# TENS

**How Does a TENS Unit Work?**

1. There are two theories of pain relief - Gate Control Theory and Endorphin Release
    a. Gate Control Theory - When neuro-blockers interrupt pain signals from reaching the brain.
    b. Endorphins - Your body's natural pain fighting chemical.
2. Gate Theory occurs at a high Pulse Rate (frequency)/high Pulse Width.
3. The Endorphin Release occurs at a low Pulse Rate is combined with a high Pulse Width.

**General Facts About TENS Modes**

1. The Constant Mode is good for short or long-term therapy sessions.
2. The Burst Mode is best for short term therapy sessions.
3. The Modulation Mode is for long term therapy sessions.

Use the Constant Mode for the first week of use. Then consider trying each Mode independently to evaluate which is best.

**General Facts About Other TENS Settings**

Pulse Rate (or frequency) is how fast the current is going into the body. The higher the Pulse Rate the faster the current is pushed into the body; which typically results in a more comfortable therapy.

Pulse Width is how wide the wave is and is typically maxed out in most applications.

**Waveforms:**

1) Symmetrical Biphasic
2) Asymmetrical Biphasic
3) Monophasic

The first two are typical TENS waveforms and the user may find benefit of one over the other. The Monophasic Wave, however, is a lot softer and often used to treat pain in the extremities.

**Electrode Placement**

1. Wash the skin area gently with water and dry thoroughly (placement site).
2. Electrodes should be placed directly on the treatment site.
3. Place the red and black electrode about 1-6" apart.
4. One channel can be on the pain site and the other can be above the pain site
5. Experiment with placement - horizontal, vertical, or even diagonal to establish what works best for you.
6. Electrodes are typically good for 10-12+ uses. Always return electrodes to the plastic strip and keep them sealed in the plastic bag when not in use.

**General Set-Up**

1) Always charge the batteries before use.
2) Plug the lead wires into the device channels on the device.
3) Plug the pins from the lead wires into the electrode pigtails.
4) Then place the electrodes on the body.
5) Once all is connected, and in place, then turn on your device.
6) All device settings vary, but in general a typical TENS device is setup by adjusting the following
    a. Pulse Rate (or frequency)
    b. Pulse Width
    c. Mode - Constant, Burst and Modulation
    d. Timer Settings
7) More advanced devices offer presets, body part settings and other extrapolated settings.
8) Most of these extrapolated settings are simply variations of the Pulse Rate, Pulse Width and Mode.
9) When adjusting the intensity slowly increase it until you feel it as a bit too strong and then back it off from there. TENS should be comfortable and somewhat soothing; certainly not more painful than your pain condition. After about 20 minutes your body will adjust to the stim. You can periodically increase the intensity throughout your therapy session, but once or twice is typical.

**Usage Expectations (using our Ultima 5, but others will be the same or similar)**

1) It depends on your pain, but TENS can be used as little or as much as needed. TENS offers natural pain relief that will decrease pain during (and after) treatment.
2) **Always try the Constant I Mode first and the Gate Control Theory settings - which is maxing out your Pulse Rate and Pulse Width; and selecting Asymmetrical.**
    a. First time users typically want use this same setting for the first week and keep their therapy sessions to 60 min. After a week of acclimating to the stim, they can begin to experiment with their settings and electrode placement.
3) Adjusting and finding the perfect settings for your unique pain condition is a bit of a trial and error process. Try a new setting for a full therapy session before trying a new one. Setting changes can be subtle while offering a significant effect/improvement. There is no particular right or wrong answer - variety can be very therapeutic over time.
4) **The Endorphin Release settings would be the same as above, but with the Pulse Rate set at 70-80 Hz or below.**

**Cory Steiner**
**(800) 366-8051**
**(215) 791-0674 cell**

**eortho.com**
**eorthoTENS.com**
**eortho@aol.com**