

MTS 7.1

Multiple • Therapy • System

User's Manual



MTS 7.1
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Manufactured by
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Thank You for Purchasing



Thank You!

A Note from Xanacare Technologies,

THANK YOU for purchasing MTS-7.1, the only musculoskeletal therapy product in the world to simultaneously deliver multiple therapeutic modalities via a comfortable, flexible pad!

A note about your product

To increase the efficacy and life of your MTS-7.1, we suggest the following:

- Read this User's Manual completely before using MTS-7.1 for the first time.
- Clean your pad after every use.
- During periods of non-use, charge your MTS-7.1 using the wall charger included in your kit.
- With heavy use, replace all 4 batteries every 6 months. Use only rechargeable batteries. Non-rechargeable batteries will damage the unit and invalidate the warranty.
- When connecting the pad cable to the power unit, make sure the flat side of the cable connector is facing down.

Should you have any questions regarding the information contained in this manual and/or the usage of the MTS-7.1, please contact your representative.

Thanks again, and good health!



Proudly made in the USA
U.S. Patent No. 7503927

Your Kit Includes

The MTS-7.1 is intended for the temporary relief of minor muscle and joint pain, promoting the relaxation of muscle tissue, temporarily increasing local blood circulation, symptomatic relief and management of chronic intractable pain, and adjunctive relief of post-surgical or post-traumatic acute pain.

Your kit includes:

- Carry case
- Power unit
- Regular pad
- Transformer/wall charger
- 4 Ni-MH size AA rechargeable batteries
- Bottle of conductive liquid spray
- 12 antibacterial towelettes
- Adjustable elastic Girth Strap
- User's Manual



These additional accessories are also available for the most customized therapeutic experience:



Large Pad



Long Band



Leg Wrap



Girth Strap



Short Strap






Portable Power Unit

MTS-7.1's handheld power and control unit is portable, lightweight, and rechargeable.

At less than two pounds, it's easy to use in the field or stable. Apply the flexible pad using the attached hand strap for attended treatment, or apply with the elastic strap and free your hands for other tasks.



Use the MTS-7 to apply a customizable and simultaneous selection of musculoskeletal therapies in the following modalities:

-  **TENS: E-stim/Microcurrent**
-  **LED: Red Light (32 lights)**
-  **LED: Infrared Light (24 lights)**
-  **Vibratory Massage**
-  **Pulsed Magnetic Therapy**

Select any combination of these therapies, using either E-stim or Microcurrent, and slowly increase to the desired intensity level. The timer will run for fifteen minutes before shutting off automatically.



US Patent No. 7,503,927 - Other Patents Pending

Modalities



TENS: E-stim/Microcurrent

E-stim

Transcutaneous electrical nerve stimulation (TENS) is a non-invasive modality applied to the surface of the skin that uses electrical stimulation (E-stim) to activate underlying nerves.

Microcurrent

Similarly to E-stim, microcurrent therapy is a form of TENS that uses an electrical current of similar vibration to the body's own cells. This stimulates cells to function at peak capacity.



LED: Red Light

MTS-7.1's LED Red and Infrared lights promote healing in both soft and deep tissue and create a soothing, pain-relieving effect.

LED red light increases the energy inside cells that speeds up healing. It is considered a Photo-biostimulation modality used to increase circulation and trigger nitric oxide from the promotion of RBC (red blood cell) oxygen potential.



LED: Infrared Light

MTS-7.1's LED Red and Infrared lights promote healing in both soft and deep tissue and create a soothing, pain-relieving effect.

LED infrared light therapy uses a low-level laser light from below the red spectrum and couples the positive effects of red light with the added benefits of heat to help heal deep tissue and speed recovery.

Compared to red light, infrared light penetrates more deeply and activates the electron transport chain, increasing ATP that carries and transfers energy in the body's cells.



Vibratory Massage

Five levels of vibratory massage therapy increase blood flow and oxygen to the area which helps reduce muscle soreness and encourages the removal of cellular waste.



Pulsed Magnetic Therapy

Low-frequency pulsed electromagnetic fields (PEMF) encourage healthy cell function, increase blood flow, and may reduce osteoarthritic pain.

NOTE: Increased sensory activity like that provided by the MTS-7.1 actuates T-cells in the spinal cord, closing the gate to pain along the C-fibers. Micro amp electrical stimulation attempts to restore biological electrical balance. Changing the stimulation parameters during treatment diminishes accommodation and habituation by the user and enhances the pain control effect.



Warnings

- The safety of transcutaneous electrical nerve stimulation devices for use during pregnancy has not been established.
- Transcutaneous electrical nerve stimulation is a symptomatic treatment and as such may suppress the sensation of pain that would otherwise serve as a protective mechanism on the outcome of a clinical process.
- Persistent use of the device in the presence of skin irritation may be injurious, and improper use may result in electrode burns.
- This device should not be used over open wounds or rashes, or over swollen, red, infected, or inflamed areas or skin eruptions (e.g., phlebitis, thrombophlebitis, or varicose veins).
- Do not use in the presence of unexplained calf pain. Consult a physician.
- Do not use over, or in proximity to, cancerous lesions, over sensitive skin areas, or in the presence of poor circulation.
- The unattended use of MTS-7.1 by children or incapacitated persons may be dangerous.
- Connection of a Patient to a High Frequency Surgical Equipment simultaneously may result in burns at the site of the Electrical Stimulator and possible damage to the Electrical Stimulator (E-Stim/Microcurrent connection). Operation in close proximity (for example 1 meter/3 feet) to shortwave or microwave therapy equipment may produce instability in the Electrical Stimulator output.
- Do not apply stimulation in the presence of electronic monitoring equipment (e.g. cardiac monitors, ECG alarms), which may not operate properly when the electrical stimulation device is in use.
- Do not apply across the chest as the introduction of electrical current into the chest may cause rhythm disturbances to the patient's heart, which could be lethal.
- Apply stimulation only to normal, intact, clean skin.

Warnings Continued

- Consult with a physician before using this device as the device may cause lethal rhythm disturbances to the heart in susceptible individuals.
- Do not use when in the bath or shower.
- Do not use while sleeping.
- Do not use while driving, operating machinery, or during any activity in which electrical stimulation can put the patient at risk or injury.
- Do not use after ice or cold pack application as Patients lose normal sensory response.
- If pain does not improve, becomes more than mild, or continues for more than five days, stop using the device and consult with a physician.

Precautions

- Transcutaneous electrical nerve stimulation is not effective for pain of central origin, as compared to pain of peripheral origin.
- Transcutaneous electrical nerve stimulation (TENS) is of no known curative value. TENS is not a substitute for pain medications and other pain management therapies.
- Treatment outcome will be influenced by patient's psychological state and use of drugs.
- Keep out of reach of children.
- Do not use after ice or cold pack application as subjects lose normal sensory response.
- This equipment is not suitable for use with flammable anesthetics.
- Effectiveness is highly dependent upon patient selection by a practitioner qualified in the management of pain patients.
- The long-term effects of electrical stimulation are unknown.
- Since the effects of stimulation of the brain are unknown, stimulation should not be applied across the head, and electrodes should not be placed on opposite sides of the head.
- Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium (liquid).
- Patients with suspected or diagnosed heart disease should follow precautions recommended by their physicians.
- Patients with suspected or diagnosed epilepsy should follow precautions recommended by their physicians.
- Use caution when the patient has a tendency to bleed internally, such as following an injury or fracture.
- Use caution following recent surgical procedures when stimulation may disrupt the patient's healing process.
- Use caution over the menstruating or pregnant uterus.
- Use caution over areas of skin that lack normal sensation.

Adverse Reactions

- Skin irritation and burns beneath the electrodes have been reported with the use of electrical stimulators applied to the skin.
- Headache and other painful sensations have been reported during or following the application of electrical stimulation near the eyes, head, and face.
- Stop using the device and consult with a physician if the patient experiences adverse reactions from the device.

Instructions

1. Spray the pad and treatment area.
2. The pad should be applied directly to the injured area for maximum effectiveness and should be snug, not tight. Experiment with pad placement over painful areas, contiguous areas, over nerve supplying areas, trigger points, dematomes or motor points.
3. Press **Power** button. Green power LED and yellow Start/Pause LED lights will illuminate.
4. Press **Select Mode** button. The green E-stim LED will illuminate. If you prefer Microcurrent, push the Microcurrent button now. The digital window will display "00."
5. Press the **+** arrow until you reach the desired intensity. The amplitude changes with +/- buttons, but the frequency stays the same. The **-** arrow may be pressed at any time to reduce the intensity of this modality.
6. Press **Select Mode** button again. The digital window next to IR/Red LED will display "00."
7. Press the **+** arrow to select the desired intensity. Xanacare suggests from 8 to 10. This modality cannot be felt. Later, however, a slight thermal (heating) effect may be noticeable. This modality provides heating of the underlying tissue. The unit does not produce enough heat to injure. The **-** arrow may be pressed at any time to reduce the intensity of this modality.
8. Press **Select Mode** button again. The digital window next to Magnetic Pulse will show "00."
9. Press the **+** arrow to select the desired intensity (1-5 pulses per second). The **-** arrow may be pressed at any time to reduce the intensity of this modality.
8. Press **Select Mode** button again. The digital window next to Vibratory will show "00."
9. Press the **+** arrow to select the desired intensity. The **-** arrow may be pressed at any time to reduce the intensity of this modality.
10. Press **Start** button. The clock will begin counting down from 15 minutes. If you do not press start to activate timer, the unit will shut off after one minute.

During your treatment, you may pause the clock and adjust any modality by scrolling via the Select Mode button. Also, when you push Start to continue your treatment, you will notice that the E-stim/Microcurrent setting is reduced to 50% and gradually ramps up to your previously selected intensity.

When your treatment has 20 seconds remaining, you will hear several beeps. You have the opportunity to scroll via the Select Mode button to the clock and add additional time via the **+** arrow. Please note that all previous settings AUTOMATICALLY return to "00" after each use.

Use 1-3 times per day as necessary for treatment.



Battery Charging and Usage

MTS-7.1 uses 4 Ni-MH AA rechargeable batteries. The kit includes 4 AA rechargeable batteries as well as a wall transformer/charger.

CHARGE ONLY AA Ni-MH TYPE RECHARGEABLE BATTERIES. OTHER TYPES OF BATTERIES MAY BURST CAUSING PERSONAL INJURY AND/OR DAMAGE.

Always use the same type of rechargeable batteries. Do not replace individually—always replace them as a set.

Battery Replacement Instructions

1. To replace the batteries, remove the battery cover located on the side of the MTS-7.1 controller unit.
2. Carefully remove each battery by lifting up the (-) end with your finger.
3. Replace the batteries with 4 Ni-MH Size AA rechargeable batteries only. All batteries must be the same type and brand. Do not mix batteries.

The unit is inactive and CANNOT be used while charging.

Charge for 24 hours before initial use. Flashing light indicates charge is in process; solid light indicates charge is complete. After the initial charge, 2 hours should be sufficient to charge the batteries in the MTS-7.1 while attached to the wall transformer/charger.

MTS-7.1 does not incorporate a power switch to isolate the system from the supply mains. Remove the AC charger from the electrical outlet to disconnect the MTS-7.1 from the supply mains.

The unit is inactive and CANNOT be used while charging.

Portable Controller and Wall Charger Units Cleaning

Disconnect the MTS-7.1 from electrical power and clean external surfaces only using a soft cloth lightly dampened with water and mild detergent. Carefully avoid wetting any controls or electrical connectors. Wipe off the excess moisture and allow sufficient time for the units to completely air dry before use (a minimum of 2 hours). The predicted service life of the MTS-7.1 is 1 year.

Pad Cleaning

Clean the MTS-7.1 pad after every use. Wipe pad with antibacterial towelettes. Damaged pads should be replaced.

CAUTION: NEVER IMMERSE THE PORTABLE CONTROLLER, WALL CHARGER, OR PAD UNITS IN WATER OR ANY OTHER LIQUID. DO NOT USE SOLVENTS, HARSH CLEANERS, OR ABRASIVE MATERIALS FOR CLEANING.



Preventive Inspection/Maintenance

Check the unit periodically for broken connectors or other damage to the pad and/or power unit. Notify Xanacare Technologies, LLC immediately if damage is identified.

Specification Sheet

The large flexible pad has the following features:

- 64 red lights @ 640 nanometers
- 48 infrared lights @ 870 nanometers
- E-stim mode (see output waveform/power information below)
- Microcurrent mode (see output waveform/power information below)
- 8 pulsed magnets (each producing 5 - 100 Gauss, 1 to 5 pulses per second)
- Vibratory massage (5 levels)

Output waveform/power information for E-Stim Mode

When delivering stimulation energy, the MTS-7.1 is a constant current output device. Therefore its output voltage, current, and power is dependent upon the load.

- Maximum peak output voltage (1 K Ω load) = 30 V
- Maximum peak output current (1 K Ω load) = 30 mA
- Maximum peak output voltage (500 K Ω load) = 20 V
- Maximum peak output current (500 K Ω load) = 40 mA
- Frequency: 72 Hz nominal
- Duty Cycle: 3%
- Maximum RMS voltage (1 K Ω load) = 3.3 V
- Maximum RMS current (1 K Ω load) = 3.3 mA
- Maximum RMS voltage (500 K Ω load) = 2 V
- Maximum RMS current (500 K Ω load) = 4 mA

Output waveform/power information for Microcurrent Mode

When delivering stimulation energy, the MTS-7.1 is a constant current output device. Therefore its output voltage, current, and power is dependent upon the load.

- Maximum peak output voltage (1 K Ω load) = 9.3 V
- Maximum peak output current (1 K Ω load) = 9.3 mA
- Maximum peak output voltage (500 K Ω load) = 7.2 V
- Maximum peak output current (500 K Ω load) = 14.4 mA
- Frequency: 8 Hz nominal
- Duty Cycle: 50%
- Maximum RMS voltage (1 K Ω load) = 4.6 V
- Maximum RMS current (1 K Ω load) = 4.6 mA
- Maximum RMS voltage (500 K Ω load) = 3.6 V
- Maximum RMS current (500 K Ω load) = 7.2 mA

Class II Wall-Mount Battery Charger

Input: 100-240 VAC 50-60 Hz, 0.6 A

Output: 9VDC @ 2A

Battery Type: Rechargeable Size AA Ni-MH

Operating Temperature: -5° C to +30° C (41° F - 85° F)

Storage Temperature: -30° C to +55° C (22° F - 130° F)



The MTS-7.1

Internally powered device.

Ordinary Equipment (not protected against harmful ingress of moisture)

Equipment is not suitable for use with flammable anesthetics

Complies with EMC Standard EN 60601-1-2

The Regular and Large Pads are considered Type BF Patient Applied Part.

Glossary of Symbols



Attention: Consult Accompanying Documents

The operator must read, understand, and follow all instructions in the accompanying documents including all warnings, cautions, and precautions before using the medical device.



Type BF Equipment

This symbol indicates that the patient applied parts (Regular and Large Pads) are Type BF (floating from electrical ground) which offers a specific level of safety.



This symbol indicates that the switch electronically cycles the DC power On and Off for part of the equipment.

Notes:

1. The MTS-7.1 is inactive as a medical device when its batteries are being charged by the external Charger.
2. To disconnect the external charger input, unplug the supplied Charger from the AC Mains receptacle and then remove the DC plug from the MTS-7.1.

Waste Electrical and Electronic Equipment (WEEE)

This product may contain substances known to be hazardous to the environment or to human health. It should be disposed of properly (for example, at your local waste collection administration or recycling plant) and in accordance with local ordinances.

Servicing

The MTS-7.1 is not user serviceable. Unit must be returned to Xanacare Technologies, LLC for any and all service and repair issues.

Limited Liability

The Purchaser acknowledges that Xanacare Technologies, LLC equipment is technologically sensitive and fragile and agrees to handle such with the utmost care. The Purchaser acknowledges that Xanacare Technologies, LLC is not responsible for any results obtained due to the product use or misuse. The Purchaser shall not hold the company Xanacare Technologies, LLC or any of its directors or associates liable because of the product use or misuse. Any liability for consequential and incidental damages is expressly disclaimed. Xanacare Technologies, LLC liability and all events is limited to, and shall not exceed, the purchase price paid.

Warranty

The MTS-7.1 power unit and treatment pad are warranted for 1 year under normal conditions.



Treatment Log

[illegible]

Treatment Log

[illegible]

MTS-7.1

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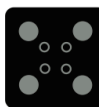
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Therapy For Every Body