



New technology speeds healing while cutting costs

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For decades, soft tissue injuries have plagued workers, employers and companies who pay the costs for recovery and non-productive time. Time off from work for soft tissue injuries averages 3.5 weeks, with many patients spending several months in physical therapy.

Recent advances in bioelectric therapy now offer a non-traumatic treatment method using low levels of electrical current (20-500 micro amps) to stimulate natural healing. Clinical studies have shown that the application of weak electrical current to an injured area can speed healing by as much as 50%.

Healing process slows healing time

Trauma to muscle or nerve tissue can take many forms depending on the type and extent of injury. Contusions, strains, or over-stimulation may result in "trigger points" that differentiate highly irritated muscle tissue from surrounding healthy tissue.

In response to an injury, the body's repair process begins by isolating the injured area from surrounding, healthy tissue. This "walling off" process is a defense mechanism that protects damaged tissue from susceptibility to bacteria or the spread of toxic products that can accumulate from an injury. Unfortunately, "walling off" restricts normal cellular activity and slows the time required for the injury to heal.

Microcurrent therapy

For centuries doctors and scientists have attempted to use electricity to repair injuries and cure physical maladies. Until recently, however, such efforts have lacked the precision needed to target and correct the biochemistry, cell malfunction, and aberrant nerve transmission involved in muscle trauma.

Surprisingly, studies have found that a weak electrical charge, delivered through the placement of small electrodes or a blunt instrument on the skin is sufficient to stimulate healing action. This micro-current therapy has been shown to be compatible with the body's

own electrical signals thus amplifying the body's own healing mechanisms by stimulating healing at the cell level. The result is a rapid increase in cellular activity, which in turn, repairs injured tissue one cell at a time.

Electrical current transmitted directly to injured tissue produces an effect similar to recharging a battery. While patients rarely feel any pain from the weak electrical signal, an immediate increase in range of motion, muscle strength, release of muscle knots and rapid reduction in edema and inflammation, as well as long-term pain relief, takes place.

Clinical trials show results

In a recent clinical study sponsored by the University of California, San Diego and a large industrial trauma treatment facility, the use of micro-current treatment (both with and without drug therapy) was evaluated as a method of improving healing time.

The study involved 179 men and 104 women, ranging in age from 18 to 62 years. All 283 patients in the study had soft tissue injuries which included neck, back and shoulder strains, carpal tunnel syndrome, epicondylitis, headache, thoracic outlet syndrome, radiculopathies, tendonitis, ligament strains, knee injuries, TMJ and paresthesias.

The randomly selected patient load, selected over a four-year period, is summarized in Table 1.

Group	Subjects	Treatment Procedure
1	32 men 30 women	Microcurrent therapy only
2	94 men 67 women	Microcurrent therapy and drugs*
3	29 men 31 women	Physical therapy and drugs, including hot pack, ice, massage, ultra sound, and manual therapy

Total Patients: 283

Total Patient Visits: 2,734

*Drugs used: Flexeril, Naprosyn and Motrin.

Using a micro-current generator, 20-500 micro amps of current were delivered through two soft tissue probes to strategic points along the injury. Treatments lasted from 10 to 20 minutes and were administered three times a week. In all groups, patients were treated until released back to full work status.

Fewer visits to resolve the injury

The micro-current patients required only about nine treatments to resolve the injury. The addition of drug therapy did not affect the outcome of treatment.

Group	Treatment	Average Number of Treatments*
1	Microcurrent only	8.7 visits
2	Microcurrent and drugs	8.6 visits
3	Physical therapy and drugs	20.6 visits

*The number of visits equals the number of treatments performed from the time of injury to return to work.

Results of this study, as well as others, demonstrate that the use of micro-current therapy can significantly reduce treatment and worker down time. This translates directly to a reduction in medical costs, especially those related to physical therapy.

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