

# At Powers Family Wellness We Provide Low Level Laser Therapy

Low Level Laser Therapy, commonly known as LLLT, is a form of phototherapy which involves the application of low power coherent light to injuries and lesions to stimulate healing.

## How does Low Level Laser Therapy work?

The effects of Low Level Laser Therapy are photochemical (cold), not thermal. Hot lasers in the medical world are used for surgical precision while cold lasers are used for healing precision. Rapid cell growth. The laser accelerates cellular reproduction and growth.

- **Faster wound healing.** The laser stimulates fibroblast development in damaged tissue. The reduction in recovery time is an important consideration.
- **Increased metabolic activity.** Helps the body increase output of specific enzymes, greater oxygen to blood cells and more effective immune response are induced by laser.
- **Reduced fibrous tissue formation.** The laser reduces swelling caused by bruising or inflammation of joints to give improved joint mobility.
- **Anti-inflammatory action.** The laser reduces swelling caused by bruising or inflammation of joints to give improved joint mobility.
- **Increased vascular activity.** The laser stimulates lymph and blood circulation, to allow the affect tissue to have the best possible circulation.
- **Stimulated nerve function.** Slow recovery of nerve function in damaged tissue can result in "dead" limbs or numb areas. Laser will

Low level is popularly  
used for

speed the process of nerve cell reconnection to bring the numb areas back to life. Laser also increases the amplitude of action potentials to optimize muscle action.

- Soft tissue injuries
  - Sprains and Strains
  - Haematomas
  - Tendonitis and
  - Tenosynovitis
- Capultis
- Bursitis
- Chronic Back and Neck Pain
- Myofascial Trigger Points
- Acupuncture points
- Osteoarthritis
- Rheumatoid Arthritis
- Ligament & Tendon Injuries
- Chondromalacia Patella
- Dermatological Condition
  - Excema
  - Acne Vulgaris
  - Roseacea
- Psoriasis
- Herpes
- Shingles
- Dermatitis
- Metatarsalgia
- Trigeminal Neuralgia
- Brachial Neuralgia
- Wound Management
  - Open Wound
  - Pressure Sores
  - Post-Surgical healing
  - Ulcers
  - Diabetic ulcerations
  - Burns
- Plantar fasciitis
- Frozen shoulder
- Strep Throat



# Laser Mechanism of Action

## Photobiomodulation in Target Tissue

### Thermal

- ↑ Nerve Conduction
- ↑ Capillary dilation

### Biochemical

- Releases nitric oxide
- ↑ ATP production
- ↑ Fibroblast migration
- ↑ Macrophage activity
- ↑ Keratinocyte activity
- ↑ RNA/DNA synthesis
- ↑ Enzyme production
- ↑ SOD production

### Bioenergetic

- > Acupuncture meridian point stimulation

### Bioelectric

- ↑ Electromotive action acting on membrane bound ion channels
- ↑ Intracellular/extracellular ion gradient changes



### CLINICAL EFFECTS

Reduced spasm | Pain Relief | Increased circulation  
Improved flexibility and function | Improved healing  
Reduced symptoms associated with osteoarthritis

LASER<sup>USA</sup>

