Bargueño et al 2009 Abstract

Treatment Of The Hemiplegic Shoulder With EMG Biofeedback

Objective
The study examined the use of **electromyography biofeedback** (**EMG-BF**) as a therapeutic tool for treating patients with acquired brain injury.

Results
Upon analysis of the **EMG** reading, it was concluded that in only four treatment sessions, significant improvement of muscle activation occurred during the activity of "pick up to glass from the table".

Biofeedback can provide reinforcement of motor control improvements acquired through physiotherapy sessions, and help with development of specific sensorimotor skills, not only analytically, but also during occupational tasks.

Participants and Researchers
The case study involved one patient diagnosed with left cerebrovascular accident (CVA) of unknown etiology, resulting in right hemiparesis.

The researchers were associated with Francisco de Vitoria University, Madrid, Spain and included Verónica Bargueño, occupational therapist, and Juan Nicolás Cuenca and Eric Lazar both physiotherapists.

Methods
The patient underwent four sessions of treatment using EMG biofeedback. To conduct the study, the **electromyographic biofeedback** device **NeuroTrac ETS** (Verity Medical) was used, along with its corresponding **NeuroTrac** software.

In the ETS mode, the threshold value needed to activate STIM mode is modified manually in each session, to adjust to the activity presented by the patient. For home use, adjustments are made in automatic mode so that the **NeuroTrac ETS** itself adjusts the threshold according to the variations produced in the EMG reading.

The full abstract can be found at
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http://ddfv.ufv.es/bitstream/handle/10641/283/B.F.B.%20STROKE%20SHOULDER.pdf?sequence=1&isAllowed=y