BioEMG III ™

Making Sense Out of Muscle Function

BioEMG allows you to evaluate the effectiveness of your patient's craniofacial musculature. Achieving optimal muscle function gives you the confidence that treatment will fit the patient's physiology.

BioEMG, or "electromyography" allows the clinician to evaluate the efficiency of the patient musculature in rest, chewing, and clenching.

Using EMG allows for identifying improper muscle function over a period of time. Proper muscle function ensures the long term stability of the dental work.

Why EMG?

- Knowing what effect each dental procedure will have on patient muscle function.
- Understanding which dental interferences are of concern.
- Creating balance between muscle groups.
- Quantifying resting level.

Patients' View Compliance and case acceptance. Surface EMG is the worldwide standard method for recording muscle-specific activity in skeletal muscles. It has been proven reliable in numerous studies over many years and is a clinical procedure that can be performed in any dental office. This information is invaluable to the clinician who hopes to create beautiful dentistry that works with the patient's physiology for optimum results.

EMG is the only way to objectively measure the actions and reactions of the muscles of the head and neck. This provides the ability to test your treatments and bite positions before finalising the treatment position.

The BioEMG III electromyograph records electrical (bio-potential) activity from eight muscles simultaneously. Microvolt signals are amplified, virtually without noise, to 5000 times their original levels. Signals are displayed on a computer as original time domain waveforms and average levels that disclose contraction patterns and relative intensities.

BioEMG III Performance Specifications
FDA 510(k) K082927, FDA MD Listing # Q018598)

Amplifier Performance Specifications

Input
Type of amplifier   Differential, fixed gain of 5,000
Common Mode Rejection Ratio (hardware only) > 130 dB at 60 Hertz, (>120 dB, 30 to 500 Hertz)
Signal to noise ratio   1,000,000 to 1
Common Mode Voltage Range -3.0 to +3.0 volts DC
Bandwidth   30 to 1000 Hertz (@ 2,000 Hz sample rate)

Additional Noise Reduction via NOISEBUSTER™ 40 dB (nominal)*

T-Scan Novus: the BioEMG III is the only EMG system that is compatible with the T-Scan Novus computerized occlusal analysis system. The combination of T-Scan and EMG allows the clinician/researcher to simultaneously review the force, timing and balance of the craniofacial muscles and the occlusion from rest, to maximum intercuspation and through complete disclusion.

When recording EMG, the testers must be absolutely sure that they are recording muscle activity and not background noise caused by gelled electrodes, surrounding electronics, fluorescent lights etc. The Common Mode Noise Rejection Ratio is a measure of an EMG's ability to reject these artifacts and record only muscle activity.

The BioEMG III has the highest Guaranteed Common Mode Noise Rejection (>130 dB at 50/60 Hz) available. This makes the BioEMG III the premier device for recording surface EMG.

The Noise Buster digital filtering in the BioPAK program automatically further removes 99% of any remaining 50/60 Hz noise that manages to be included in the recorded data during analysis.

Bio RESEARCH