

Healing the Body Electric

Electrifying solutions to treating athletic injuries F-A-S-T

In the event of a sports injury, most likely the athlete will be treated to “RICE”—the time-honored treatment of Rest, Ice, Compression and Elevation. This protocol consists of removing the strain contributing to the injury, cooling down the inflammation process to alleviate swelling and bruising, applying pressure and keeping the injured area elevated, preferably above the heart level, to further control swelling. It’s a commonsense and easily applied protocol, but it has certain limitations.

The problem with the RICE approach is that although it is very effective in minimizing the extent of swelling to an area, it can do nothing to promote healing. Once the bruising and swelling stop, the body will begin the healing process of clearing out the damaged tissues and blood in the injured tissues, and of rebuilding. This process inevitably promotes stiffness in the area due to lack of use (activity will promote swelling) and the development of scar tissue. Although the formation of scar tissue is a reaction to the inflammation

process and a necessary part of healing, scar tissue is not necessarily an athlete’s best friend.

While some scarring is necessary, the body will often err on the side of forming excessive scar tissue, which can affect the circulation, strength and flexibility of the injured area. All three of these effects can hurt your game and contribute to future injuries.

Coping with the negative effects of scarring has been the subject of several articles in *BFS*. A method called Active Release Techniques® treatment (ART) has proven to be particularly effective in returning a previously injured area to optimal functionality. When employed during the healing process, treatment with ART can even prevent some loss of flexibility and decrease healing time.

And this is just the beginning. Top-level professional trainers are now using revolutionary approaches to manage pain after an injury, decrease the swelling, and speed healing. The results have been very exciting, even electrifying, you might say.

Dr. Sonja Pettersen performs a microcurrent treatment on professional golfer Tag Ridings. Whereas frequency-specific microcurrent treatment typically is used for acute injuries, many athletes have also incorporated the treatment into their general maintenance programs.



The Bioelectrical Basis of Healing

Many people are already familiar with bioelectric medicine in the form of a TENS (Transcutaneous Electrical Nerve Stimulation) unit. A TENS unit is used to control pain and works by exhausting the pain receptors in the treated area by overwhelming them with electrical impulses. This electrical approach is widely accepted and is incorporated into my own physical rehabilitation and chronic pain management programs.

Microcurrent electrical therapy, or MET, works differently from TENS. MET works on a cellular level, rather than by affecting pain receptors. According to an ever-growing body of research, not only can MET control pain, it can also accelerate healing.

The mechanism by which MET works is not fully understood, but what is known is that wounds heal 40 percent faster when they are kept moist, rather than dry. This effect is believed to be due to the moisture re-establishing the bioelectric flow across the wound, which is necessary for the body to conduct the healing process.

In the 1960s, animal studies first indicated that electrical stimulation accelerated wound healing and resulted in stronger scar tissue formation. In their classic book on the bioelectrical foundation of the human body, *The Body Electric*, Robert O. Becker, M.D., and Gary Selden discussed the relationship

between subtle electrical currents and pain and healing.

Citing a multitude of experiments, the authors noted that when an injury disrupts the natural electrical flow of the skin or of the nerves to an injured area, healing is impaired. Therefore, making the goal of a healing therapy to re-establish this current makes sense because once the current is again flowing, the body can heal more rapidly. In the case of non-healing bone fractures, the application of appropriate electrical stimulation ultimately leads to union of the bones.

Additional studies conducted to specifically assess wound healing with microcurrent therapy in various situations have produced exciting results. Here are a few:

WOUND HEALING. In 1968, a study of patients with chronic leg ulcers due to circulatory problems showed that the ulcers healed completely after six weeks of MET. These results have been repeated in various skin ulcer studies since then, showing a fourfold acceleration in the rate of healing. Wounds have been decontaminated of infectious bacteria by MET, as shown in studies in 1983, 1985 and 1992.

PAIN CONTROL. In a study presented at the June 2000 American Physical Therapy Association



Dr. Albert Abrams, M.A., M.D., LL.D.

Born in 1863, Dr. Abrams introduced a calibrated instrument that could assist in the detection of the disease radiations of living tissues. His work provided the groundwork for the science known as Radionics.

Many health care practitioners are using microcurrent devices based upon Dr. Abrams' discoveries. In fact, since 1997 Dr. Pettersen (shown opposite page) has trained over 300 health care practitioners in frequency specific microcurrent.

Annual Conference and Exposition in Indianapolis, Indiana, the effect of MET as a pain-control method was examined in 41 patients who had received arthroscopic ACL reconstruction (see the November/December 2004 issue of *BFS* for cutting-edge tips on avoiding ACL injuries). This double-blind study showed that for the ten-postoperative days during which MET was used, the MET patients showed significantly lower pain levels and decreased use of pain medication than the control group.

ATHLETIC INJURIES. MET studies in India have produced very promising results for athletes. MET was first introduced to India by American doctor Jin Suzuki in 1982. In 2001, Indian ACE sprinter Kavita Panya, suffering from a hamstring injury, used microcurrent treatment to alleviate pain and accelerate healing. She subsequently won four gold medals at the Federation Cup Games in India that year. According to Dr. Sanghavi, a pioneer of the MET therapy program in India, MET disperses collagen, alleviating stiffness in an injured area. He has found that of the 207 patients he treated using MET until 2001, 75 percent showed significant-to-moderate improvement and the remaining patients all showed mild improvement in their symptoms. Dr. Sanghavi has successfully used microcurrent technology to treat frozen shoulders, hamstring tears, and

spasms of the perispinal muscles.

ADDITIONAL APPLICATIONS. Daniel Kirsch, PhD, studied MET and found, in a study published in the *Textbook of American Academy of Pain Management*, that in addition to dramatic improvements which MET-treated patients experienced with depression, general pain, muscle tension and arthritis, significant improvement was also found among patients suffering from pain in the back, hips, legs, feet, shoulders, arms and hands.

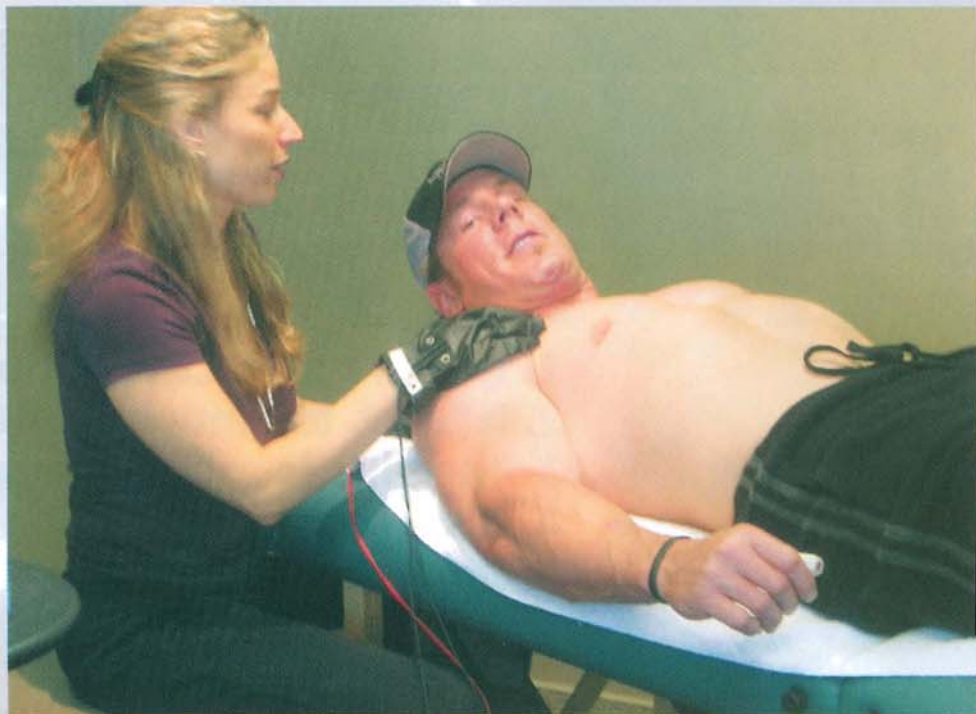
Micro Therapy, Major Results

Microcurrent therapy operates at a different frequency and power than TENS, and uses only current measured by millivolts. Treatment is generally painless and imperceptible, although some patients note a very slight tingling sensation. However, the patient must be very well hydrated for the treatment to be effective.

During a treatment, current is applied through the injury, in either an X-pattern or with graphite gloves on either side of the injury or with wet towels at the patient's neck and feet. Athletes, having larger muscle mass than the general population's, tolerate and even require higher power settings for treatment.

Microcurrent treatment is thought to work by dramatically increasing the cells' energy production of ATP, often by four to five times. MET can also dramatically reduce the levels of Substance P, a

Professional football player Chris Hetherington receives a frequency-specific microcurrent treatment. Pro athletes from numerous sports have taken a keen interest in this treatment because of the positive effect it has on pain management and reducing swelling after injuries.



potent pain neurotransmitter, as well as increase the levels of endorphins, which help the body deal with pain.

As noted by Charles Poliquin of the Poliquin Performance Center in Tempe, Arizona, the treatment should begin within a few hours of the injury or surgery. Treatment within that time window dramatically decreases swelling and improves healing time. In his practice Poliquin has even found that the microcurrent treatment has decreased the period of swelling after ACL surgery, during which rehabilitation cannot begin, from about 14 days to 2-3 days, in conjunction with supplements such as fish oil. Poliquin has used microcurrent treatment for many forms of acute and chronic injuries and has had spectacular results.

The specific type of microcurrent treatments with which Charles Poliquin has had great success is called Frequency Specific Microcurrent (FSM). This type of microcurrent treatment involves a specially calibrated machine that uses two channels to apply the current. The treatment involves specific frequencies of electrical current matched to the particular tissue and injury presented.



Microcurrent Machine

Whereas general MET is a more random approach, FSM is carefully designed to treat the exact tissues and condition affecting the patient. While FSM treatment typically is used for acute injuries, many athletes have also incorporated the treatment into their general maintenance programs.

The expert behind FSM is Dr. Carolyn McMakin, who heads a chronic-pain clinic in Portland, Oregon. Dr. McMakin is responsible in large measure for bringing this new therapy to the forefront of the athletic community, and she regularly conducts workshops training medical professionals in FSM techniques. Dr. McMakin has also conducted extensive research and has published numerous papers on the benefits of FSM on chronic pain management. (FSM is widely available and often covered by insurance. To find a practitioner near your location, visit Dr. McMakin's website at frequencyspecific.com.)

Trained practitioners are located around the country and are experienced in dealing with chronic and acute athletic injuries and pain management. This might be just the edge your team needs to beat chronic injuries and get sidelined athletes back on the playing field faster than ever before! 