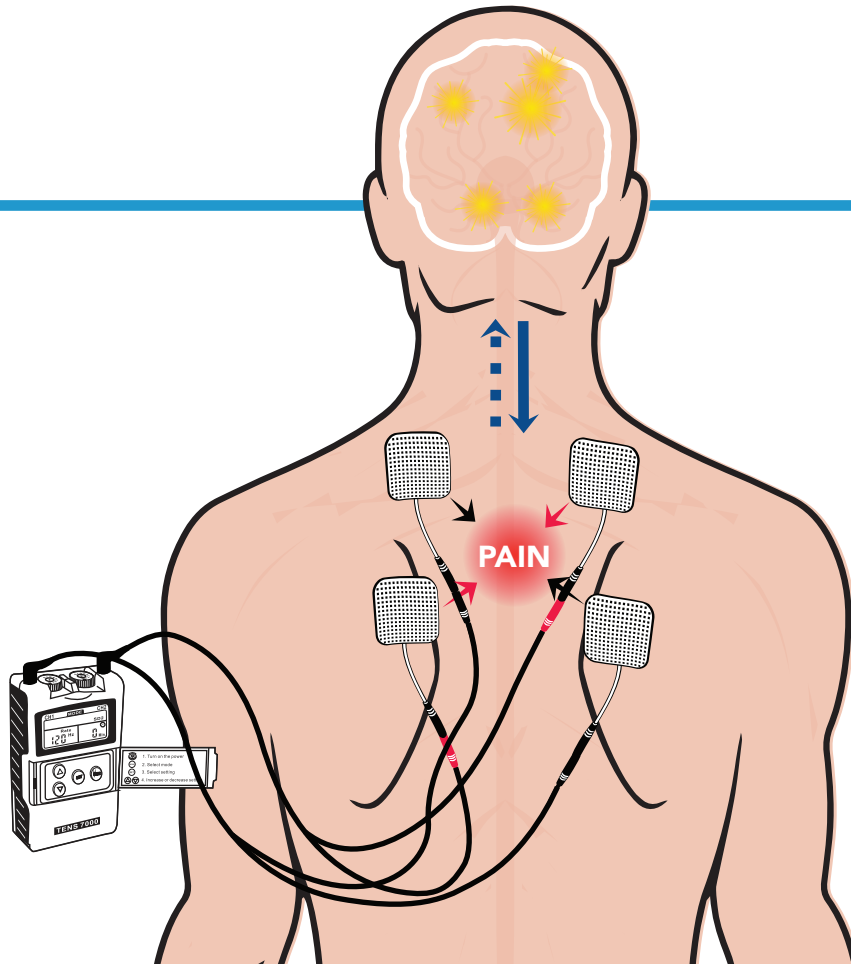




TENS Therapy Cheat Sheet

Your “go-to” guide for using your TENS Unit

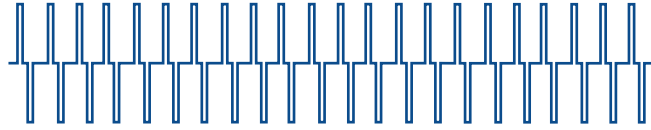


What this is for: Using your TENS unit can be complicated. This cheat sheet breaks down the essentials of TENS units to make usage easier. Use this guide to select the ideal settings and pad placement based on your pain.

TENS Modes Explained

Modes set the device's pulse rate and width for you. The most common modes include normal, burst, and modulation. Below is an explanation of each mode and what they're ideal for.

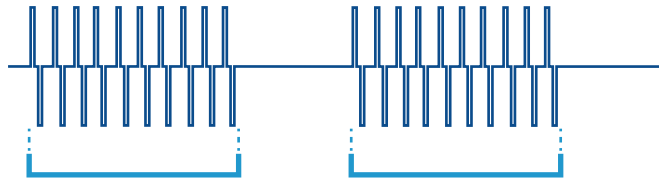
Normal



In normal mode, your device will send out consistent pulses which never regulate. This mode gives you complete control over the pulse rate and width.

- **Pain type:** Acute
- **Effect:** Provides a constant stimulation
- **Ideal for:** Those new to TENS therapy or with acute pain

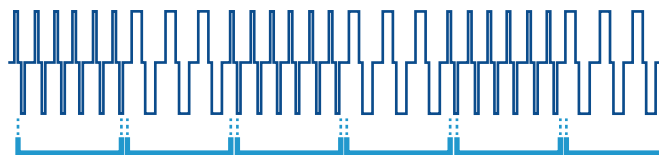
Burst



In burst mode, your TENS device sends out bursts of pulses with a break in between. The burst TENS parameters include an adjustable burst rate, adjustable pulse width, and a fixed pulse rate. This means that the device gives you options to adjust the rate of bursts and their width while setting the pulse rate for you.

- **Pain type:** Chronic
- **Effect:** Provides bursts of stimulation
- **Ideal for:** Those with chronic pain or experiencing pain intensity at higher than normal levels.

Modulation



In modulation mode, your device cycles between pulse width and rate to shock nerves for pain relief. Both pulse rate and width are fully customizable, and the device fluctuates each setting.

- **Pain type:** Acute or chronic
- **Effect:** Cycles between pulse width and rate settings
- **Ideal for:** Those with acute or chronic pain or whose nerves tend to adapt to treatments.

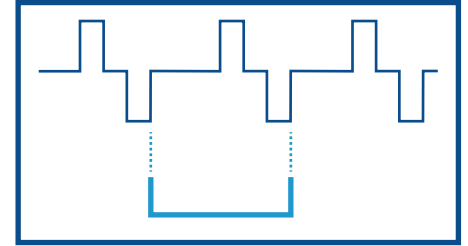
TENS Unit Settings

Your device should give you the ability to customize its pulse rate & width, intensity, and timing. This section breaks down what each does and various settings that deliver a specific effect.

Pulse Rate (Frequency)

Refers to how often your device sends an electrical pulse to the electrodes. This setting dictates how frequently you receive electrical stimulation.

Measured in: Hertz (Hz), or pulses per second



Pulse Rate Range	Ideal For
2-5 Hz	Endorphin Release (your body's natural morphine)
2-10 Hz	Chronic Pain
35-50 Hz	Moderate Pain
80-120 Hz	Acute Pain
90-130 Hz (most commonly used)	Creating a Pain Gate Effect (blocks pain nerves from sending messages to your brain, so you don't feel pain)

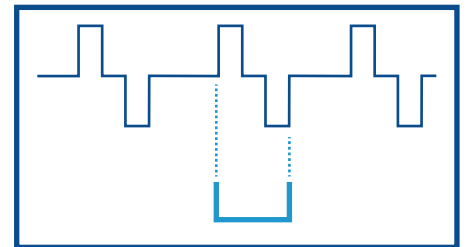
⚠ CAUTION: Higher TENS frequency settings can cause skin irritation. If skin irritation occurs, limit your treatment time.

It should also be noted that **lower frequencies may be ineffective if you have an opioid tolerance.**

Pulse Width (Duration)

Refers to the length of each pulse your device administers. A larger pulse width delivers stronger stimulation.

Measured in: Microseconds (μs)



Pulse Width Range	Ideal For
70-150 μs	Acute Pain
120 μs	Chronic Pain
35-50 Hz	Most recommended
260 μs	Blood circulation and muscle contraction

⚠ CAUTION: When setting your pulse width, be wary of your pulse rate. Having both at a high setting may be uncomfortable. You may want each set to be opposite of the other.

When setting your **pulse width, a low setting is typically better for pain relief. In contrast, a high setting will increase blood flow and contract muscles.**

Modes and Settings

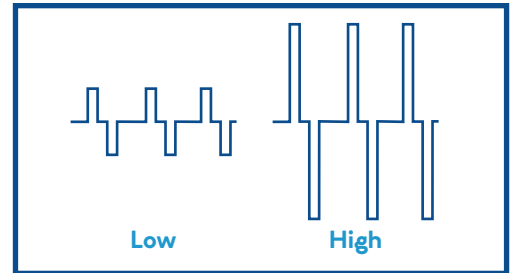
When selecting your mode and settings, it's essential to be aware of the following:

- Higher pulse rates tend to cause discomfort when used in modulation or burst mode.
- Normal mode is typically okay regardless of the TENS unit frequency and width.

Intensity

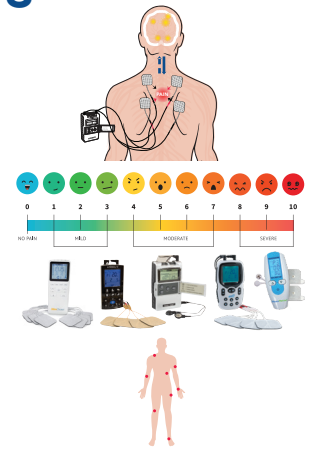
Refers to the strength of the electrical pulse emitted from your device. A higher intensity level should be used for greater levels of pain.

Measured in: Microamperes (mA)



How High Should You Set Your TENS Unit: Things to Consider

- **Your body's reception of TENS therapy.** Some are more or less sensitive to electrical stimulation. You may require higher intensity levels if you've built a resistance to opioids.
- **Your level of pain.** Greater pain levels require higher intensity levels.
- **Your TENS device.** Not all TENS units are the same, with each intensity level producing a different amount of microamperes.
- **Your target body part.** Certain areas of the body are more sensitive to TENS therapy.



You should **ALWAYS start at the lowest intensity level** and gradually increase it until the pain eases. Your treatment should be comfortable. If discomfort occurs, lower the intensity level.

Be aware that **muscle contractions and twitching will occur at higher levels.**

Pulse Rate and Intensity

Regarding pulse rate and intensity combinations, **there have been a few discoveries on their effects.** **The table below highlights what each combination achieves.**

Intensity Level	Pulse Rate	Effect
Low to Moderate	80 to 100 Hz	Fast Pain Relief
High	2 to 5 Hz	Longer Lasting Pain Relief


Timing


Because of its high degree of safety, **TENS therapy can be used as long and as often as needed.**


However, it should be noted that **higher settings may require frequent breaks** to give your skin and muscles breaks. Failure to do so can irritate your skin and cause muscle soreness. **It's a good practice when first using your device to limit treatment to 30 minutes.**


Regarding length and frequency of treatments, **experts and studies have found:**


- 40 minutes is the ideal time for best results.
- Chronic pain is best treated for 30 minutes while actively moving. It's less effective while inactive [sitting still, lying down, or resting].
- Acute pain should be treated for 20-60 minutes, up to four times daily.
- Chronic pain should be treated for 20-30 minutes, up to five times weekly.

First Time Users: 30 minutes 

For General Best Results: 40 minutes 

For Acute Pain: 20 to 60 minutes, up to four times daily 

For Chronic Pain: 20-30 minutes, up to five times weekly 

Chronic pain is more effectively treated for 30 minutes while actively moving. It's less effective while inactive during treatments. 

In regards to when you do your TENS therapy, consider these factors:

- **When do you typically experience your pain?**
- **Will you be participating in activities that may cause you pain?**
- If possible, **can you wear your device while doing said activities?**
- It's essential to **be aware of these factors to make your best effort to keep your pain levels down.** It can be very beneficial to **start your treatment when the pain is low or non-existent.**

TENS Settings and Techniques

There are quite a few settings and techniques you can use with your device. The chart below lists various methods and settings used by healthcare professionals.

Method	Pad Placement	Mode	Pulse Rate	Pulse Width	Intensity Level	Duration of Treatment	Use
General Settings	At the site of Pain	Normal	60–150 Hz	70–100µs	Based on your pain level	30 minutes	Most types of pain
General Settings	At the site of Pain	Normal	2 Hz	225µs	Based on your pain level	15–30 minutes	Chronic Pain (for more endorphin release)
General Settings	At the site of Pain	Normal	150 Hz	260µs	Based on your pain level	15 minutes	Acute Pain
Common Beginner Setting (Used by NHS pain clinics for the first 3-4 days)	At the site of Pain	Normal	80 Hz	150µs	Low	1–1.5 hours	Most types of pain, when using TENS for first time
Conventional TENS (C-TENS) - Low intensity, high frequency	At the site of Pain	Normal	50–100 Hz	50–200µs	Low	As long as needed	Most types of pain, to produce strong but comfortable TENS treatment
Acupuncture-Like TENS (AL-TENS) - High intensity, low frequency	Over muscles, acupuncture points, or trigger points	Normal or Burst	2–4 Hz	100–400µs	High	15–20 minutes, up to three times a day	Acute or Chronic Pain Produce strong but comfortable muscle contractions
Intense TENS - High intensity, high frequency	Over nerves arising from pain	Normal	Up to 200 PPS	200–250µs	High	10 minutes	Chronic Pain Produce maximumly tolerable (painful) TENS treatment

Electrode Placement

Where you place your pads is **another crucial component to successful TENS pain relief**. Your electrode placement dictates where the current is directed.

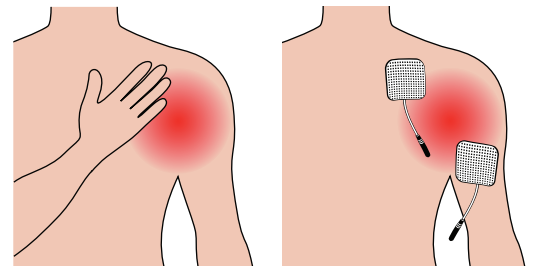
A few general best practices when placing electrodes include:

- It **may take 3-4 tries before finding the ideal placement**.
- Pads should **be placed at least 1" apart**.
- **The closer the pads, the stronger the stimulation**.
- **ALWAYS wash and dry your target area** before placing.
- **Make sure each pad is firmly placed with no parts unadhered to your skin**.
- **NEVER place pads over bones or joints**. This can cause discomfort and cause the electrodes to lose their adhesion to your skin mid-treatment.

How to Find Your Placement Area

Before placing your electrodes, you'll want to find the area in pain first. To do so, **start lightly touching your target area and note where most of the pain is**. This is going to be the **center of your pad placement**.

Next, **locate the surrounding areas with less pain**. These areas will be where you'll want to place your electrodes.



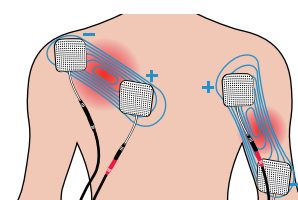
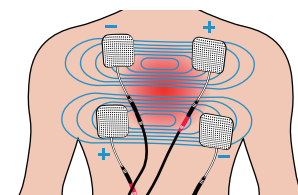
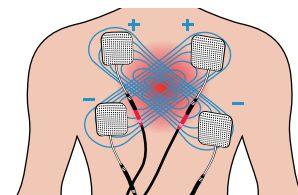
Common Techniques

While there are a few best practices for pad placement, **there isn't a "wrong" area to place them (aside from the areas to avoid-see page 11)**. You may have also noticed that **some techniques in the section focus on placing pads over areas such as pressure points, muscles, or simply over the pain**.

Simply put, the **correct placement will be dictated by if the pain is still being felt and how comfortable the treatment is**.

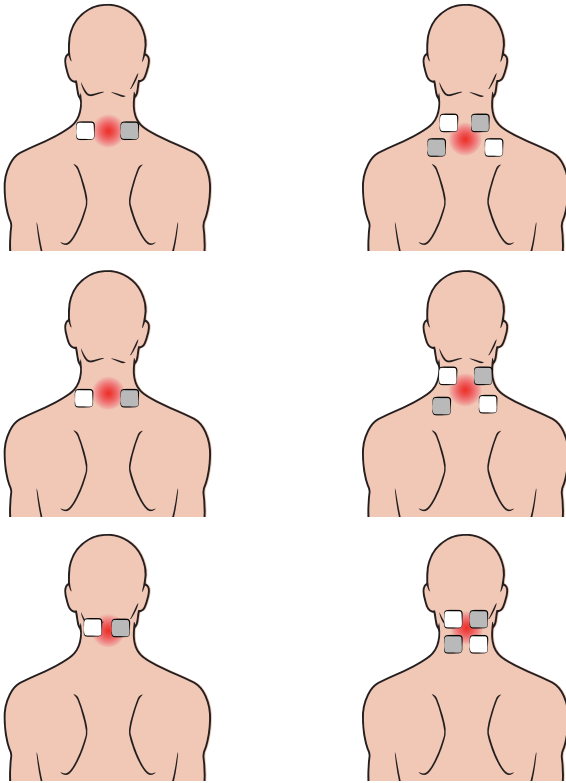
There are three methodologies when considering multi-channel placement:

- **Cross-aligned ("X")**: This method involves placing electrodes so that each channel crosses one another, creating an "x." This placement **allows the current from each channel to cross-align where most of the pain stems from**.
- **Parallel**: With this placement, each channel is placed parallel to one another. The current from each channel does not cross. This placement method **allows for a broader area of pain to be covered**.
- **Multiple areas / body parts**: Using more than one channel is **ideal if your pain is widespread or you have multiple body parts in pain**. This method uses each channel on separate body parts, allowing multiple pain areas to be treated simultaneously.

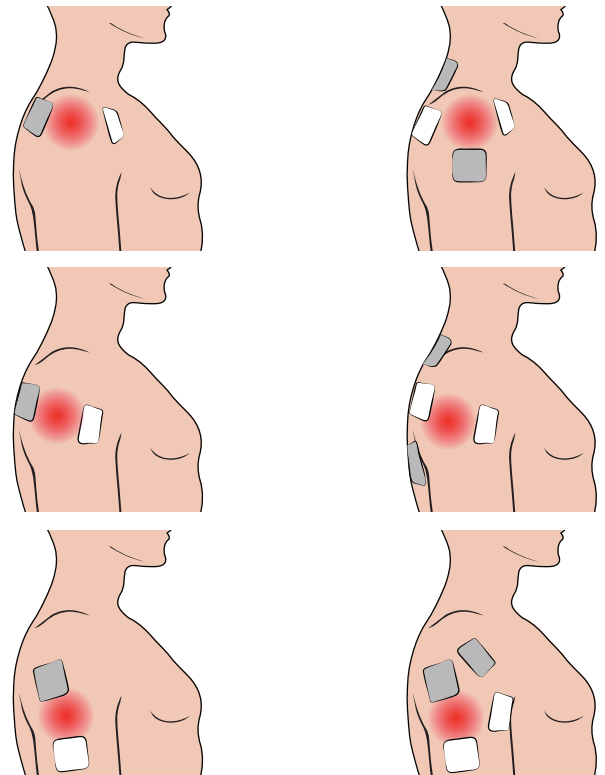


Pad Placement by Body Part

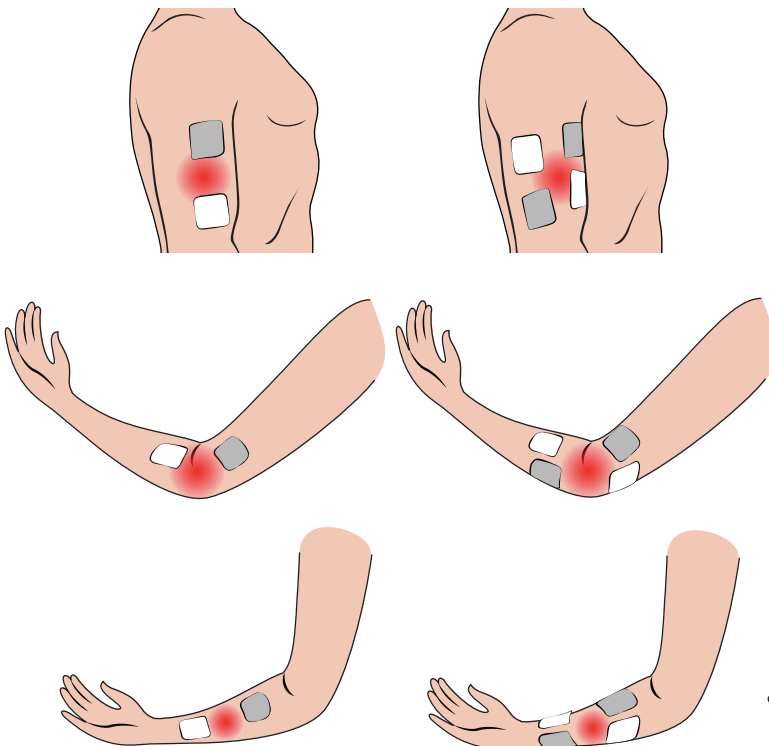
Neck



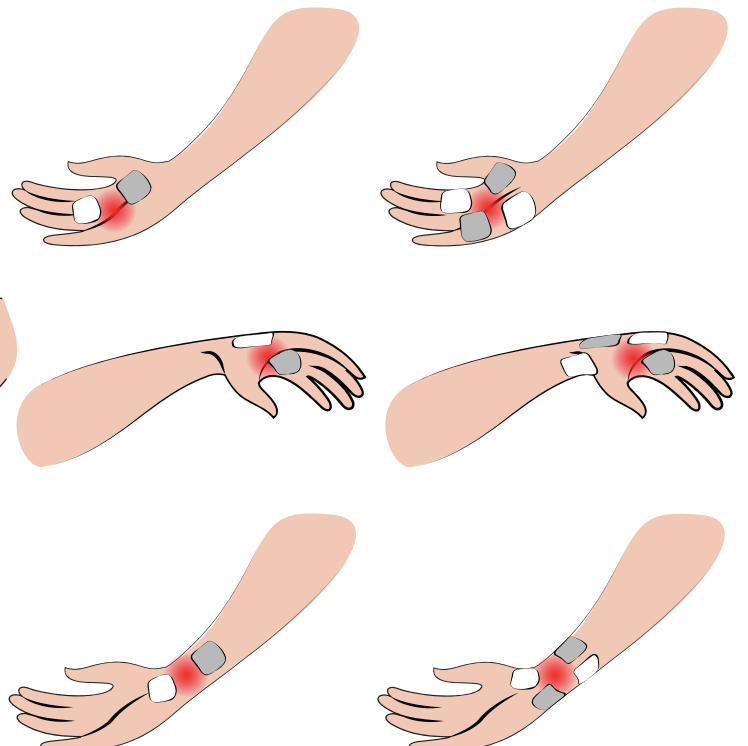
Shoulder



Arm (upper, elbow, and lower)

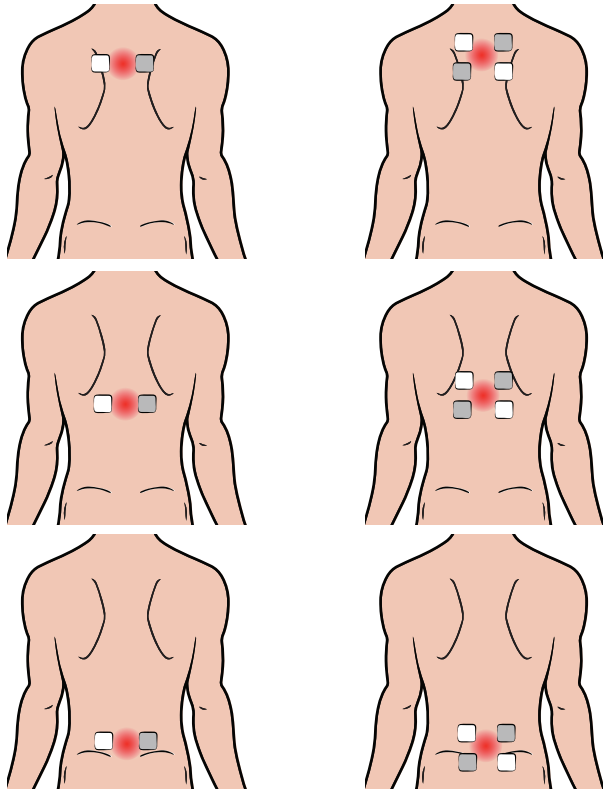


Hand / Wrist

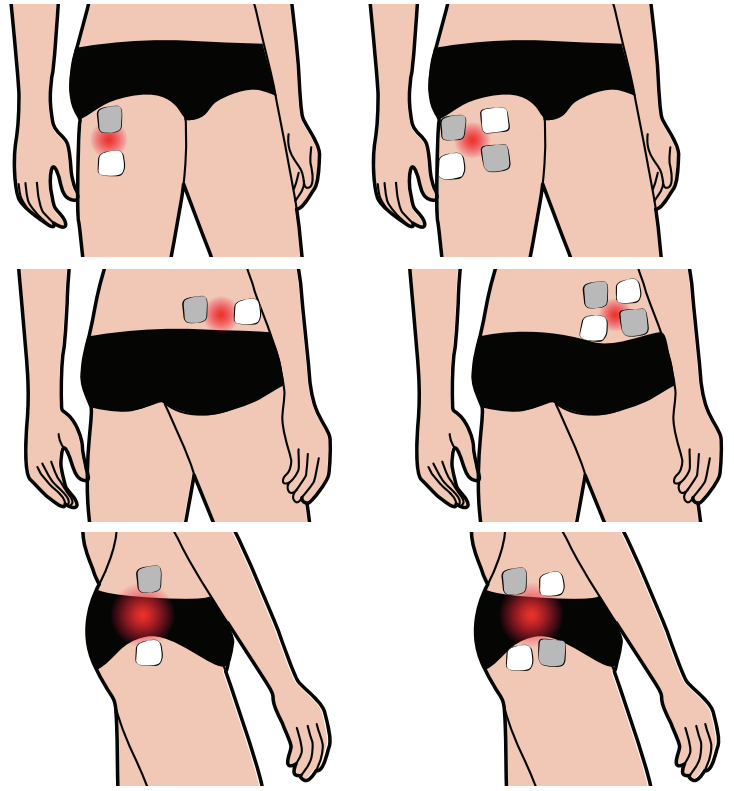


Pad Placement by Body Part

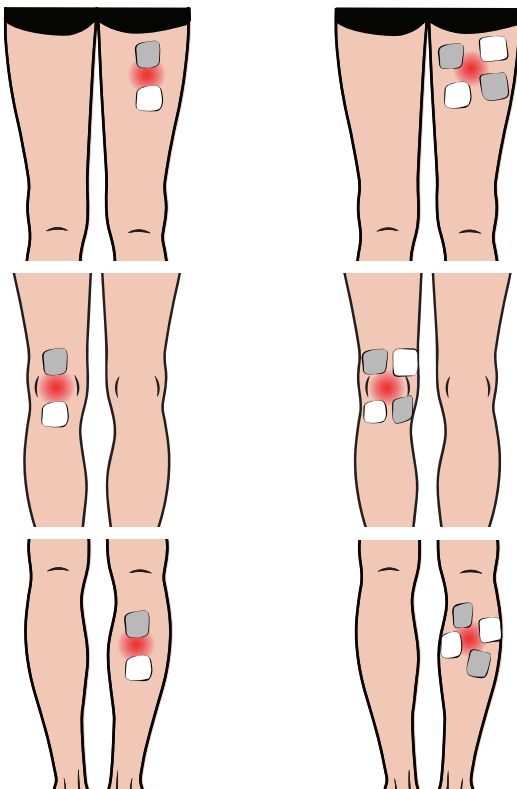
Back (upper, middle, lower)



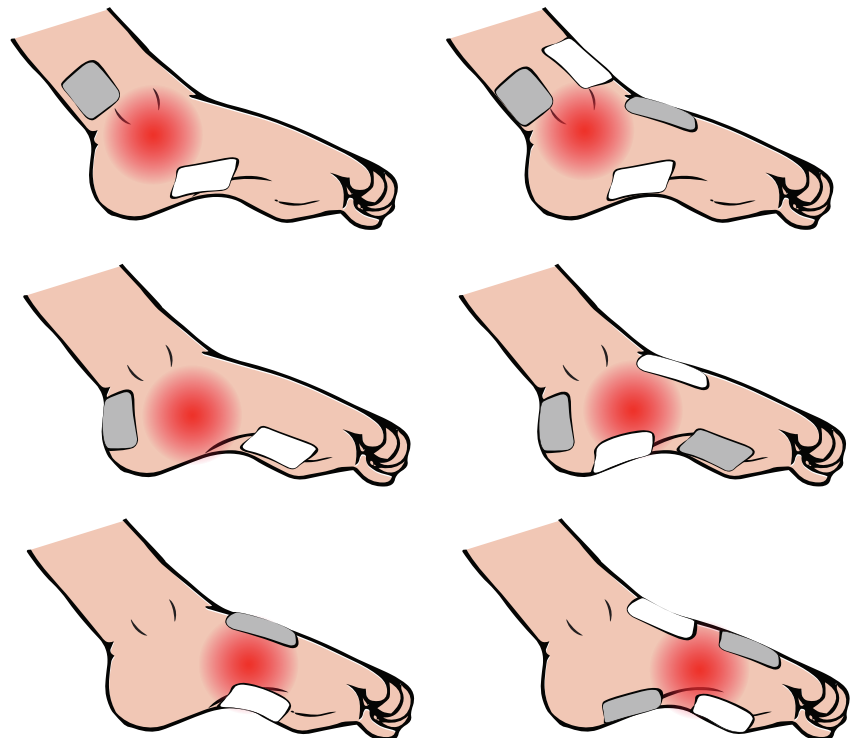
Hip



Leg



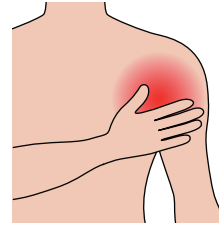
Foot / Ankle



Step by Step Instructions

For an ideal TENS unit application, follow these steps:

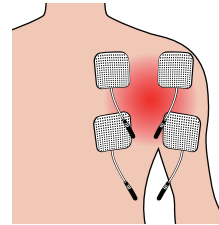
1. **Identify the area in pain by softly touching it.** Identify where most of the pain is and the surrounding area; this is where you'll place your pads.



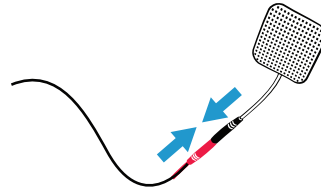
2. Once identified, **clean your skin of oil or lotion and thoroughly dry the target area.**



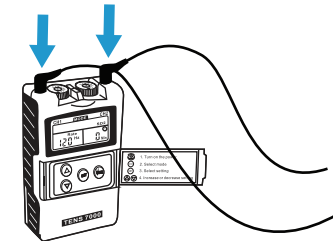
3. Remove the electrodes from their packaging and **place each around the target area; ensure each pad is firmly placed** and no edges are protruding (protruding edges can cause your skin to be "zapped"). **Each pad should be at least 1" apart** and not be touching each other or any other object.



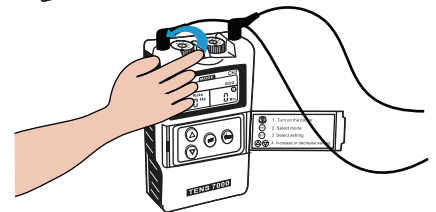
4. **Connect your lead wires to each pad.**



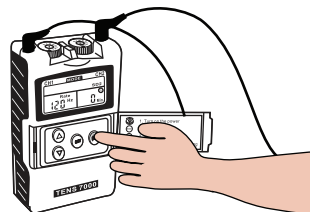
5. **Connect each lead wire to the device.** Double check the lead wires are connected properly.



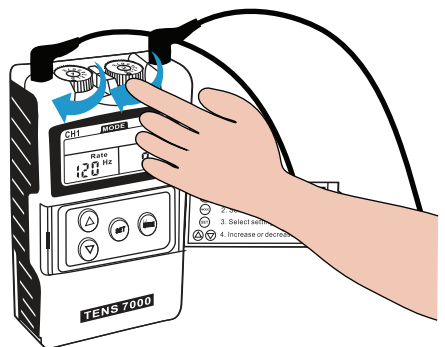
6. **Turn the device on at its lowest intensity level.**



7. **Choose your desired settings.**



8. **Turn the intensity level up until you stop feeling pain.** Your muscles may start to contract.



9. **After the initial minutes of treatment, stimulation may weaken.** This is called "accommodation" and is normal as your body gets used to TENS. **Turn the intensity level up to keep the effect strong but comfortable.**

If pain is still felt

- **Try a different setting**
- **Reposition the electrodes** (make sure to turn the device off first) - incorrect positioning may not allow the current to travel through the target nerves.
- **Turn the intensity up.**
- **Check that the pads are placed firmly over your skin.**
- **Call your healthcare provider if you still can't get relief.**

If you can't feel the current

- **Check your device's power source:** are the batteries appropriately inserted, dead, or weak?
- **Check your electrodes:** are they firmly sticking to your skin? You can attempt to reactivate their sticky surface by wetting your fingertip, gently rubbing the pad surface, and then letting it dry for one minute. If this is ineffective, new pads might be required.

If pads won't stay on or in place

- You can **attempt to reactivate their sticky surface** by wetting your fingertip, gently rubbing the pad surface, and then letting it dry for one minute. If this is ineffective, **new pads might be required.**
- **Try using a skin prep wipe before placing electrodes.** These remove oils and lotions to allow the pad to stick better.
- **Reposition your electrodes if they're over a joint.**
- **Try to sit still during treatment:** Target areas closer to the joints can cause pads to unstick with movement.
- If you're sweating during treatment, **try to place medical tape over the electrodes.**

Areas to Avoid Placing Electrodes

