

# *Pacific Coast Spine Institute and Pain Center*

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## **TENS**

### **What is TENS?**

Low voltage electric impulses are transmitted through the skin to the nerves to provide stimulation to sensory nerve endings. TENS is used for pain relief. TENS is believed to reduce the sensitivity of the nerves or block the transmission of pain signals to the brain. TENS may also stimulate the release of endorphins (natural pain-relieving chemicals).

Electrodes are placed on the skin at the site of the pain. Low-voltage electrical impulses pass through the skin to the nerves, stimulating the nerves.

TENS is used to treat pain caused by a variety of conditions. It is used to treat acute or chronic pain, sometimes for acute post-surgical pain. Lower back pain and pain from arthritis may be the most common reasons for using TENS.

**Portable TENS Units:** A TENS unit small enough to attach to a belt and can be worn all day. It is battery powered. It can be turned on and off. There is usually a continuous mode, burst mode and timer. There are two electrodes, or four electrodes in units with two channels. Some people use the unit for brief sessions only, as the pain relief sometimes last for hours. Others only have pain relief while the unit is on. For some people it is ineffective.

### **What is the Success Rate?**

Some studies have found that Tens Units are effective in reducing pain for between 10 and 90 percent of people suffering from mild-moderate pain. Just as many studies have found them no more effective than placebo. Success rate is higher when a specialist (physician or physical therapist) with expertise in the use of TENS educates the patient in the proper use of the unit.

A one-month trial period is usually recommended to rate its effectiveness. There may be some trial and error involved – should the stimulation be intermittent or continuous; what are the optimal settings for the pulse rate and width; what sites should the electrodes be placed on to achieve maximum pain relief. A tens unit should be used under the supervision of a physician or physical therapist.

*\*TENS does not produce the same results in different patients, even those with the same condition. TENS is often used in combination with other treatments, as part of a comprehensive pain management plan.*

*\*A TENS unit may interfere with pacemakers.*