

Electrotherapy: A Bright Idea For Your Practice

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As previous articles in this series have shown, there can be a multitude of factors to consider when selecting equipment and supplies for your chiropractic office. Cost, company reputation and ease of use for the DC can all be factors. This month, *Dynamic Chiropractic PracticeINSIGHTS* looks at electrotherapy and went to Jennifer Rohl of [Mettler Electronics](#), located in Anaheim, Calif., and John Hubacher with [Pantheon Research](#) to find out how DCs can light up their practice with electrotherapy.

Q: What should a DC be looking for when selecting electrotherapy equipment?

Jennifer Rohl: The chiropractor should be looking for a stimulator that will be easy for staff to use while providing patients the benefits of electrical stimulation. In general this device will be used prior to manipulation to help relieve pain and relax muscle spasms. If deep heat is required, consider whether to add ultrasound and get a combination unit. The next question to ask is whether you will want to treat two different areas simultaneously, such as the neck and the lower back. If this is the case, a four-channel unit will be required.

The stimulator that is chosen should have enough waveforms and features to take care of the patients in the practice. If mostly pain is going to be treated, then interferential and premodulated waveforms are the ones for the practice. Spasm reduction is very effectively achieved with medium frequency waveforms that are commonly called "Russian" on many devices. Some doctors like high voltage waveforms or microcurrent. If those are a requirement for the practice then they should be added to the list. The device should be purchased from a trusted vendor. Stimulators should have at least a two year warranty from the manufacturer. The stimulator should show compliance with good electrical safety and manufacturing procedures. Availability of clinical support from the manufacturer is also a key factor in selecting the stimulator.

John Hubacher: How long has the manufacturer been in business? Are the products well built, durable and highly reliable? Ideally, the manufacturer will be in the U.S., for access to services, repair and assistance. Does the electro-acupuncture stimulator (E-Stim) have a warranty, how is it implemented and how long is the warranty? What happens after the warranty expires? Can you get loaners, if you need one during repairs? Does the manufacturer provide technical assistance on the phone?

How accurate are the frequencies on the E-Stim? Why is that important? When following a protocol that calls for a specific frequency, you want to be assured of the accuracy of the machine. If you are planning any scientific research, accuracy becomes of paramount importance. Ask the company the percentage of accuracy. It should be at least 99 percent. Are frequency protocols provided on the machine, in accordance with therapeutic protocols with specific frequencies in the literature? What kind of safety features are there? Recommended safety features should include: safety controls to prevent accidentally shocking patients; the capacity to test the integrity of the patient cables (alligator-clip leads); the capacity to test the actual outputs for signal strength; built to FDA safety standards for electrical nerve stimulators; simple battery testing; and electric regulation to prevent surges and power changes during operation.

Are the output channels independently controlled? It is important that each output channel be completely independent of the others. Turning one channel up or down should not affect the output level of another channel.

Q: What conditions are best treated using electrotherapy?

JR: All neuromuscular stimulators are considered by the FDA to be medical devices. Therefore, each stimulator has a list of recognized applications. The most common general conditions that are treated are pain and muscle spasm. The other application that is most commonly used in chiropractic is spasm reduction. Other uses for neuromuscular stimulation are as follows: prevention of post-surgical phlebothrombosis through immediate stimulation of calf muscles, increase of blood flow in the treatment area, prevention or retardation of disuse atrophy in post-injury type conditions, muscle re-education, and maintaining or increasing range of motion.

JH: Electro-acupuncture is considered to be useful for a remarkably wide variety of applications. Perhaps the most common use of electro-acupuncture is for acute and chronic pain syndromes. It may be applied for electro-analgesia, during operations without any chemical analgesia. Patients may retain full consciousness and have little postoperative complications. Other common applications include treating peripheral motor disorders, enhancing immune-system functioning and modulating organ functions. Reproductive system treatments include enhancing uterine blood flow, increased in-vitro fertilization success, regulation of ovarian function and induction of ovulation, and the induction of uterine contractions for labor.

With respect to the cardiovascular system, regulation of blood pressure disorders, either for hypertension or hypotension, is possible and well studied. Peripheral vascular disorders may be treated, including benefiting circulation, vascular obstructions, bruises and hematomas, edema and inflammation, varicose veins and hemorrhoids. Treating ulcers, soft tissue injury and sports injuries is common, as is regulating blood flow to injured joints and skeletal structures.

[pb]Q: What is the advantage of electrotherapy over other forms of treatment for these conditions?

JR: The main advantage is that no heat is produced. If there is inflammation present, electrotherapy can be applied to relieve pain and spasm, without exacerbating the inflammation or swelling. The devices that are used for electrical stimulation are relatively inexpensive. Patients tolerate electrotherapy well.

JH: Results may be more rapid and longer lasting. It allows the practitioner to treat several patients at the same time. Future high-quality double-blind, controlled trials are needed to further study the effectiveness of electro-acupuncture protocols as compared to alternate or standard forms of treatment.

Resources

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What Can Electrotherapy Treat?

The application of pulsating electric currents to the body via electrodes elicits responses from nerves, which conduct pain-sensation and muscle-contraction information. Stimulation of sensory fibers will help block pain, while stimulation of motor fibers will generate pulsatile contractions of the muscle groups innervated by the nerves being stimulated. As such, here are some indications for electrotherapy treatment:

FDA indications for electrotherapy

- Symptomatic relief of chronic intractable pain, acute post-traumatic pain or acute post-surgical pain.
- Temporary relaxation of muscle spasm
- Prevention of post-surgical phlebothrombosis through immediate stimulation of calf muscles
- Increase of blood flow in the treatment area
- Prevention or retardation of disuse atrophy in post-injury conditions
- Muscle re-education
- Maintaining or increasing range of motion

Off-label uses

- Edema reduction
- Inflammation reduction
- Tissue healing
- Increasing muscle strength and tone