



## Transcutaneous Electrical Nerve Stimulation (TENS)

### Overview

Transcutaneous Electrical Nerve Stimulation (TENS) is a noninvasive device placed on the skin that can help control pain. Use of this small, battery-operated device can block pain signals from reaching the brain and potentially reduce pain medication. It is important to remember that TENS does not cure or eliminate the cause of pain and is not effective for every patient.

### How does TENS work?

Electrical pain control involves the use of a mild electrical current, which blocks or masks the transmission of pain signals to the brain and also stimulates the release of endorphins—the body's own pain-killing chemicals. The electrical impulses are sent to the nerves through electrodes placed on the skin surface near the painful areas.

The electrical impulses cause a tingling sensation, which should be pleasant. It should be at a level that feels comfortable, causes no muscle contractions, and produces pain relief. Pain relief varies by individual patient and the type of pain.

### Who is a candidate for TENS?

TENS is an option for a variety of conditions that cause pain. Your doctor or physical therapist can determine if you are a candidate for TENS.

### The stimulation system

**Indicator lights:** An indicator light is located in the unit to show the pulse rate and that the unit is functioning. Make certain your power source—battery pack or batteries—is securely inserted in the unit. If no intensity is felt, even at high ranges of intensity, new batteries are usually needed. Turn off the TENS unit completely whenever removing it. The light should go out.

**Electrodes:** Adhesive electrodes are designed for your convenience. No gel or tape is required. If you feel itching or burning from the area of the electrodes, remove the electrodes.

### Controls:

1. Rate—number of pulses per second (set by the therapist).
2. Amplitude—intensity of stimulation (adjustable, should be comfortable).

### Troubleshooting

If no current is felt...

- Power source making no contact. Secure in place.
- Power source insufficiently charged.
- Internal break in TENS unit. Contact the manufacturer or company representative.
- Wrong amplitude knob used for single channel operation.

Intermittent break in current...

- Break in lead wire. Replace the wire.
- Power source making incomplete contact. Secure power source.
- Electrode not securely in place. Replace the electrode.
- Wire not plugged into machine securely.

Uncomfortable, burning sensation...

- Inadequate water/gel supply on electrodes. Replace the electrode.
- Electrode not securely in place. Secure the electrode or replace.
- Intensity too high. Turn down to comfortable level.

The TENS device is provided for the current pain condition. If other symptoms of pain occur at a later time, the patient should notify their physician.

### Sources

If you have questions, please contact Springfield Neurological and Spine Institute at 417-885-3888.



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