

More about the NT2000-TES unit

The Threshold Electrical Stimulation Program

The duration of the Threshold Electrical Stimulation (TES) treatment varies with the individual and the condition. Normally, treatment continues for 1 to 2 years for mild conditions, and 2 to 4 years for more moderate conditions.

The treatment is painless, at the sensory threshold, and is done at home, six nights a week, during sleep. An individualized treatment program using standardized protocols is set-up for each client after referral by the supervising physician. The placement of electrodes and setting of the stimulator controls are determined and taught by a licenced physical or occupational therapist. The follow-up testing and consultation program includes a review every 3 to 6 months.

The NT2000-TES Stimulator

This neuromuscular stimulator has been designed and manufactured specifically for home-based treatment. It is marketed in the USA under the FDA 510K Number K933178 for Neuromuscular Electrical Stimulation. The TES treatment parameters have been incorporated and they cannot be altered intentionally or accidentally. Family members and adult patients are usually able to follow directions for home use equipment, but this unit is designed to be safe from the exploring hands of children. The stimulus intensity level controls are the only ones that the user may adjust and once set, they can be locked. Obviously, any treatment program shows the greatest effectiveness when there is compliance. This is particularly true in the case of home-based programs. The NT2000-TES has an improved simplified compliance meter, which displays the accumulated use in hours and minutes for three seconds when the unit is powered on. No fiddling with access sequences and no chance that the user will accidentally reset the unit on an incorrect program.

This stimulator will not spark, overheat, or produce excessive surges of current when exposed to moisture in cases of incontinence. The greatest intensity available is limited to 12 mAmps. The waveform is modulated to create a more comfortable sensation at the skin. It is a constant voltage design. Even before the electrode separates completely, this computer controls the current density, automatically reducing the intensity at the surface of a partially attached electrode to assure that the desired level of stimulation is maintained. This effectively eliminates "hot spots" and unexpected shocks that can otherwise occur. An automatic safety shut-off is triggered in the case of full separation of an electrode. The channel indicator on the LCD panel flashes to show which channel is affected if an electrode comes off or a wire is dislodged. This simplifies the correction of the problem.

The NT2000-TES also incorporates features that make correct application of TES easy for the users and reduces overall cost. The battery compartment allows use of rechargeable batteries, a saving of \$200-\$250 per year in otherwise disposable supplies. The case is constructed of sturdy plastic and all edges are rounded. Lead wires are fused to reduced tangling and color coded to the intensity controls for each channel. The wire connector resembles but is different than a telephone jack. It cannot be plugged into electrical outlets, light sockets or telephone jacks. This is an extremely important safety feature and is just one of the many this unit incorporates. It complies with the rigorous standards and safety codes which came into effect in the European Common Market countries in June 1998 [IEC 691 and IEC 601-2-10]. The expected length of use for home stimulators is 2 to 10 years. To meet FDA requirements, many units available in the US have required modification from May 9, 2000. The NT2000-TES already exceeds these standards and will not have to be recalled for modifications or upgrades.



The NT2000-TES Stimulator is a small rectangular box with a display window and two rocker-key amplitude controls. The power switch is located on the left upper corner of the stimulator and includes a lock position which deactivates the amplitude keys. It has two separate channels allowing two different muscle groups to be stimulated at the same time through different sets of electrodes.

Technical

Peak Pulse Amplitude Range: 0 to 18 mA
(simulated body load)

Constant current equivalent: 0 to 12mA, using recommended electrodes.

Pulse type: Asymmetric Biphasic.

Pulse Rate: 35Hz

Pulse Width: 280 mS

Cycle "ON" Time: 12 secs

Cycle "OFF" Time: 12 secs

Ramp Up: 2 secs

Ramp Down: 1 sec

Treatment Time: Continuous

Power Source: 9 volt (Type 6F22);
alkaline battery

Dimensions:	Height	Width	Depth
	4.5"	2.6"	1.2"
	11.5cm	6.6cm	3cm

Weight: Without Battery 131 gms

With Alkaline Battery 177 gms

Battery Life at:	Single Channel	Dual Channel
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Amplitude 12	30 hrs	20 hrs
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Output type:

The isolated outputs of this unit are the rectangular constant voltage type sometimes termed asymmetrical biphasic.

Warranty

This NT2000-TES Stimulator is warranted to the original user to be free from defects in material and workmanship for a period of one year from the date of first use. The lead wires included with this unit, are warranted for a period of six months from the date of first use. The obligation of the manufacturer with respect to any such defects is limited to repair or replacement of the stimulator and wires.

Sales

TASC Network 1-877-827-2242