



Photobiomodulation (PBM) Therapy

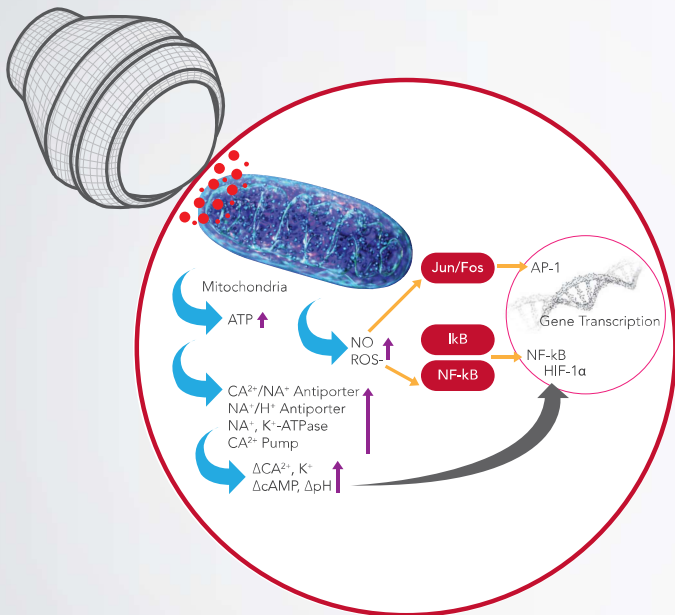
Reduce Pain & Inflammation, Accelerate Recovery



PHOTOBIO-MODULATION (PBM) THERAPY

A proven way to regenerate tissue at the cellular level

Photobiomodulation therapy (PBMT) is a form of light therapy based on the photochemical process called photobiomodulation (PBM). In photobiomodulation therapy, a light source is placed near or in contact with the skin, the light energy penetrates the skin reaching the mitochondria of damaged or diseased tissue leading to photobiomodulation. This process results in beneficial therapeutic outcomes such as the alleviation of pain, the regulation of inflammation, immunomodulation, and the promotion of tissue regeneration.¹⁻³



PBM Mechanisms of Action

The application of a therapeutic dose of light to impaired or dysfunctional tissue leads to a cellular response mediated by mitochondrial mechanisms that reduce pain and inflammation and speed healing.²

The primary target (chromophore) for the process is the cytochrome c complex which is found in the inner membrane of the cell mitochondria. Cytochrome c is a vital component of the electron transport chain that drives cellular metabolism. As light is absorbed, cytochrome c is stimulated, leading to increased production of adenosine triphosphate (ATP), the molecule that facilitates energy transfer within the cell.²⁻⁴

In addition to ATP, laser stimulation also produces free nitric oxide and reactive oxygen species. Nitric oxide is a powerful vasodilator and an important cellular signaling molecule involved in many physiological processes. Reactive oxygen species have been shown to affect many important physiological signaling pathways including the inflammatory response. In concert, these molecules have been shown to increase growth factor production and promote extracellular matrix deposition. The resultant increase in cell proliferation and motility leads to pro-survival pathways for the cell.²⁻⁴

PHYSIOLOGICAL EFFECTS

- Anti-inflammatory, analgesic, and anti-edematous
- Increased tissue oxygenation and nutrition
- Increased synthesis of ATP
- Increased rate of tissue regeneration
- Increased microcirculation

APPLICATIONS & DELIVERY

Versatile applications, maximum results

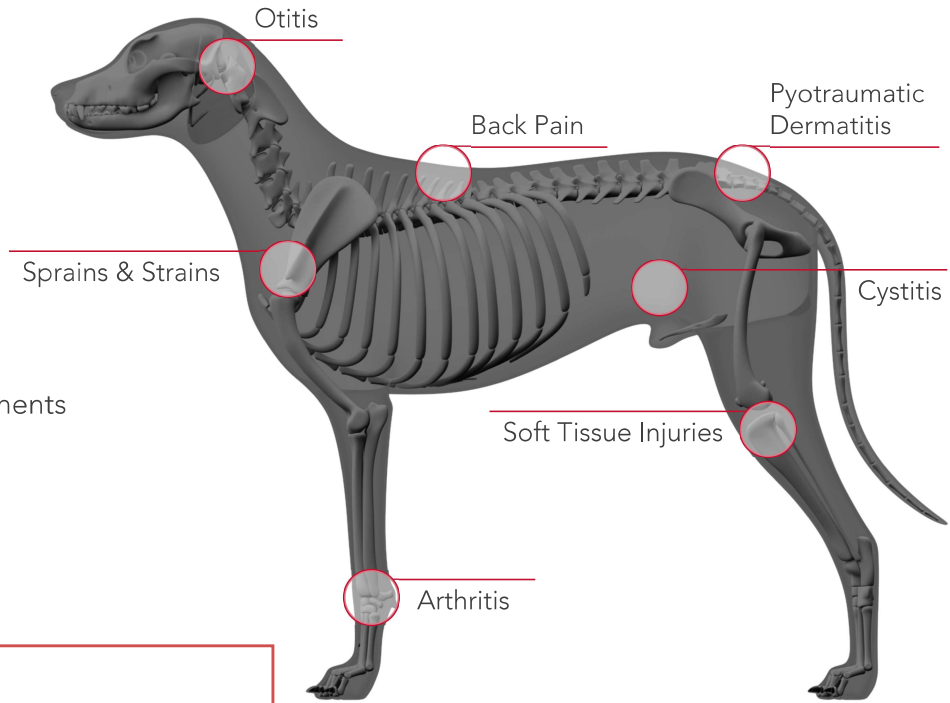
Improve Recovery For...

Use photobiomodulation therapy in conjunction with other modalities and treatment techniques with no side-effects.

- Acute conditions
- Chronic conditions

Multiple Tissues:

- Nerves
- Muscles
- Skin
- Tendons & Ligaments
- Joint Capsules
- And More



The Benefits of the Deep Tissue Applicator

Maximize clinical results with the benefits of Companion Animal Health's patented, on-contact photobiomodulation therapy treatment application.



Compression

Gets you closer to target tissue. Blanching reduces obstacles of superficial absorbers.



Collimation

The deep tissue applicator acts to collimate the delivery of light to tissue, reducing energy loss.



Refractive Index

The fused silica composition of the deep tissue applicator minimizes light losses as it passes from the applicator into the skin due to similar refractive indices.



Reflection

Contact application of delivery to tissue minimizes energy loss due to reflection.



Soft Tissue Work

Allows you to do manual soft tissue work with the deep tissue applicator while delivering energy.

