

Transcutaneous Electrical Nerve Stimulation (TENS)

For Pain

For over 40 years, health care practitioners have recognized and been prescribing TENS for relief of chronic and acute pain. There are two theories regarding the use of TENS therapy for pain relief:

Endorphins The endorphin theory suggests that the body's natural pain relieving chemicals (endorphins) are released into the body as a response to any noxious stimuli. Small electrical impulses can also stimulate endorphin release. These endorphins block the perception of pain much like a drug but without the side effects that often accompany the use of pain medication.

Gate Control In 1965, two researchers, Ronald Melzack and Patrick Wall, suggested that pain messages, which travel via nerves from the pain site to the brain, can only do so if the gateways are open between connecting nerve fibers through which the pain message must travel. It is thought that TENS works by triggering a closure of those gates, thus preventing the pain message from reaching the brain.

Cranial Electrotherapy Stimulation (CES)

For the Stress Related Symptoms of Anxiety, Insomnia and Depression

Research into low intensity electrical stimulation of the brain was begun in France in 1902. In 1953, the Russians called it "electrosleep". It was introduced into Europe, and then in the United States in 1963. In addition to insomnia, it is an FDA recognized treatment for the stress related symptoms of depression and anxiety. For that reason, the FDA has suggested it be renamed Cranial Electrotherapy Stimulation or CES.

CES provides micro pulses of electrical current across the head via one 9-volt battery. Among the more than 150 scientific studies of CES, of those which were double blind, patients were treated below sensation threshold. That is, they did not feel the stimulation, and still they obtained significant relief. Tens of thousands of patients have been and are presently being treated with CES devices in their homes, with no negative findings.

Meta analyses with positive results have been conducted at the University of Tulsa and at Harvard University School of Public Health.

TENS/CES and the Stress Theory

The Response to Stress

Just as with many pharmaceutical medications, the exact mechanism of action of CES is unknown. However, there are several theories of possible mechanisms. The foremost theory is that of the chronic stress reaction, in which neurotransmitters in the brain become imbalanced due to stress, resulting in various pathologies. Research has indicated that CES may restore these neurotransmitters back into normal balance, thus reducing or eliminating stress. Stress is thought to underlie as much as 90% of the illnesses seen today.

Stress may also intensify the feeling of pain. Due to its marked ability to reduce stress, CES can be a significant complementary treatment to TENS treatment for acute and chronic pain.

CES is a safe, non addictive non-invasive treatment that is convenient and easy to use.

The combination of TENS and CES in one portable unit provides a cost effective solution for patients and insurance companies.

References are available upon request by calling Therapeutic Resources, Inc. at 800-488-8492.

Federal Law (US only) restricts the sale of the FM 10/C only on the order of a licensed health care professional.

Technical Specifications

Power Source	9 volt battery (low battery indicator light)
Timer Settings	30, 60 minutes or continuous
TENS	
Channels	2
Mode	Continuous and Burst
Pulse Width	Variable 40-250 microseconds
Pulse Repetition Rate	Variable 1-140 pulses per second
CES	
Channels	1
Frequency	100 pulses per second
Waveform	Modified Square wave
<i>Note: FM 10/C will only operate in the TENS or CES mode. The two modes will not operate at the same time.</i>	
Each FM 10/C comes complete with:	
FM 10/C unit	
9 volt battery	
Belt clip and waist pack with exit hole for lead wires.	
For TENS application: 2 lead wires and 4 self adhering electrodes.	
For CES application: 1 bifurcated lead wire with 2 ear clips.	
Owner's manual with instructions and warranty card.	

Precautions

This device should only be used under the supervision of a licensed healthcare practitioner.

There are no known contraindication for TENS or CES.

The safety of using electrical stimulation during pregnancy has not been established.

The safety of using electrical stimulation with older, demand-type cardiac pacemakers is not known. Check with your physician prior to use.

Negative side effects are rare. Less than 3% of CES users report a slight headache which is usually alleviated by simply turning down the intensity.

Indications

TENS is indicated for the symptomatic relief and management of chronic intractable pain. Adjunctive treatment for post-surgical acute pain.

CES is indicated for the symptomatic relief of anxiety, depression and insomnia.

Distributed By:

Therapeutic Resources, Inc.
16000 Bothell Everett Hwy, Suite 200
Mill Creek, WA 98012

800-488-8492
425-337-9609
FAX: 425-338-9463
info@theraresources.com

Insurance billing, please call for details.

FM 10/C

Introducing A New
Partnership in
Electrotherapy
TENS and CES



TENS - Transcutaneous
Electrical Nerve Stimulation

CES - Cranial Electrotherapy
Stimulation

For relief of:
Chronic and Acute Pain,
Anxiety, Insomnia, Depression
and Stress