

NON-ADHERING
STIMULATION
ELECTRODES

- Size:
- ☐ 1 1/4" Diameter
 - ☐ 2" Diameter
 - ☐ 3" Diameter

BMR
NeuroTech

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Phoenix, AZ 85028-1622

To Reorder Call:
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(267-7846)

Shape Round
Quantity 4

BMR
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 **NeuroTech NT-4 Plus**

Neuromuscular Stimulator



BMR NeuroTech NT4 Plus

The BMR NeuroTech NT4 Plus is a 2 channel, battery operated, portable unit with 7 pre-set programs in addition to the unique User-Definable (UD) program. By simply rotating the NT4 Plus program dial, clinicians have immediate access to the necessary scope to do the job.

The effective treatment of patients who have suffered a nerve injury or disease requires the use of the pre-set programs to be employed. Each NT4 Plus pre-set program will guide the clinician through the necessary steps to be followed. The User-Definable Option gives clinicians the necessary scope to do the job.

Onset of Physical Injury or Disease



Program 1 Motor Point Search

Carrying out a motor point search can significantly increase clinical time efficiency. A motor point search is used to identify the correct muscle through observation of joint action or movement as well as to gently introduce the feeling of neuromuscular electrical stimulation to the patient. Comfort is enhanced through identifying the precise location of a motor point since it minimizes the amount of current needed to contract muscle. Some muscles contract better when nerve placements are selected and clinicians will readily appreciate the NT4 Plus' motor point search feature. Examples include, the common peroneal nerve for the tibialis anterior in the treatment of foot drop. It should be noted that in common with all BMR NeuroTech stimulators, the NT4 Plus electrodes can be lifted on and off the patient during the stimulation cycle with only pleasant sensation being experienced.

The treatment of nerve injury is tentative. The clinician must establish whether this program meets their treatment goal and the current needs of the patient.

Program 2 Muscle Atrophy

This protocol is designed for advanced rehabilitation in patients exhibiting a serious neuromuscular impairment. The aim being to facilitate functional movement and increase fatigue resistance. 8 Hz is used to enhance fatigue resistance through facilitating oxidative enzymes and capillary growth. The 2,500 μ sec pulse width (an off-site feature that is unique to the BMR NT4 Plus) is essential for the preparation of muscles prior to functional movement and the restoration of bulk in atrophic muscle. Even though bulk may have no functional value, it is still an important consideration when rehabilitating larger muscles such as the quadriceps. This treatment protocol should be used until movement is established and the patient can visibly contract the muscle. Periodic assessment is advised.

Two for the price of one - Try Program 7 for a continuous and modulated treatment cycle



Program 3 Pre-Strengthening Endurance

Preventing the onset of muscle spasm is a primary concern in the management of neuro-rehabilitation patients. From a clinical perspective, the rehabilitation of paralyzed muscle focuses on the recovery of both muscle strength and endurance. Program 3 is designed to treat severely atrophied muscle before, and concurrent with, early strengthening. This protocol uses chronic low frequency stimulation. Published literature indicates that low frequency stimulation has the effect of increasing oxidative enzymes and capillary density - especially in fast twitch fatiguable muscle fibers.

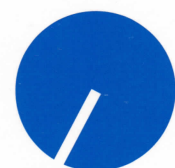
Two for the price of one - Try Program 7 for a continuous and modulated treatment cycle



1



2



3



BMR NeuroTech NT4 Plus

able, neuromuscular electrical stimulator. The NT4 Plus is equipped with a program selection option which allows clinicians to devise patient specific programs. By providing access to a comprehensive Neuro-rehabilitation regime. Neurological-impairment requires various neuromuscular rehabilitation treatments for clinicians through successive neuro-rehabilitation treatments, while allowing them to develop and redefine customized programs as required.

Recovery

Permanent Disability

Program 4 Strengthening

NMES has a long and proven track record in the prevention or retardation of disuse muscle atrophy. 50 Hz is chosen to optimize muscle fiber recruitment. The patient can perform exercises in conjunction with the stimulation to speed progression to the next stage of advanced strengthening. This protocol is particularly appropriate when clinicians use the NT4 Plus off-site to capitalize on advances achieved through constant attendance modalities and therapeutic activities on-site. Additionally, program 4 can be used to correct a joint imbalance, such as laterally tracking patella, which in turn optimizes muscle length tension - a requirement for strong contraction.

Two for the price of one - Try Program 7 for a continuous and modulated treatment cycle



Program 5 Advanced Strengthening

Program 5 introduces a different waveform. The sub-pulsed waveform is a BMR discovery. BMR NeuroTech starts with a symmetrical biphasic waveform which is then pulsed in individual waves. In the sub-pulsed mode, good muscle contractions can be achieved using a discontinuous stimulation pulse that greatly reduces the amount of current needed for effective treatment. BMR NeuroTech's sub-pulsing technology reduces the amount of electrical energy required to contract a muscle. Furthermore, the comfort of the stimulation is enhanced, particularly when a high frequency and long contraction time is necessary. The carrier waveform has two clinical advantages, i) increased penetration and ii) cramp minimized tetanic contractions. The sub-pulsed waveform facilitates longer treatment time and increases patient tolerance.

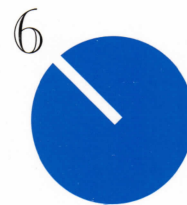
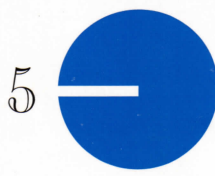
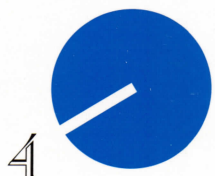
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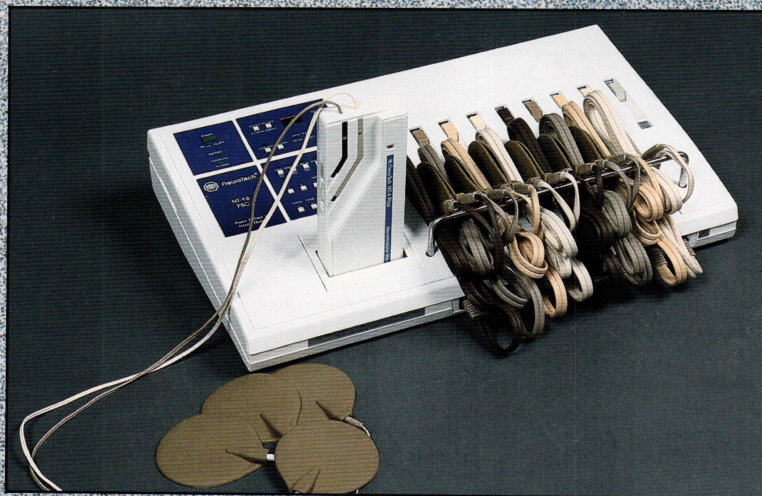


Program 6 Functional Electrical Stimulation

Functional electrical stimulation (FES) is used to maximize activities of daily living. It is recommended to assist, resist or stabilize a functional activity. Examples of FES in neuro-rehabilitation are as follows: 1) Dorsiflexion assist of the ankle during mid-swing walking and 2) reduction of a subluxed shoulder. Functional training is facilitated by the NT4 Plus in a number of ways. The protocol combines NMES, exercise and functional activities. Clinicians can override the relaxation phase with an external trigger, thereby accurately incorporating stimulation with the patients functional movement. This is particularly important when clinicians want to integrate strength, range of motion, coordination and endurance simultaneously with the use of a modality in conjunction with therapeutic activities. A patient at this level of rehabilitation may reach a state of recovery or may endure a permanent or long term disability. The NT4 Plus will continue to aid the patient in improving ADL capability.

Two for the price of one - Try Program 7 for a continuous and modulated treatment cycle

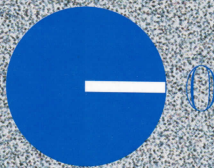




The NT 16 PSC NT4 Plus System

Program 0 User-Definable Program

The BMR NeuroTech clinical neuromuscular electrical stimulation system consists of the NeuroTech NT 16 Programmable System Controller and The NeuroTech NT4 Plus Programmable Stimulator. This system allows for the progressive development of treatments specifically tailored to the precise needs of the individual patient in the clinic and for subsequent off-site treatment. This program technique could not be more simple. Customized programmes are transmitted from the NT16 PSC to the NT4 Plus at the touch of a button.



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