

# Description of Acuscope-Myopulse Biotechnology

## Table of Contents

Therapeutic Microcurrent Biotechnology.....	1
Theoretical Understanding - How does it Work?.....	1
What Conditions are Treated with this Equipment? .....	2
Instruments in the Acuscope System.....	3

## Therapeutic Microcurrent Biotechnology

Microcurrent technology grew out of the field of science called electrophysiology, the study of the electrical properties of cells. Not as popular as chemistry which has resulted in the explosion in pharmacology, biophysicists nevertheless recognize that living bodies are electrically wired; that cells generate electricity.

Sophisticated biofeedback monitoring capability is built into the Acuscope and Myopulse instruments. Through a relay of programmed microchips, this biofeedback is used to configure minute doses of precisely modified microcurrents, delivered without sensation through the skin by probes and electrodes, in order to return the nerves and connective tissue to a normal level of electrical “charge.” Fondly referred to as “the human battery charger,” treatment literally causes the nerve cells to once again conduct unobstructed signals. The muscles, organs, and glands benefit from improved electrical conductivity when nerve current moves freely once again to nerve endings. Improved bioelectricity allows the body to more effectively use proteins and other nutrients for cell growth and regeneration of all types of tissue. Incomplete (painful) repair jobs are completed, metabolic waste products are more efficiently eliminated, and inflammation is reduced. The result? Joint pain is relieved. Headaches disappear. Blood and lymph circulation also improves. Brainwaves are reconditioned to sustain the frequencies associated with relaxation and mental clarity. The treatments are completely comfortable and patients often fall asleep, awakening refreshed and “recharged.”

## Theoretical Understanding - How does it Work?

Every cell in the body generates electrical currents which are measurable. In the brain (EEG), skin (GSR), heart (EKG) and muscles (EMG) tell us about our bioelectricity. Most people are unfamiliar with the electricity of the nerves which is commonly measured by neurologists in a Nerve Conduction Study (NCS) when there is pain.



Nerve conduction biofeedback monitoring capability is built into the Acuscope; the feedback to the Operator reveals the degree of resistance in the circuitry between the two contact probes. During treatment, in response to measuring conductivity, the instrument modifies its output configuration of squarewaves delivered in biologically compatible microamperage strength. The influence of various frequencies causes nerve cells to once again begin to conduct healthy neurochemical signals to the tissue of muscles, organs, and glands, etc. Restoring normal electrical

conductivity allows the body to more effectively use proteins and other nutrients for cell growth and repair of all types of tissue.

The biofeedback monitoring built into the Myopulse is similar to EMG; however, once again, the monitoring and treatment strength is microamperage (in contrast to ElectroMyoGraphy which uses milli-amperage current to elicit a response). Delivering sinusoidal (sine or sloping) carrier waves into the connective tissue (muscle-tendon-ligament-fascia) restores normal electrical “firing” potentials to the groups of cells comprising any contractile structure. Tightness, knots, spasms release; damage repairs more quickly; striated bands and “ropey” muscles become smooth and pliable. Restriction diminished, range of motion is restored. Strength is revived. Blood flow returns to a healthier level.

Our health depends upon the ability of currents to flow freely throughout the body and brain. When electrical currents are blocked in the heart, brain and/or nerves, fatal results can follow. The gentle push provided by biocompatible microcurrents restores conductivity to the body’s circulatory systems. It also stimulates the production of ATP (Adenosine Triphosphate) which is a “reservoir of energy” for the tissue. ATP is involved in virtually every activity of the cell including nerve transmission, muscle contraction and protein synthesis. ATP stores and delivers fuel to the cells accelerating self-repair and new cell growth. Microcurrent treatment assists the body in restoring healthy tissue.

## What Conditions are Treated with this Equipment?

- Chronic Pain Syndromes – frequently produces resolution when all other methods have failed; it is best advised to use Acuscope-Myopulse as a preliminary measure
- Acute Injury, Accident (PI Cases) for new tissue damage repair, Sports Injury
- Repetitive Use Syndromes (Carpal Tunnel wrist pain, golf shoulder, “tennis elbow,” etc.)
- Stress Relief – in lieu of anti-depressants, sleep aids, other addictive psychotropic drugs
- Veterans suffering with PTSD and painful war wounds will be among those who benefit greatly in the community; hastens recovery after surgery; helps with adjustment to prosthetics
- Pre-Op Prep and Post-Op Recovery + Maintenance thereafter – recommended to boost cellular metabolism before the operation; and rehab after all types of surgical procedures and hospital stays
- Prior to referral for standard Physical Therapy (insures success of therapeutic PT procedures)
- In combination with Chiropractic Skeletal Adjustment and Therapeutic Massage (if advisable)
- Brain Injury/Spinal Injury/Paralysis/Stroke
- Neurological Disorders (early dementia, MS, CP, Parkinsons)
- Anti-Aging and Geriatrics (boosts old batteries back to fully charged capacity - Mind & Body!)
- To enhance results of other medical procedures that various types of doctors provide, such as Bioidentical Hormone Balancing; Homeopathy; Psychiatric Counseling; Nutritional Counseling;
- To insure the success of a recommended exercise and/or healthy diet program
- Non-Invasive Facial Rejuvenation (especially to restore, uplift and tone the face after pain is gone and smiles are ready to return!)
- To enhance the results of Aesthetic Reconstructive Surgery and produce speedier recovery time by quickly reducing swelling and tissue discoloration
- Reduce adhesions; soften, reintegrate, and lighten scar tissue to nearly invisible
- Avascular wounds (long-term open wounds that refuse to heal) miraculously close

## Instruments in the Acuscope System

1) **The Acuscope 80L** addresses nerve cells throughout The Nervous System – improving circulation in Peripheral Nerves as signals relay throughout the body, arms, and legs; restoring conductivity from Nerve Roots along the Spine, out to the extremities; relieving pain at Nerve Endings in damaged tissue. In addition to pain management in specific areas of complaint, General Systemic Well-Being occurs, as if one were "boosting the charge on the batteries" throughout the body via the "electrical wiring" of the neural network. The Central Nervous System (brain and spinal cord) also benefits as brainwaves are gently moved into calm, even regular waveforms. When Guided Relaxation and/or Visualization Techniques are combined with the use of the Acuscope's Alpha Brainwave Procedure, stress diminishes quickly and significantly, a unique application of this gentle biofeedback-driven microcurrent technology.



When Guided Relaxation and/or Visualization Techniques are combined with the use of the Acuscope's Alpha Brainwave Procedure, stress diminishes quickly and significantly, a unique application of this gentle biofeedback-driven microcurrent technology.

2) **The Body-calibrated Myopulse 75L** is used in combination with the Acuscope for cellular regeneration of connective tissue cells in the large body structures; i.e., the back, the joints (ankles-knees-hips-shoulders-elbows-wrists). It is applied to the painful site of new/acute injury, as well as old/chronic pain syndromes. By strengthening electrical potentials in the cells of weak and/or atrophied muscles-tendons-ligament-fascia, strength and flexibility return. Normal range of motion is restored as tightness is released and tissue damage repairs. By improving circulation of blood and fluids, post-injury and post-op swelling is reduced. Acute sprains and strains, tears, and twists respond immediately. Scar tissue softens and old painful problems can finally resolve. Bones mend more quickly as the surrounding soft tissue is nourished with increased circulation.

3) **The Head-Neck-Face calibrated Myopulse 75LN** is used for head (TBI Traumatic Brain Injury), neck (whip lash, etc), facial tissue injury and problems such as TMJ, headaches (including Migraines) as well as post-reconstructive facial surgery. This Myopulse is calibrated for shallow penetration into the delicate sub-dermal micro-muscles underlying our facial features. It is safely utilized for facial rejuvenation, the non-surgical "face lift" and to eliminate lines, wrinkles, scars, acne as well as cellulite. Skin looks visibly younger, vitality restored.

For all of the above indications, daily treatments are required at first, tapering off gradually as tissue condition improves, pain and stress are reduced, nerves begin to remain relaxed, and muscle strength returns. Including facial rejuvenation, a series of treatments is required in all cases, generally a minimum of 11 over one month, to produce the desired cumulative effect. Maintenance treatments are recommended to achieve lasting results, weekly at first, then monthly thereafter.

4) **The Acuscope Model 70C Home Unit** is prescribed for personal home use by patients who require on-going treatment for neurological disorders and chronic pain syndromes. Popular because it is lightweight and can be easily moved from room to room, it can be used while lying in bed, on a couch, or sitting in your favorite recliner chair. Many patients who own their own Acuscope will still come to the **Acuscope Center** for Myopulse (muscle-tendon-ligament-fascia) treatment, especially to use the Myopulse 75LN to "lift" their facial muscles and rejuvenate their skin.

5) **The Neuroscope Home Unit** is for personal use by patients who require additional support for reducing stress and overcoming sleep disorders and PTSD. Because of its small size and portability, it is used by frequent travelers to overcome "jet lag" and produce mental clarity upon arrival at their destination and/or upon their

return home after a business trip. It is primarily indicated for CES (Cranial Electrical Stimulation), the calming influence on brainwaves. Highly recommended specifically for afternoon and early evening "Power Naps" this unit can provide on-going self-administered relaxation (stress reduction) therapy. By far a better solution for insomnia than Lunesta! A better way to revive your tired brain in the afternoon than a cup of coffee or a coke!!

When a patient is ready to supplement the benefits of treatments provided in the medical or physical therapy practice, the Model 70C Acuscope or the small, portable Neuroscope may be prescribed by a Medical Doctor or a referring Physician for at-home use.