LASER THERAPY GUIDED BY SCIENCE
Itching, infected, inflamed or in pain? Laser therapy can help. From acute to chronic, soft tissue to musculoskeletal, and even internal medicine conditions, laser therapy is invaluable, bringing unprecedented clinical and financial success to your practice.

TREATMENTS & APPLICATIONS
HEAD TO TOE

**HEAD**
- Rhinitis
- Sinusitis
- Otitis
- Hematomas

**CERVICAL**
- Infectious Tracheobronchitis
- IVDD

**BACK**
- Arthritis
- IVDD

**HIP**
- Hip Dysplasia
- Chronic Pain
- Lameness

**PERINEUM/TAIL**
- Anal Saculitis
- Trauma
- Tail Fractures

**STIFLE**
- Post-Surgical Arthritis
- Tendonitis
- Non-surgical/Partial ACL

**INTERNAL**
- Cystitis
- Inflammatory Bowel Disease
- Feline Asthma

**DERMATOLOGY**
- Dermatomyositis
- Pyotraumatic Dermatitis
- Post-surgical Incisions
- Infected and Chronic Wounds

**FORELIMB**
- Acral Lick Granulomas
- Pododermatitis
- Arthritis
- Fractures
- Sprains/Strains
- Trauma
- EGC
- Snake Bites
- Bug Bites (Spider)

**TARSUS/CARPUS**
- Lick Granulomas
- Calcaneal Tendon Tear/Trauma
- Neuropathy

**THORACIC LIMB**
- Bicipital Bursitis
- Bicipital Tendonitis
- Infra-Supraspinatus Tendonitis

**MOUTH**
- Extractions
- Gingivitis
- Periodontitis
- Stomatitis (Feline)
Why Are Wavelengths Important?

Wavelengths determine a therapeutic laser’s depth of penetration in tissue and specifically target beneficial chromophores to stimulate the photochemical reaction.

**650nm Accelerates Surface Healing**

Irradiating an area with 650nm, a wavelength where melanin in our skin absorbs very well, will ensure a large dose to the superficial region. Since light can both inhibit bacteria and promote cell growth, laser therapy has incredible results in wound healing and scar tissue regulation.

**810nm Increases ATP Production**

The enzyme determining how efficiently the cell converts molecular oxygen into ATP has the highest absorption at 810nm. Regardless of the enzyme’s molecular state, when it absorbs a photon it will flip states. Photon absorption will accelerate the process and increase cellular ATP production.

**915nm Enhances Oxygen Delivery**

The quicker oxygen is released into the blood stream, the more fuel the cell has to carry out all of its natural healing processes. The peak of hemoglobin’s absorption lies at 915nm, and when this radiation is absorbed, more of this oxygen-fuel is made available to the cells.

**980nm Improves Circulation**

Water in our pet’s blood transports oxygen to the cells, carries waste away, and absorbs very well at 980nm. The energy created from absorbing a photon gets converted to heat, creating a temperature gradient at the cellular level, stimulating micro-circulation, and bringing more oxygen-fuel to the cells.
Why Is Power Important?

Wavelengths determine a therapeutic laser’s depth of penetration and power determines the dosage delivered to depth in tissues.

Power (Watts) is the rate of energy delivery and energy is measured in Joules (1 Watt = 1 Joule per second). Higher power at the surface will deliver more energy to the desired depth.

For Illustration:

1 Watt laser:
60 seconds to deliver 18 Joules to an 8 cm depth

20 Watt laser:
3 seconds to deliver 18 Joules to an 8 cm depth

Summus Medical Laser’s higher-powered lasers will deliver therapeutic doses to deeper targets in a shorter amount of time.

Why is it necessary to use different frequencies?

Studies prove that pulse frequencies elicit different physiological responses, and that different tissue types (muscle, connective tissue, bone, etc.) respond better to pulse frequencies. Summus Medical Laser protocols use continuous wave and various pulse frequencies in combination with four therapeutic wavelengths to optimize clinical outcomes.

How does Intense Super Pulse (ISP) enhance laser therapy?

Lasers operating in super pulse mode deliver bursts of high peak power for a short period of time. Our Intense Super Pulse (ISP) mode delivers up to 28W of laser energy to deeper tissues mitigating superficial heat build-up.
Summus Medical Lasers deliver specific red and near-infrared wavelengths of laser light to induce a photochemical reaction and therapeutic effect. Laser therapy has been used in Europe since the 1970s and Summus Medical Laser was cleared by the United States Food and Drug Administration (FDA) in 2005.

Physiological Effects of Laser Therapy

- Increased Circulation
- Reduced Inflammation
- Pain Reduction
- Enhanced Tissue Healing

During each painless treatment, laser energy increases circulation, drawing water, oxygen, and nutrients to the damaged area. This creates an optimal healing environment that reduces inflammation, swelling, muscle spasms, stiffness and pain. As the injured area returns to normal, function is restored and pain is relieved.

During laser therapy, infrared laser light interacts with tissues at the cellular level increasing metabolic activity within the cell. By improving the transport of nutrients across the cell membrane, the increased production of cellular energy (ATP) is stimulated. The cascade of beneficial effects that follows includes increased cellular function and tissue repair.