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EUROPEAN COLLEGE OF SPORTS & EXERCISE PHYSICIANS
FROM LABS TO THE PITCH
29/30 Nov. 2019
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Stomatognatic evaluation of Paralimpic swimming athlete

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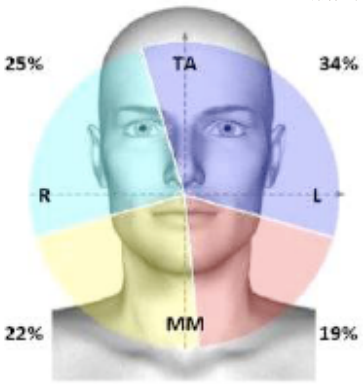
INTRODUCTION

This preliminary study aims at evaluating swimming paralympic athletes of national interest, their stomatognatic system, masticatory muscular strength and mandibular position, to understand whether these values depend on disability or not.
There is no literature in this field. Paralympic athletes have different needs and different function compared with normo athletes, depending on their disability.
For these reasons, we will try to find the best methods to evaluate them and measure the muscular toned mandibular position regardless of disability type.



Thanks to CT R.Vernole and his staff, all FINP Athletes

METHODS

We adapted the "sport medical records" used for "normal athletes" for data collection; we took extra and intra oral photo, and then we had a syncromiography (sEMG) registration with skin surface EMG.
Electromiography was useful to obtain a functional analysis in order to evaluate occlusal stability and adaptations rising from disability.
sEMG was fundamental to get a functional quantification of stomatognatic system,
recording the skeletal muscles contractile activity (masseters and temporals) and graphically representing these contractions to obtain stackable, comparables and reliable data.
Then, occlusal imbalance conditions are evaluated through percentage symmetry indexes (POC, BAR, TORS, IMPACT).
Actualdigital equipment is quick and easy to use, also on the field.

RESULTS

All athletes visited were in good conditions in terms of oral hygiene and oral health, symmetric and good occlusal relation, in spite of disability.
EMG pointed out the connection between equilibrium and disability, but most of athletes were found to be stable.
Compared with other data in literature, we found a different situation: in 2004 during the paralympic game in Athens they had observed a poor oral health condition, due to poor oral hygiene and higher incidence of traumatic dental injuries compared with normo, but this data came from all different sports and not from swimming athletes.

CONCLUSION

The methods used in Athens was correct to start studying the paralympic athletes too, not just normal-athletes. The use of sEMG as more useful than we expected because we noticed a great adaptation with good stability in most of athletes.
This is just a preliminary study, but the results are positive.

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