## 16 - Miscellaneous

# PO034 - (23896) - 3D-PRINTED HELMET TO AVOID SKIN MOTION IN THE STUDY OF ORAL PHYSIOLOGY

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Electromagnetic articulography is a technique based on magnetic induction. Transmitter coils generate current by induction in small coils that act as motion sensors. In the study of mastication, it is necessary to eliminate head movement. The AG501 electromagnetic articulograph (Carstens Medizinelektronik GmbH, Bovenden, Germany) allows this through the Head Correction procedure. This requires reference sensors attached to the head, which must remain fixed during recording to enable accurate correction. The aim of this study was to develop a 3D-printed helmet to reduce artifacts caused by skin movement.

The number of Head Corrections required to complete a recording session of mastication with different foods was determined. Each time the sensors moved or became loose, the system triggered an alarm, requiring the sensors to be reattached and a new Head Correction to be performed. One group was evaluated using the helmet, while the other was evaluated without it (n=19).

Both groups completed 29 recording sessions. The group without the helmet required 44 HCs, while the group with the helmet required 36 HCs. This did not show significant differences ($p>0.05$).

This may be due to the fact that only a single helmet model was used, which did not fit properly to different head sizes. Future research could include different helmet models.

**Palavras-chave : Electromagnetic articulography, Chewing, Skin motion artifacts**