

**ARPwave Therapy - Explained**  
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**Friday Fitness & Total Health, LLC**

**What is the ARPwave?** Accelerated Recovery Performance

The ARPtrainer (ARP) is an FDA approved and regulated class II electrical stimulation device that possesses specification characteristics not found in any conventional therapeutic neuromuscular electrical stimulator. The ARP uses direct current in a patented background waveform. This background wave is harmonious with the body and significantly reduces skin and fatty tissue impedance, allowing much deeper penetration of the direct current to the soft tissue. In addition, the unique waveform produces minimal inhibitory protective muscle contractions, allowing active range of motion during therapy and training. This permits eccentric (lengthening) contractions to occur which are critical to treatment.

**Eccentric vs. Concentric Training:** Many injuries are caused by the muscles' inability to absorb force. Present-day methods of stretching and weight training do NOT train the muscles to absorb force. When muscles are trained predominantly in concentric contraction we most often avoid using complete range of motion as the eccentric (often referred to as the lengthening or negative phase) is not targeted due to the intense energy needed to sustain the move. Therefore, most people are training the muscle to be short. Without completing the entire range of motion, we tend to 'bulk' the muscle in its' most easily contracted state – completely concentric. The shorter a muscle is, the less force it can absorb and the less power it has. The ARP allows athletes to train eccentrically, which greatly improves the ability of the muscle to absorb force and generate power. This is accomplished by electrically stimulating the muscle at 500 cycles per second, through the entire length of the muscle; much higher than any device on the market. The result is higher explosive contraction through a greater range of motion. The neurons, which signal the muscle cells to contract the muscle fibers, often become dormant when injury or sedentary phase occurs. This breaks the synapse with the muscle cell, leaving the muscle fiber inactive. When electrically stimulated with the ARP, the neurons will signal the muscle cell to contract. The muscle cell will once again synapse with the muscle fiber via the 'motor end plate' and tell the muscle fiber to contract. Thus, with renewed signal activity the muscle fiber will be stimulated and continue on its' path to repair, recovery and restrengthening.

The ARP is also used for injury recovery. In most injuries, the tissue damage can create an abnormal nerve response that can pattern less efficient pathways. The ARP's patented wave form discovers these tissue blockades and reestablishes the normal, more efficient pathway to the muscles. This frequently eliminates the compensation motions and reestablishes normal function.

**Simply put:** Muscles are not just joint movers, they are also stabilizers and help absorb shock when functioning correctly. When injury occurs, muscles compensate and transfer that force directly into the joint and into other neighboring muscles, where it does not belong. The neurological pattern of compensation is like a detour in the muscle and takes a new, longer route *around* the injury site. When the muscle/injury heals, it keeps the neurological pattern detour, and consequently the compensation in that muscle functions at less than optimum. Often the muscle, which is now taking the workload, is responsible for an entirely different movement of the joint being impinged. In these situations of muscle compensation, a muscle which usually acts as a 'prime mover (this is a muscle responsible for moving the joint) is damaged and the workload is transferred onto a synergistic muscle or joint stabilizer muscle. These muscles are much smaller in size and strength as they are designed only for stabilizing or assisting with movement of the joint. In reality, it would be the same as a semi truck breaking down and asking a compact car to now pull the trailer to its' destination.

Most therapies are fighting the neurological/electrical signal with a mechanical force (PT), which is painful and counter-productive. The ARP sends a signal to the muscle at the road block and tells it *not* to protect, but to neurologically reconnect the efficient pathway of function. The muscle now performs its' secondary function again - as a shock absorber - and takes the force out of the joint, stopping the pain and degenerative cascade. The ARP literally looks for the cellular disruption location - what we call a "Hot Spot" in the tissue - and breaks through the blockade. Better function and performance are the result and any pain associated is greatly or completely removed.

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