



## ThermoWave Therapy Technology How It Works

ThermoWave Technology uniquely delivers ultra-high frequency energy and ultra-low frequency modulation customized to the specific absorption rate (SAR) of the treatment target area, artificially raising its temperature to 41-44°C to depths of 15 cm, which stimulates the body's natural responses to heat without damage to healthy tissue.

### I. Stops disease progression and stimulates rapid cellular regeneration

- A. ThermoWave Technology stimulates a localized increase in blood flow up to 1500%\* causing hyper-vascularization and vasodilation that boosts the delivery of oxygen and nutrients to the area. This powers the regenerative response for fast reproduction of normal cells and healthy tissue.
- B. Simultaneously, ThermoWave Technology reduces inflammation, affects increased cell wall permeability, and causes vasodilation and hypervascularization resulting in efficient drainage and removal of excess fluids, toxins, necrotic debris and free radicals.
- C. Along with the decrease in inflammation, ThermoWave Technology reduces pain by limiting the stimulation of pain receptors, thereby significantly improving comfort and increasing range of motion.

### II. Enhances tissue repair, while conditioning and strengthening muscles

- A. ThermoWave Technology produces heat shock proteins (HSP), which help prevent the components of skeletal muscle break down during exercise
- B. Hyperthermia increases blood flow, which enhances the contractile performance of muscles, limits free radical damage to muscle, and stimulates protein synthesis
- C. It increases ATPase activity, changes the mechanical properties of collagen in tendons

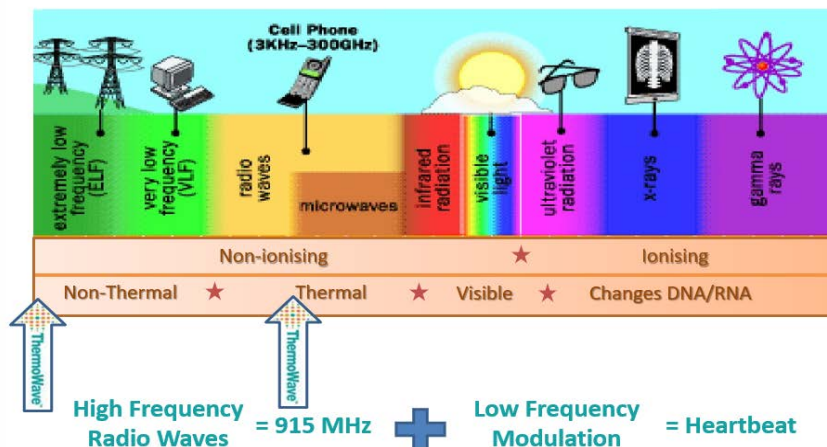
### III. Accelerates apoptosis where needed

- A. Hyperthermia upregulates tumor antigen expression and release and increases the activity of antigen presenting cells APCs, while it induces secretion of chemokines and cytokines within the tumor and the surrounding tissue. These chemicals attract the APCs and increase their activity.
- B. Hyperthermia upregulates the expression of adhesion molecules on endothelial cells lining the tissue microcirculation, enabling the extravasation of lymphocytes into the tumor and surrounding tissue.
- C. Hyperthermia induces the activity of cytotoxic T-lymphocytes (TcL) and natural killer cells (NK) to recognize and eliminate the tumor cells.

### II. Increases efficacy in the immune response

- A. ThermoWave Technology upregulates the body's anabolic processes and targets non-conforming and deregulated cells to be efficiently eliminated.
- B. Hyperthermia stimulates the immune system, including macrophages and lymphocytes, to reach the injury leading to increased efficacy in the immune response.

**No other technology can increase blood flow and cell permeability or affect the electrical field and reverse cell polarity to induce healing at the molecular level without any damage.**



NOTE \*: Increased blood flow is the important physiological response of hyperthermia (Sekins et al., 1984). Effective clinical response occurs when temperature reaches 41-45°C (Lehmann & de Lateur, 1982) increasing blood flow up to 1500% (Song, 1984).