Low Level Laser Therapy (Cold Laser)

Low Level Laser Therapy (LLLT) has a photochemical effect (like photosynthesis in plants). One of the main mechanisms of action occurs in the mitochondria (the cellular power plant inside every one of your bodies cells). The effect of Laser Therapy depends on the application of the correct wavelength and density of light, delivered to the target tissues for an appropriate period of time.

Healing is essentially a cellular process. The energy transferred to the cell can increase its kinetic energy, and activate or deactivate enzymes or alter physical or chemical properties of the cells. The mitochondria are the "Powerhouse" of the cells and make ATP which is needed for the life enhancement process of every cell. LLLT stimulates the cell activation process, which initiates a chain of reactions, from the cell membrane to the cytoplasm, to the nucleus and DNA. This is called cellular amplification.

LLLT of the correct wavelength and density allows your cells to produce ATP, the body's energy. As stress on cellular function is reduced and normal mitochondrial function is restored, cell metabolism is improved and the body is positioned for optimal healing.

The laser is absorbed at the cellular level into the mitochondria of the cell and may create changes such as the following:

1. Accelerates cellular reproduction and growth, increasing metabolic activity

2. Expedites wound healing/stimulates fibroblast development in damaged tissue.

3. Greater oxygen to blood cells/increased blood supply

4. Can stimulate immune function

6. Develops collagen and muscle tissue/reduces fibrous tissue formation

7. Reduces the formation of scar tissue following tissue damage from cuts, scratches, or following surgery

8. Reduces local inflammation/improves joint mobility

9. Stimulates nerve cell function

11. Increases the speed, quality and tensile strength of tissue repair

12. FDA cleared to relieve acute and chronic pain associated with the following conditions: low back pain, shoulder pain and heel pain (Plantar Fasciitis)

Unlike high power lasers that use heat to cut or burn tissue, low energy cold lasers boost biochemical reactions in the targeted tissue. Visible light is directed to a specific area, the light energy passes through the skin, and enters cell membranes by special light receivers. This increases the cells energy which results in changed cell membrane permeability. Several biological processes are then affected, such as ATP stimulation, that then initiates an increase in cell regeneration and protection, and decreases cell death.

The results for physical injuries and disorders include a reduction in swelling, an increase in tissue healing, reduction in pain, increased mobility, and maximum recovery.