

## **Low Intensity Laser Therapy**

### **What is it?**

Low Intensity Laser Therapy (LILT) is the use of light energy to enhance the natural healing process. Light energy is also known as photon (from Greek for light) energy; however, unlike the Photon Torpedoes used on Star Trek this use of light energy is at a very low intensity and is beneficial. The term LASER is also an acronym (term formed from the initial letters of other words) for Light Amplification by Stimulated Emission of Radiation.

### **How does it work?**

The light source is placed in contact with the skin which allows the light energy to penetrate into the injured/abnormal tissue and radiate (bath, irradiate) the damaged cells with photons. This light energy is said to initiate positive physiological responses causing it to be converted into biochemical energy; this positive influence results in the restoration of normal cell function and morphology (shape). This approach is considered curative as it facilitates the natural healing process and speeds up recovery time considerably, according to some researchers. The advantages cited are that it is non-invasive and non-toxic; it is recognized as being highly effective and it has no known side effects. In addition, the procedure is pain free when administered and it is easily applied.

Some studies have indicated the following results: In the short term, LILT increases beta-endorphins which are the body's form of pain control and it stimulates cortisol production which enables the body to combat stress more effectively. Over the long term cellular metabolism is improved because ATP (adenosine triphosphate) production is stimulated and neurotransmission (nerve function) is enhanced because of increased serotonin levels. The immune response is also stimulated. Of particular interest is that the histamine response is positively affected, causing the inflammatory reaction to injury to come under control much more quickly – pain can be considerably reduced when inflammation is brought under control.

### **What conditions does LILT treat?**

LILT has been used for a number of musculoskeletal conditions, such as: repetitive stress injury, rotator cuff tears, tennis and golfers elbow, ligament and tendon tears, contusions as a result of trauma, Dupuytren's contracture (claw hand). It has been used to alleviate tendonitis, tenosynovitis, bursitis and plantar fasciitis. In degenerative conditions it has been utilized for osteoarthritis, chondromalacia patella, bone spurs and calcium deposits. It is helpful for wound healing, skin lesions, dermal (skin) ulcers, burns, gout and some neuropathies (such as diabetic ulcers). LILT technology appears to be a very versatile modality for promoting the body's natural healing process.

**Where is it used?**

LASER therapy, in one form or another, has been around for over thirty years, and the Low Intensity Laser Therapy technology is currently being employed in Canada, United States, Europe, South America and Asia. The LILT technology is also gaining in popularity and is being utilized by an increasing number of naturopaths, chiropractors, physiotherapists, massage therapists and some physicians.