

M.E.N.S.: A Revolutionary New Electrotherapy -- Part I

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A revolutionary new type of electrotherapy has leaped into the national and international spotlight, thanks to endorsements from some of the world's top athletes and sports therapists, as well as its increasing utilization among the progressive chiropractic community for a wide range of clinical problems. This modality is low-volt, pulsed microamp stimulation, commonly referred to as "M.E.N.S.," a contraction for Microcurrent Electrical Neuromuscular Stimulation. M.E.N.S. emerged into the physiotherapy marketplace as the brain child of Dr. Thomas Wing, chiropractor and successful electronics inventor.

The secret of Dr. Wing's technological breakthrough is the infinitesimally small microampere currents it utilizes, referred to as "microcurrents," delivered via his patented "Tsunami" waveform. One microampere is only a millionth of an amp, and is only 1/1000th of a milliamp. Traditional electrical stimulation (TENS, EGS, EMS, conventional interferential) all utilize milliamps designed to stimulate sensory and/or motor nerves. Microamp stimulation, on the other hand, is designed to be used at subtle subsensory levels which appear able to amplify and augment the naturally occurring biological electricity used by Mother Nature to heal injuries.

These injury currents have been described by a number of prominent researchers, including Robert O. Becker, M.D. (Becker 1985); Bjorn Nordenstrom, M.D. of Sweden; and Richard Borgens, Ph.D. at Purdue University. These researchers agree that the body does have a means of activating its own semiconductor bioelectric circuits to send endogenous biological electricity where it is needed for healing. Becker proposes that these electrical signals are conducted through the Schwann cell and glial cell perineural sheath, while Nordenstrom postulates that the insulation properties of the arterial microcapillaries can be adjusted by the body to shunt bioelectricity into the area of injury through the blood stream.

Dr. Becker additionally proposes that the classical description of acupuncture meridians are actually maps of this glial cell network which parallel the peripheral nervous system. The direct current (d.c.) injury currents conducted through this system, according to Becker, are the naturally occurring bioelectric signals for tissue repair and regeneration, and that acupuncture points are maximally conductive windows into this bioelectric system serving as amplifiers to compensate for downstream damping of signal strength. Numerous studies have measured these injury currents and found them to be microampere microcurrents (Illingsworth and Barker, 1980; Borgens et al., 1979; Barker, Jaffe, and Venable, 1982; Borgens et al., 1980).

A growing number of studies have appeared documenting the enhanced healing effects of microamp stimulation (Carley and Wainapel, 1985; Assimacopoulos, 1968, Wolcott et al., 1969; Gault and Gatens, 1976; Barron et al., 1985, Alvarez et al., 1983; Nessler and Mass, 1985; Stanish, 1984). Researchers and knowledgeable clinicians increasingly recognize that if the ultimate clinical goal is to heal the

injury, above and beyond simple short-term electroanalgesia, microamp stimulation is the modality of first choice. The combination of outstanding pain relief as well as enhanced healing makes M.E.N.S. therapy a double winner.

A large pilot study has recently been completed by Lynn Wallace, a prominent physical therapist from Cleveland, Ohio. This study measured the rate of response to M.E.N.S. on a group of 1500 patients suffering from a wide range of clinical conditions presenting to a private practice. Approximately 50% of these cases were acute, 30% subacute, and 20% chronic. Thirteen different categories of injury were monitored, including both radiating and non-radiating lumbar or cervical pain, ankle and foot pain, lower extremity muscle injuries, as well as shoulder and elbow injuries. By any standard of measure, the results were quite remarkable. Ninety-six percent of these patients responded to this modality with significant pain relief. The average decrease in pain with a M.E.N.S. treatment was 55%. If frequency of treatments was given as close to daily as possible, the accumulating net improvement with each treatment was 25-30%. This rate of improvement resulted in a complete resolution of pain, across all categories of injury, in an average of just four treatments. Even radiating lumbar and cervical pain resolved completely within an average of 4.5 treatments with M.E.N.S..

Another study utilizing microamp stimulation which should be of interest to chiropractors demonstrated the results of this modality on a group of 40 patients with chronic low back pain. These patients were divided into an actual stimulation group and a placebo group. The study was conducted in a double-blind fashion. Three treatments per week were given for two weeks. The subjects in the real treatment group experienced an average pain relief of 37% greater than the placebo group. Even more interesting were the findings at the two month, post-treatment follow-up, which showed a 75% reduction of pain in the real treatment group, versus only 6% in the placebo group (Learner and Kirsch, 1981).

Another interesting double-blind study which has just been completed at Oakland University in Detroit, demonstrated the ability of M.E.N.S. to prevent muscle breakdown after an intense muscle workout, as demonstrated by reduced muscle soreness and diminished release of creatinine phosphokinase (CPK), the enzyme released with muscle breakdown. This study corroborates the anecdotal reports of many of the world's top athletes; that this modality has enhanced their training and staved off the muscle problems and injuries which so often interfere with performance.

Part II of this article will appear in Dynamic Chiropractic next month.

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