

Polysensography of the tongue force – A parameter for controlling the effectivity of electromyostimulation in patient with sleep apnoe?

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Objectives: It is unknown so far in how far electromyostimulation (EMS) of the mylohyoid muscles and lingual muscles causes changes in tongue force.

Material and Methods: In 17 patients with OSAS and 9 healthy probands over a time period of 4 weeks 2 times daily the enoral-cutaneous EMS was applied by using the apparatus BMR

Poly-Stim 262 (Bio-Medical Research Company). In all patients and probands the measurement of the lingual force was done before stimulation and in the fourth week under stimulation by the poly-sensographical system Sensoral (SensoMedical Comp.). A calibrated Sensor FlexiForce TM Single Serial Button (Hoven Comp.) was connected to it by a digital, multifunctional interface. The sensor was fixed to the palate by histo acrylic glue one centimeter behind the maxillary front teeth. **Results:** All patients and probands reliably applied the EMS. In all healthy probands as well as in the OSAS patients after 4 week stimulation therapy an increase of the tongue force could be found. On average the amount of increase of lingual force was minimally 7 % and maximally 99 % (mean 31%). In the group of healthy probands the increase was between 14 % and 39 % (mean 28%). **Conclusions:** The polysensography enables an exact determination of the tongue force and is a suitable technique to prove the effects of EMS.

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