

“Call the TENS Experts!”

Your Questions Answered about N.M.E.S. (Muscle Stimulation)

What is NMES?

The name stands for Neuro-Muscular Electrical Stimulation and it is the same technology as is used in TENS devices for pain control. Often referred to as “EMS” for Electrical Muscle Stimulation.

In the case of muscle stimulation, where you want to cause a muscle "twitch" or contraction on purpose, the output current is usually stronger and the "pulse width" is generally made wider or increased above where you would normally set it for TENS (for pain control).

Where the usual output settings for conventional or high-frequency TENS involve pulse rates in the 100-150Hz (pulses per second) range, a rate of 30-50 Hz would be used for NMES applications so as to not prematurely fatigue the target muscles. As most rehabilitation protocols call for lots of repetitions ("reps") it is important to be able to do a muscle stim treatment for 15 - 30 minutes. The higher the frequency the more rapid is the tiring of the muscle tissues, so this time period may not be possible unless the parameters are adjusted properly.

Another factor to be considered in any NMES treatment regimen is the "duty cycle" of the stimulation. This would be the length of time the muscle is actually contracting compared to the time it rests between contractions. Usual treatment protocols are in the range of 5-15 secs. "ON" and 10-30 secs. "OFF".

If the approach is to gain endurance in the muscle then it is more important to have increased "OFF" times (ie. less fatigue) in order to be able to do the maximum number of repetitions in the time allotted.

If however the goal is to achieve an increase in bulk or strength, then a more aggressive approach using longer "ON" times and shorter "OFF" times is required. The fatiguing of muscles will be more evident and may require less frequent sessions but will achieve the desired results.

Another thing to note is that some NMES units also have TENS capability. In other words you may be able to use the same device to rehabilitate your atrophied muscles and also use it for pain control.

** If you have any questions at all regarding the operation of your TENS or NMES unit, please do not hesitate to contact us immediately.*

Phone: 613.800.2525

TENSexperts@gmail.com