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Pain Management Health Center

Transcutaneous Electrical Nerve Stimulation (TENS) - Topic Overview

What is TENS?

Transcutaneous electrical nerve stimulation (TENS) is a therapy that uses low-voltage electrical current for pain relief.

You do TENS with a small, battery-powered machine about the size of a pocket radio. Usually, you connect two electrodes (wires that conduct electrical current) from the machine to your skin. The electrodes are often placed on the area of pain or at a pressure point, creating a circuit of electrical impulses that travels along nerve fibers.

When the current is delivered, some people experience less pain. This may be because the electricity from the electrodes stimulates the nerves in an affected area and sends signals to the brain that block or "scramble" normal pain signals. Another theory is that the electrical stimulation of the nerves may help the body to produce natural painkillers called endorphins, which may block the perception of pain.

You can set the TENS machine for different wavelength frequencies, such as a steady flow of electrical current or a burst of electrical current, and for intensity of electrical current. Your physical therapist, acupuncturist, or doctor usually determines these settings.

After you receive an introduction to and instruction in this therapy, you can do TENS at home.

What is TENS used for?

People use TENS to relieve pain for several different types of illnesses and conditions. They use it most often to treat muscle, joint, or bone problems that occur with illnesses such as osteoarthritis or fibromyalgia, or for conditions such as low back pain, neck pain, tendinitis, or bursitis. People have also used TENS to treat sudden (acute) pain, such as labor pain, and long-lasting (chronic) pain, such as cancer pain.

Although TENS may help relieve pain for some people, its effectiveness has not been proved.

Is TENS safe?

Experts generally consider TENS to be safe, although the machine could cause harm if misused. Have your physical therapist or doctor show you the proper way to use the machine, and follow these instructions carefully.

Always tell your doctor if you are using an alternative therapy or if you are thinking about combining an alternative therapy with your conventional medical treatment. It may not be safe to forgo your conventional medical treatment and rely only on an alternative therapy.

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[Read the Myths About Treating Chronic Pain article >](#)

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