

# Class IV Laser Therapy

During Laser Therapy, laser light is applied to the affected area. The laser is precisely calibrated to deliver light in a therapeutic dose, wavelength, pulse, and duration.

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

Cell-level effects occur as photons, delivered from the laser, interact with cells. This leads to an increase in adenosine tri-phosphate (ATP) levels, an increase cell membrane permeability, and dilation of blood and lymphatic vessels. These events result in a cascade of beneficial effects – increasing cellular energy and overall health.

Laser Therapy may be used in concert with Shockwave Therapy to help speed results or as a stand-alone treatment, if the injury is not suitable for treatment with Shockwave.

- **Why is the Class IV superior to other forms of Laser Therapy?**

Many practitioners offer low laser or "cold" laser therapy. These devices are Class III lasers, with power output in the range of 5 to 500 milliwatts.

The laser used at Montgomery County Chiropractic is a high-powered, Class IV Therapeutic Laser – power adjustable from 100 to 10,000 milliwatts, allowing for a wide range of treatment protocols. It also operates at three different wavelengths, enabling varying levels of penetration – from superficial to deep tissue – to precisely target and reach the affected areas.

The power and penetration of our laser system is not attainable with cold laser devices. Simply put, the our laser delivers a therapeutic dosage of laser energy to a larger volume of tissue – producing more immediate, significant results.

- **What is a typical course of treatment?**

Each session of treatment takes approximately 6–15 minutes. Obviously, all conditions are different. But as a guideline, most tendonitis cases require 6-12 treatments over 2-4 weeks before the area has healed. Chronic arthritic knee pain may require more treatments, along with an occasional "booster" shot of laser therapy.

Sessions may be scheduled 2–3 times per week.

- **When will the results of treatment begin to be felt?**

Some patients begin to enjoy relief with their first treatment; however, for others, it may take several treatments. This does not mean that nothing is happening. Each treatment is cumulative and results are often felt after 3 or 4 sessions.

- **What does a Laser treatment feel like?**

Laser Therapy is not painful; in fact, many find it quite pleasant. Most patients report feeling a slight warming sensation since the laser uses an infrared wavelength. Others have reported feeling a tingling sensation – some people think this is due to the increase in cellular energy output, or the increase in cell membrane permeability.

- **Is Laser Therapy effective?**

Yes. There are thousands of published studies demonstrating the clinical effectiveness of Laser Therapy. Among these, there are more than one hundred rigorously controlled, scientific studies that document the effectiveness of laser for many clinical conditions.

- **What are the physiological effects?**

Laser Therapy has the following medical effects:

- Decreased pain levels (by stimulating production of Beta endorphins)
- Reduced inflammation (via increased mitochondrial, monocyte, and scavenger cell activity)
- Increased tissue proliferation & regeneration
- Accelerated soft tissue and bone repair
- Increased tissue tensile strength
- Enhanced nerve regeneration & function
- Increased cell metabolism
- Increased enzymatic responses
- Increased cell membrane potentials
- Increased microcirculation & vasodilation
- Increased lymphatic flow
- Increased collagen production
- Enhanced angiogenesis (creation of new blood vessels)

- **What are some of the benefits?**

Offering several benefits over other modes of treatment, Laser Therapy:

- Can be used without the use of x-rays or drugs (although the diagnostic process and/or previous treatments may have included these)
- Stimulates the body's own healing ability
- Often provides an immediate reduction of pain as well as improved mobility and function
- Is non-invasive
- Does not require anesthesia

- **What conditions can be treated?**

Laser Therapy can be used to successfully treat the following conditions and more.

- Tendinopathy
- Arthritis
- Back and neck pain
- Carpal tunnel syndrome
- Myofascial trigger points
- Tennis/Golfer's elbow
- Plantar fasciitis
- Fibromyalgia
- Knee pain
- Shoulder pain
- Sports injuries

- **Will there be pain after Laser treatment?**

Occasionally, patients report a slight increase in pain after a treatment. This temporary increase may be due to an increase in localized blood flow, increased vascular activity, increased cellular activity, or a number of other healing effects.