red). At a wavelength of 660 nanometers (nm - 1 nanometer is equal to one billionth of a meter), penetrates tissue to a depth of about 8-10 mm (about 3/8"). It is very beneficial in treating problems close to the surface such as wounds, cuts, scars, trigger points and acupuncture points, and is particularly effective in treating infections.

Infrared Light: Light in the invisible spectrum (below red), from 700nm to 2,000nm. Infrared Ray is not visible to the eye; it penetrates to a depth of about 30-40 mm (1.2" to 1.4"), which makes it more effective for bones, joints, deep muscles, bursa, etc. Although both red and infrared wavelengths penetrate to different depths and affect tissues differently, their therapeutic effects are similar.

Vet Care

WHAT CAN I TREAT WITH THE PHOTIZO® VETCARE?

Photizo® Vetcare is designed to treat:

- Domestic animals -dogs and cats
- Large Livestock - cattle, sheep, goats, pigs, bucks, etc.
- Horses

Photizo® Vetcare relieves pain, stimulates cells to repair and heal, reduce swelling and inflammation, and stimulates the immune system in acute traumatic conditions. Photizo® Vetcare is effective in treating chronic pain and inflammatory conditions associated with arthritic conditions and overuse injuries. Photizo® Vetcare stimulates healing, relieves pain, swelling and inflammation, reduces muscle spasms, and increases the blood and lymph vessel diameter, to ensure clearing of waste products and inflow of oxygen, nutrients and medication concentrations in the areas treated.

Photizo® Vetcare has proven to be effective in the treatment of:

- Skin conditions: wounds, lacerations, hyalomoma tick bite necrosis, hot-spots, abscesses, saddle sore, habronema, proud flesh, acral lick granulomas, bruising, otitis externa, pyoderma, pododermatitis
- skin allergies, eczema, etc.
- Musculoskeletal problems: Arthritis, tendonitis, myositis, ligament/tendon sprain/strains, bruising
- fractures, neck and back pain, splints, overuse injuries, synovitis, edema, hematomas, muscle injury
- muscle spasms, trigger points, seromas, mastitis, etc.
- Post-op: any area treated surgically, including skin grafts.
- Other: Corneal ulcers, viral/herpes-related conditions, sinusitis, retro-orbicular trauma.



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HOW DOES THE PHOTIZO® VETCARE ASSIST IN PAIN RELIEF, HEALING AND IMMUNE STIMULATION?

Acute injuries:

Photizo® Vetcare stimulates the energy production (ATP) inside the cell, by up to 250 times, thereby stimulating the cells to function at optimum levels. It further stimulates and regulates the DNA and RNA synthesis - the programs inside the cell - to follow the correct healing process, and regulates scar tissue/proud flesh formation. This speeds up the natural healing process by up to 30-40%, and reduces the likelihood of excess scar tissue formation and complications. Photizo® Vetcare stimulates endorphin and serotonin secretion.

This is the body's own pain and relaxing "medication". Photizo® Vetcare effectively reduces the inflammatory process that is caused by damage, injury or overuse and reduces muscle spasms and trigger points.

Photizo® Vetcare assists in reducing swelling by increasing the blood vessel and lymph diameter to clear excess waste products from the injured or inflamed area. This reduces the pressure and irritation on nerve endings that causes more pain, and increases blood flow into the area, ensuring that the tissues can absorb more nutrients and oxygen.

This also helps to reduce excess wound substrate to reduce the risk of secondary bacterial infections. The increased blood supply to the area, ensures higher concentrations of topical and systemic medication delivered to the affected area. Photizo® Vetcare stimulates the immune cells, to react against infection. Photizo® Vetcare stimulates optimum cell condition (skin, bone, nerve, capsule, cartilage and muscle tissue) to prevent degeneration of tissues like nerves, bone/joints and blood vessels.

Overuse injuries and chronic conditions:

The healing phases of tissue occur in 3 phases, namely the inflammation, proliferation and organization phase.

Chronic "injuries" or overuse inflammatory reactions occur when the tissue does not complete this cycle. The tissue stays in the inflammatory phase and does not progress into the proliferation (actual healing of cells and tissues) or organization phase. For these "injuries" to heal, the body needs stimulation of the cell's programs (DNA and RNA), e.g. finalize the inflammation phase and move onto the real healing phase. When the inflammation process organizes into scar tissue formation, it causes adhesions that inhibit the normal "gliding" of muscle and tissue fibers, causing irritation, and further inflammation, turning into a vicious circle.

Photizo® Vetcare will relieve muscle spasms, release painful trigger points, reduce the inflammatory processes and relieve pain, thereby breaking the circle, to give the tissue the opportunity to start the healing process if possible, or in chronic conditions, maintain pain free periods.



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Please note that treatment with the Photizo® Vetcare will not break down the adhesions, but will control the inflammatory processes and discomfort, and reduce the risk of further scar tissue formation. Always treat directly when the problem starts, as this will help prevent chronic problems.

Chronic Pain:

- All types of arthritis and irreversible joint damage, chronic muscle spasms, trigger/acupuncture points
- The Photizo® Vetcare stimulates endorphin and serotonin secretion. This is the body's own pain reliever and a relaxing "medication". (This effect is especially profound in the feline family).
- Photizo® will effectively reduce the inflammatory process that is caused by damage or overuse.
- Treatment will reduce muscle spasms and release tight trigger points. It will also assist in reducing swelling by increasing the blood vessel and lymph diameter to clear excess waste products from the affected area.
- This reduces the pressure and irritation on nerve endings that causes more pain. Increased blood flow into the area ensures that the tissues can absorb more nutrients and oxygen.
- Treatment reduces the conduction speed, and the irritability of the pain conducting nerves.
- Photizo® effectively reduce muscle spasms and releases tight trigger points.
- Treatment will stimulate optimum cell condition (bone, nerve, capsule, cartilage and muscle tissue) and maintain healthy tissue. This may help to prevent further degeneration of tissues like nerves, bones, and blood vessels.
- Treatment on the acupuncture points have excellent treatment outcomes.

- o Wavelengths : 633nm red, 850nm infrared
- o Coverage : 4.7cm²
- o Power output : 1 300mW

Veterinary Professional Units

A light therapy device for veterinary practice

If you are a veterinary surgeon, farmer, veterinary assistant or nurse, the Photizo® Vet (641) unit can help you heal your patients in shorter periods of time. Use post-operatively, following trauma, on seromas, hematomas, hyaloma, and infected wounds.

For treating larger areas optional high-power 600mW and 1200mW probes are available as accessories for this unit.

Treatment Protocols

Protocols available on the Photizo® Vet Unit

The following treatment protocols are available on the Photizo® vet unit:

0-21 Day Wound

21+ Day Wound



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Seroma Hematoma
Tissue Trauma
Abscess
Osteo

This product comes with a 2-year carry-in warranty from the date of purchase, provided original proof of purchase is presented.

