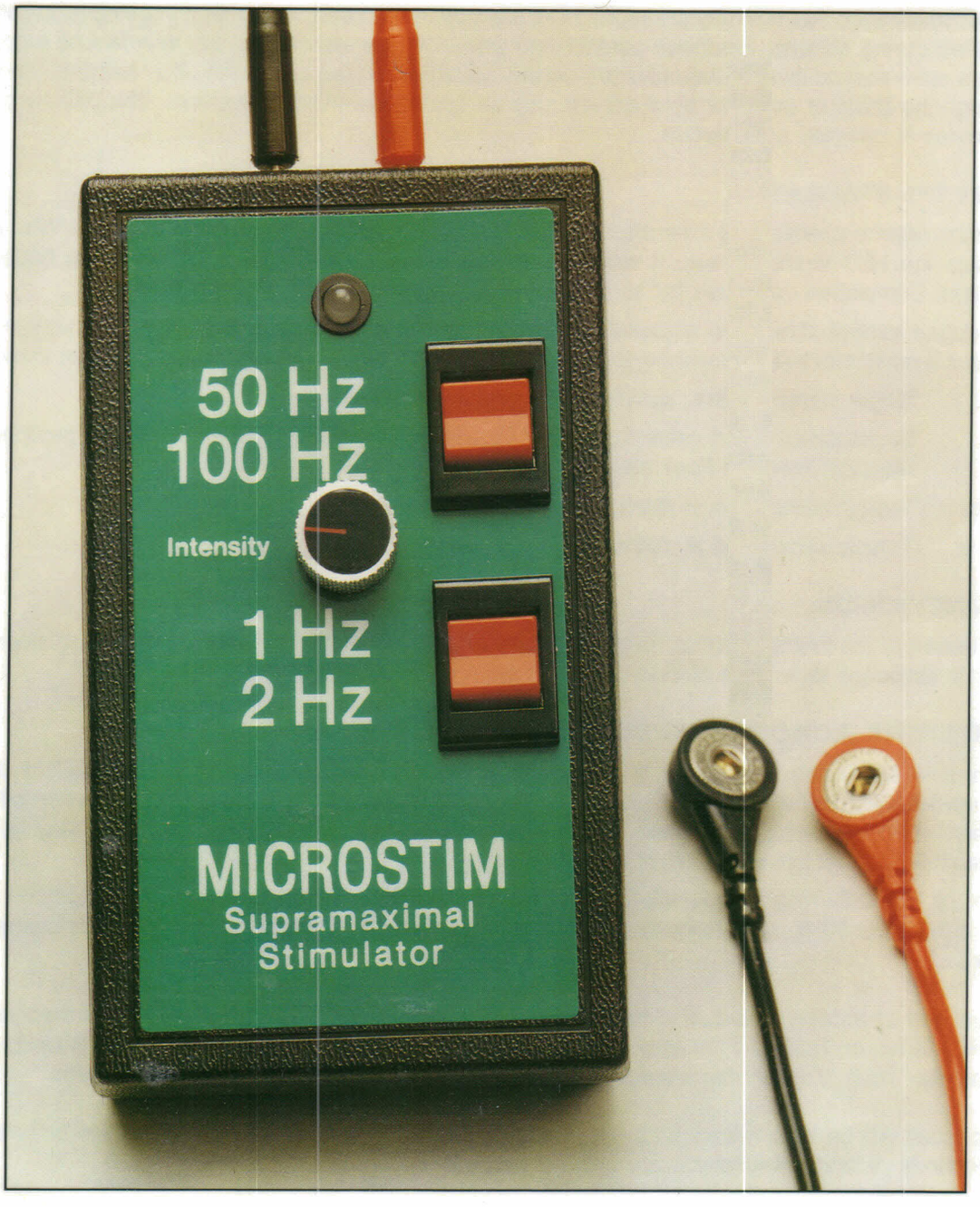
MICROSTIM



SUPRAMAXIMAL NERVE STIMULATOR

The Microstim is a high quality nerve stimulator designed for monitoring the extent of neuromuscular blockade during anaesthesia. Compact size and long battery life are features which commend its routine use whenever a muscle relaxant is given. There is ample power to produce supramaximal stimulation in all patients when used with two ordinary pre-jelled ECG electrodes placed over the ulnar nerve at the wrist.

FEATURES.

- Stimulation at 1,2 (Train of Four), 50 and 100Hz.
- Output adjustable for supramaximal response.
- Combined stimulation and low-battery indicator.
- Simple operation: no stand-by mode is necessary.
- Compact size (L=102mm:W=61mm:Hx26mm).
- Weight including battery (PP3 type, alkaline) is approximately 150g, (6oz.).

SUGGESTED USES.

- Optimization of repeated doses of muscle relaxant.
- Assessment of residual blockade at the end of surgery as a guide to the dose of anticholinesterase required.
- Regulation of infusion rates of muscle relaxants.
- Management of long-term relaxant use in the I.C.U.
- Demonstration of abnormal response to suxamethonium.
- Diagnosis and management of underlying neuro-muscular disorders.

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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, ie. supramaximal stimulation. The following modes are available:

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

-2Hz. Single stimuli at 0.5 second intervals. Depressing the switch for four pulses will produce the classical **Train of Four** stimuli.

-50Hz. Tetanic stimulation at 50Hz.

-100Hz. 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 100Hz., 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.

Not to be used with Needle Electrodes.
For Nerve Location use Viamed ANAESTIM II Nerve Locator.

Ordering Information

MS 1000 Microstim complete with Electrodes
Twin core cable, and carrying case.
MS 1011 Replacement Twin core cable.

VIAMED
15 Station Road, Cross Hills,
Keighley, West Yorkshire.
Tel. Cross Hills (0535) 634542
(0535) 636757

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