

BTS TMJOINT

General description

BTS TMJOINT is a solution for the functional analysis of the dental occlusion. By the electromyographic analysis, allows measuring the differential influence of the occlusal function through indices validated and published in scientific literature. Functional information are provided on the neuromuscular alterations induced by occlusal contact. Special feature of this system is the standardization of the electromyographic signal that is provided by the comparison between two test of clenching, done with and without the interposition of cotton rolls between the dental arches. This method allows the elimination of problems of the wrong positioning of the electrodes, of the difference of impedance of the patient's skin, of the differences of muscular tropism, etc. making it accurate and repeatable. The results are shown via a special graphic interface that is easy to understand for both the physician and patient.



Components and accessories

	Std. Equipment	Add-on
4/6 EMG wireless probes	●	
1 USB Receiver	●	
Transport bag	●	
1 Probe Charger	●	
Workstation		●
BTS DENTAL CONTACT ANALYZER Software	●	
POC4/POC6 protocol	●	
CHEWING protocol		●

Technical features

Wireless Probes

Surface electrodes	Variable geometry electrodes with mounting clip 16-bit resolution - acquisition frequency up to 1KHz
Data transmission	Wireless IEEE802.15.4 (probes - receiver)
Battery	Rechargeable with proprietary charger (clip connector)
Autonomy	5h battery life with non-stop recording, 5 days with Stand-by mode
Memory	On board solid-state buffer memory system
Status LED	Acquisition/stand-by mode and low battery
Weight	<9 grams including battery
Size	23.8 x 37 x 10mm main electrode - Ø 16.5 x 10mm satellite electrode
Certifications	Class IIa

USB Receiving Unit

EMG channels	Up to 6 wireless probes
Weight and size	80 grams – 82 x 44 x 22.5mm

Workstation (minimum requirements)

Operating system	Windows 7
Processor	Intel Dual Core
RAM	2 GB
Video resolution	1280x800
Disk space	100 MB for the application, not including storage for acquired data
USB	2.0



FUNCTIONAL EVALUATION

Integrated solutions for multifactorial clinical movement evaluation



BTS Biomedical

Analysis protocols

POC4	through the analysis of the activities of the masseter and anterior temporal muscles, right and left, during a quick 5 second clenching test, provides indexes which makes it possible to establish the role of occlusion on muscular balance: The POC (percentage overlapping coefficient) that is an index of the symmetric distribution of the muscular activity determined by the occlusion; the TORS (torque coefficient) to estimate the possible presence of mandibular torque; the IMPACT index, that allows evaluating the muscular work, providing information about the occlusal vertical dimension.
POC6	adds to the previous the calculation of the indices related to the sternocleidomastoid muscle, right and left, allowing evaluating the effects of the teeth touching, on the neck muscles.
CHEWING	analyses the neuromuscular coordination during mastication. The masticatory frequency, the Lissajous curve, and indices of muscle symmetry are calculated.

BTS DENTAL CONTACT ANALYZER

BTS TMJOINT is provided with Dental Contact Analyzer: specialized software for the automatic indices calculation, plotted in a table form, with pie charts and histograms. Includes patient database compatible with Microsoft Access and SQL Server.



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