

## MASSETER'S ELECTROMYOGRAPHIC ASSESSMENT IN DIFFERENT CONSISTENCIES' FOOD SWALLOWING

Joana Esperança<sup>a</sup>, André Araújo<sup>b</sup>, Ricardo Santos<sup>c</sup>, Paula Faria<sup>d</sup>, Andreia Sousa<sup>e</sup>, Nelson Pereira<sup>f</sup>

*Escola Superior de Tecnologias da Saúde. Instituto Politécnico do Porto. Portugal*

**Introduction:** Orofacial Miology is a clinical and research field of interest for Speech and Language Pathology. Surface Electromyography (SEMG) has been used as a complementary diagnostic method to develop normative data and characterization of different oral motor dysfunctions, including swallowing disorders. One application of this method occurs in monitoring the electrical activity of the muscles involved in swallowing. However, there is a need to standardize the procedures for collecting and analyzing electromyographic study of swallowing.

**Objective:** To develop and test a procedural protocol for S-EMG data collection and analysis, applied to swallowing assessments in research and clinical settings.

**Methods:** The protocol was developed following international standards for swallowing assessment and SEMG signal acquisition, and reviewed by an expert board. The masseter muscle was chosen to test the protocol in an 8 young adults' sample. The protocol included assessing rest, maximum isometric contraction, and swallowing function in liquid, solid and pasty consistencies.

**Results:** Masseter's muscle activity was higher in solid consistency, as expected. However, higher percentage of muscle contraction was observed in liquid consistency swallowing than in pasty consistency.

**Conclusions:** The protocol was shown to be functional and well-adapted to collect SEMG data during swallowing of liquid, pasty and solid food. Future research is needed to test the protocol in different muscles and stomatognathic functions.

**Descriptors:** surface electromyography; swallowing; masseter; stomatognathic functions.

<sup>a</sup> joana.filipa.hope@gmail.com

<sup>b</sup> andrearaujo@eu.ipp.pt

<sup>c</sup> ricardosantos\_tf@hotmail.com

<sup>d</sup> pcf@estsp.ipp.pt

<sup>e</sup> andreia.asps@gmail.com

<sup>f</sup> nelson\_pereira15@hotmail.com