

## Tens Units

Transcutaneous Electrical Nerve Stimulation (TENS) is a form of electrical therapy that can be helpful for pain management. This form of electrical current is very low (milliamps) and safe.

TENS units help decrease pain by blocking the signal of pain that is sent from an injured part of your body to your brain. This mechanism, termed the *Gate Control Theory of Pain* was first described by psychologists Ronald Melzack and Patrick Wall in the early 1960's.

"In the Gate Control Theory, pain messages travel from the periphery of the body through nerve "gates" in the spinal cord and up to the brain. The theory uses the concept of "gates" in the central nervous system to describe how some pain messages are allowed get through and reach the brain, while others are blocked. Aside from just allowing and blocking pain signals completely, these gates can also amplify or diminish a signal as it travels to the brain..."

TENS units stimulate nerves called mechano (pressure) receptors. An increase in these sensory nerve signals competes with and effectively "turns down" the signal of pain. In short, these devices give your brain something to think about other than pain. They are simple and effective.

Most TENS setups consists of a TENS unit, wire leads, electrodes, battery, and carrying case.

1. To use a TENS unit, simply place the electrode pads on the skin surrounding the painful area. Most electrodes are self adhesive. To aid adhesion, it may help to prepare the area by removing any oil from the skin with rubbing alcohol.
2. Next, plug the wire leads to which the electrodes are attached into the TENS unit. Apply the pads to your injured area. Turn on the unit and increase the intensity (SLOWLY) of the electrical current until it is strong but comfortable. The unit may be used for hours at a time, but it is recommended you check the skin underneath the pad at least every 30 minutes to ensure there is no irritation. After a while you may feel reduced tingling, which is normal. Your nerves are "getting used to" the feeling. Although not necessary, if you are continuing to get pain relief, it is all right to turn up the unit up until you feel the tingling again.

## **Precautions**

- Do not sleep with the TENS unit on.
- Do not use TENS while bathing, showering, swimming or in water.
- Do not use TENS over your eyes.
- Do not use TENS if you have a pacemaker or history of heart attacks, unless approved by your doctor.
- Do not place electrodes over your chest or the front of your neck.
- Do not use TENS if you are pregnant.
- Check skin periodically to ensure there is no reaction to the self-adhesive pads or to the electric current.
- If you are using TENS on your legs or arms, do not to use while driving.
- Read the instructions of your TENS device carefully, there may be other contraindications of use.

If you have any concerns, discuss them with your health professional.