

MICROSTIM SUPRAMAXIMAL

NERVE STIMULATOR

ELECTRODE PLACEMENT.

It is recommended that ordinary pre-jelled ECG electrodes are used. Check that the electrode gel has not dried during storage. Electrode contact and adhesion are improved if the skin is first prepared using a spirit-soaked swab. Electrodes are usually placed along the line of the ulnar nerve at the wrist although the facial or posterior tibial nerves may be. Sometimes more convenient. The polarity of the electrodes is clinically unimportant.

USING THE STIMULATOR.

The stimulator is powered by a 9V dry cell. Pulses are accompanied by a visual indicator. With each stimulus the LED flashes green. It will change colour via yellow to deep red when the battery is depleted. Stimulation continues for as long as the appropriate switch is depressed.

The output control should be adjusted so that the current is slightly greater than that required to produce a maximum twitch response, i.e. supramaximal stimulation. The following modes are available:

-1 Hz.

-2 Hz.

Single stimuli (0.2ms. duration) at 1 second intervals.

Single stimuli at 0.5 second intervals. Depressing the switch for four pulses will produce the classical Train of Four stimuli.

-50 Hz. Tetanic stimulation at 50Hz.

-100 Hz. Tetanic stimulation at 100Hz.

SUXAMETHONIUM.

Depression of the thumb twitch in response to ulnar nerve stimulation reflects the degree of blockade. Fade in response to a Train of Four stimuli is seen in Phase II block.

COMPETITIVE (NON-DEPOLARIZING) RELAXANTS.

For routine monitoring the number of responses as transmission fades during a Train of Four stimuli is a useful guide to the degree of blockade. The need for incremental doses and the reversibility of the block can be usefully predicted. In some patients the response of the little finger may be less susceptible to blockade than that of the thumb.

Profound blockade may be quantified by counting the number of 1Hz. twitches which become visible after a period of 50Hz. stimulation for 5 seconds. (The fewer the Post Tetanic Count, the deeper the block).

At the end of surgery, residual blockade may be assessed by the degree of fade in response to 100 Hz 1 Hz., 50Hz. or Train of Four stimulation. When the response to single stimuli has just returned to normal the Train of Four responses will still show fade indicating some residual blockade.

Responses will be less influenced by previous stimulation if at least 10 seconds (train of Four), or 60 seconds (tetanic stimulation), are allowed between successive stimulations.

ECG pre-jelled 4mm. press stud disposable electrodes are required. The quality of the electrodes is not important and low cost versions are adequate. (Original leaflet 1986)