

These people must consult doctor or physiotherapist before using TENS machine

- ⚡ People with a history of stroke
- ⚡ People having impaired skin sensation
- ⚡ People suffering from cardiac problems
- ⚡ People suffering from epilepsy
- ⚡ People with treatment site over the head or neck

These people should not use TENS machine

- ⚡ People suffering from cardiac arrhythmia or carrying a pacemaker
- ⚡ People with metal implant near the treatment site
- ⚡ Pregnant women
- ⚡ People with open wounds over the treatment site
- ⚡ People suffering from infectious skin diseases or other severe skin diseases
- ⚡ People who is allergic to electrodes or electrode conductive gel
- ⚡ People who cannot follow instructions for operating TENS machine



TENS Machine



Medical Device Control Office
E-mail : mdco@dh.gov.hk
Website : www.mdco.gov.hk



Department of Health

What is TENS machine?

Transcutaneous Electrical Nerve Stimulation (TENS) machine is commonly used as an auxiliary apparatus for pain relief in physiotherapy. TENS machine is a battery-operated machine that generates low electrical impulses passing into human body through the electrodes applied on the skin. It stimulates nerves that alleviate muscle pain arising from occupational, sports or other injuries. It is particularly used for muscle pain over the back, knee, shoulder and neck.

Since a number of conditions may cause muscle pain, you should seek medical advice if you have any pain and should not use TENS machine without prior medical consultation. Doctor will refer you to a physiotherapist for appropriate treatment if necessary. If you are advised to use TENS machine at home, please follow the instructions from the physiotherapist, including those on the electrical frequency, wave length, intensity, treatment frequency and duration of use. One should not alter the treatment plan without consulting the physiotherapist.

If the pain persists after TENS treatment, you should seek medical advice immediately.

Pain relieving mechanism

There are two pain relieving mechanisms adopted by TENS:

1. The first pain relieving mechanism is to generate electrical impulses of higher frequency to stimulate skin sensory nerve fibres to generate “touch” signals. These “touch” signals when reach the brain can suppress the pain signals and hence reduce the pain sensation. Pain relief achieved by this mechanism is fast but short-lived.
2. The other pain relieving mechanism is to use electrical impulses of a lower frequency to stimulate the production of natural pain-relieving chemicals called “Endorphins” in the brain. Pain relief achieved by this mechanism is slow but will last longer.



How to use a TENS machine

Apply the electrodes (self-adhesive or non-adhesive electrodes) of the TENS machine to the skin, on the area of pain or at a trigger point. Then turn on the machine. This will create a current of electrical impulses which stimulates the nerves and muscles. The wave length, frequency and the intensity of electric current can be adjusted according to the nature of pain. Since overuse of TENS may irritate the skin or even cause burns, users should not alter the treatment plan without prior consultation with the physiotherapist.

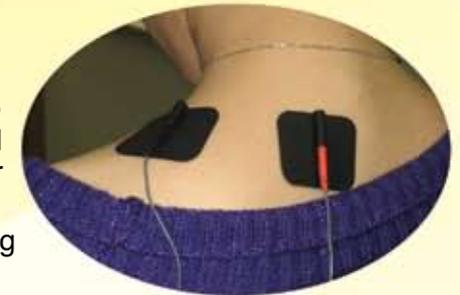
Using Tips

BEFORE TENS treatment

1. Check the TENS machine; for example, the electrodes should be inspected for cuts and cracks;
2. Ensure that the batteries of the TENS machine are fully charged;
3. Make sure that the control knobs are turned to “OFF” position before starting;
4. Clean the treatment site with mild soap and water;
5. Peel the self-adhesive electrodes from the clear plastic film and attach the electrodes to the skin (when using non-adhesive electrodes, put a thin coat of designated conductive gel on each electrode pad to facilitate transmission of electric current to the skin, then put the electrodes on the skin and fasten them with a tape);
6. Do not place the electrodes near the carotid arteries on the neck or across the heart; and
7. Ensure the electrode wires and TENS machine are properly connected.

DURING TENS treatment

1. Turn on the TENS machine and turn the control knobs slowly to the prescribed setting. You should feel a tingling or numbing sensation;
2. Avoid getting wet, sleeping or operating machine while using the machine; and
3. Strictly confine to treatment duration as prescribed.



AFTER TENS treatment

1. Turn the control knobs to “OFF” position and unplug the electrode wires from the TENS machine;
2. Remove the self-adhesive electrodes and replace them on the clear plastic films (when using non-adhesive electrodes, remove the tape and the electrodes, then wipe away the gel on the skin with tissue paper and clean the electrodes with soap and water);
3. Inspect for any skin alteration over the treatment site; and
4. Remove the batteries from the TENS machine if needed.

If there is any skin alteration or sensational changes during and after TENS treatment, stop using it and consult doctor or physiotherapist at once.