

Russian Electrical Stimulation

Russian Stimulation is a specific type of electrical muscle stimulation utilizing a higher carrier frequency of 2500 Hz. The higher frequency can allow for deeper muscle penetration and a stronger and more complete muscle contraction than lower frequencies systems. Referred to as one of the Medium Frequency waveforms. Interferential is also considered a Medium Frequency waveform.

The system is designed to stimulate motor nerves.

Not typically used in rehabilitation, but rather in strength training protocols. Produces a more forceful muscle contraction than most electrical stimulation units.

This specific higher frequency was utilized by the Russian Olympic team in an attempt to develop muscle mass.

Currently the waveform is being used for muscle strengthening, and reduction in muscle spasms and edema. However, the high frequency makes this waveform more uncomfortable for the user.

Uses a continuous or pulsed signal.

The Russian waveform generated the greatest increase in galvanic skin resistance (a measure of the sympathetic nervous system's response to painful stimuli) when compared to the sine and square waveform ($p > 0.05$) (Bennie et al, 2002).

In general, Russian waveforms utilize:

- High pulse rate
- High intensity
- Produces strong muscle contractions