



# Utilizing a TENS Unit to Relieve Pain

By Kathleen M. White, MS, APRN-BC, Pain Management Center

Electrical stimulating devices have been used in medicine for many years.

1. Pacemakers benefit cardiac patients.
2. Nerve conduction studies measure nerve function following surgery or injury.
3. Electrotherapy aids in bone fusion, reduces pain, and helps rehabilitate muscle.
4. A TENS unit provides electrical stimulation to the site of pain and alters one's perception of the pain.

A TENS unit (transcutaneous electrical nerve stimulator) is a lightweight, battery-powered device a little larger than a deck of cards. It can clip to your belt, making it portable. The device has 2-4 leads, or wires, that clip to adhesive patches. These patches are placed on the skin over the site of the pain. The unit provides an electrical stimulation to the painful area altering one's perception of the pain they are experiencing.

When we suffer an injury, our body naturally protects the injured area with muscle guarding, or tightening of the muscles. This response can be the start of a cycle that often causes a decreased range of motion, or immobilization. This immobilization can lead to reduced circulation, decreased blood supply, build-up of metabolic waste, and pain. Nerve receptors at the site of injury send a pain message to the spinal cord and brain. A TENS unit can help to alter this message, preventing or breaking the cycle.

TENS units work by sending stimulating pulses across the skin along the sensory nerves. These stimulating pulses help prevent, or suppress, the pain signals from reaching the brain, thereby decreasing the pain.

TENS units have different frequencies and impulse levels. Individuals using a TENS unit have the ability to control the intensity and pulse rate of the stimulation. It can be increased or decreased as tolerated. The TENS can be used as often as desired.



The unit itself can stay in place for hours and just be turned on and off as needed.

TENS units also help to stimulate our body to produce higher levels of our own natural painkiller, called endorphins. Endorphins are chemicals made by our body to reduce or prevent pain. There are a variety of TENS unit models available in a wide range of prices. Typically, your provider gives you a referral or prescription for a TENS unit. The unit may be available through your provider's office, a physical rehabilitation facility, or can be purchased at a medical supply store. Many insurance companies pay all but the deductible.

Management of pain, both acute and chronic, can be difficult. Utilizing a TENS unit when appropriate allows for pain reduction without the potential side effects of medications. A TENS unit can be used during a physical therapy session or in the comfort of home. It is a cost-effective, non-invasive treatment of pain with proven results.

*Note: These units should not be placed directly over the spine, over the eyes, or on the front of the neck. Skin should always be intact. A TENS unit is contraindicated when an individual has an electrical implanted device (such as a pacemaker), cancer or pregnancy.*



About The Author: Kathleen White, MS, APRN-BC, has been treating chronic pain patients in the Pain Management Center, now at River's Edge, since 2002. Kathy completed her undergraduate and graduate work at Northeastern University, Boston, MA. She completed Internships in Adult Primary Care in both Mass and New Hampshire. She is board certified by the American Nurses Credentialing Center (ANCC) as both an Adult Nurse Practitioner and a Pain Management Nurse. Kathy's areas of interest include myofascial pain and chronic post surgical pain.