

# THIEL CHIROPRACTIC & OKANAGAN LASER SOLUTIONS

## PATIENT INFORMATION

### BIOFLEX LOW INTENSITY LASER THERAPY (LILT)

This advanced technology utilizes super-luminous and laser diodes of specific wavelengths to treat abnormal tissue with photon energy. These particles of energy are absorbed by molecules within a cell called mitochondria. Mitochondria's function is to produce a fuel called ATP. Laser therapy increases the amount of ATP produced in the mitochondria thereby greatly accelerating the body's natural healing process. In essence, light energy is converted into biochemical energy, resulting in normal cell function and healing. This process is curative and initiates a number of physiological responses, with symptoms disappearing. This type of therapeutic light therapy permits penetration through tissues and bones without interfering with all other normal cells.

Light energy has been used for healing from the time of Greek and ancient Egyptian civilizations. With the recent advances in technology, dramatic benefits and treatment of many medical conditions is now possible.

Low intensity laser therapy successfully treats a wide variety of medical conditions, including:

#### (I) GENERAL

- Carpal tunnel syndrome
- Epicondylitis
- Repetitive strain syndrome
- Rotator cuff injury
- Temporo-mandibular joint dysfunction
- Reflex sympathetic dystrophy

#### (III) INFLAMMATORY

- Tendonitis
- Myositis
- Synovitis
- Bursitis
- Plantar fasciitis
- Rheumatoid arthritis

#### (II) INJURIES

- Ligament & tendon tears
- Fractures with associated soft tissue injury
- Facet joint syndrome
- Contusions
- Bulging & herniated discs
- Torn muscles

#### (IV) DEGENERATIVE

- Osteoarthritis
- Chondromalacia patella
- Calcifications(e.g.bone spurs)
- Spinal stenosis
- Discongenic and vertebrogenic radiculopathy

## **The Advantages Of Low Intensity Laser Therapy**

- Painless
- Non-invasive
- Non-toxic
- Easily applied
- Highly effective
- Cure rate > 95%
- No known negative side effects

## **The Physiological Effects of Low Intensity Laser Therapy**

### **SHORT TERM EFFECTS**

- Production and release of beta-endorphins. Endorphins are morphine like substances produced by various cells in the body that inhibit the sensation of pain. They act as an internal analgesic.
- Cortisol production is increased (cortisol is the precursor of Cortisone). This enables the body to combat the stress associated with trauma or the disease process.

### **LONG TERM OR CUMULATIVE EFFECTS**

- ATP (adenosine triphosphate) production is increased resulting in improved cellular metabolism. This is the source of all of our energy.
- DA (deoxyribonucleic acid) production; the protein building block of tissue is substantially increased. Protein synthesis is important in tissue healing.
- Neurotransmission is facilitated due to elevated levels of serotonin and acetylcholine. Nerve cells conduct more efficiently.
- Mitochondrial activity is stimulated resulting in cell replication. i.e. replacement, regeneration and repair of abnormal cells.
- Modulation of macrophages fibroblasts and other cells. These are the cells that clear out waste in tissues.
- Angiogenesis (formation of new blood vessels). Tissue does not heal unless there is adequate blood supply.
- Regulates cell membrane potential, essential in Na, Cl and K ion transfer (electrolyte balance). All cells will function optimally.
- Cytokines and other chemicals enhancing cellular communications are released, resulting in quicker healing.

### **OTHER EFFECTS**

- The immune response is stimulated. This is a whole body effect.
- Lymphatic drainage is improved, reducing inflammation.
- The histamine response is positively altered, eliminating the body of excess inflammation.
- Production of growth hormone is increased. This is a large part of the healing process.
- The body's natural healing processes are enhanced and greatly accelerated.

## PATIENT DIRECTIVES

1. Should you experience an increase in pain subsequent to any treatment, utilize ice on the area of involvement and pain medication as required.
2. Notify clinic staff on your next visit that an increase in pain has occurred. The existence of this phenomenon is due to a high sensitivity tissue response and protocols will be adjusted accordingly on your next visit.
3. If this is considered to be an emergency, call Dr. Thiel at the clinic at 250-763-9388.
4. Usually, treatments are scheduled three times per week or more frequently in acute cases, at least initially. Subsequent treatments are scheduled in accordance with your status.
5. The majority of patients will not notice any major changes with regard to their symptoms until treatment session three or four. There are however exceptions to this rule. If at any time you have questions regarding your process, bring these to the attention of Dr. Thiel or a member of the clinic staff.
6. With regard to the number of treatment sessions, these may vary from 1 to 30. Acute injuries generally respond more rapidly than chronic problems and each individual's tissue response varies. It is important to be aware that before treatment is initiated that the exact number of treatments cannot be predicted, in most cases we expect to see some change in symptomatology after 3-5 visits however, in a small percentage a more prolonged period of treatment may be required. This is particularly true in longstanding back problems, frequently accompanied by spinal or foraminal stenosis. In these situations there is encroachment on the spinal cord or the nerve roots as they exit the spinal canal. Almost without exception we are able to relieve those symptoms; however patience and time are often required. Please do not forget that our objective is to minimize the length of treatment and the number of visits. However, on occasion even our best efforts require multiple treatments, patience and time.

\*As a courtesy to our clients on the waiting list, we ask that existing patients please give our staff 24 hours notice if you need to cancel any appointments. If an appointment is missed a fee will be charged.\*

Dr. Markus Thiel, BPE, RT, D.C.

*At Okanagan Laser Solutions we are providing an advanced therapy option for our clients that does not include pharmaceuticals, surgery or side effects. With the ultimate end result of providing you with a pain free and active lifestyle.*