

-HUBER® platform: an innovative methodology for postural re-education techniques

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Objective : To analyze the possibility to include HUBER in postural rehabilitation training for sporty subjects (effect on postural adjustment, coordination, neuromuscular and mechanical characteristics).

Population : The study has been conducted on 22 sporty subjects of different levels and aged between 18 to 41.

- 6 windsurfers (juniors national level)
- 5 fencers (national level)
- 2 tireurs arc (olympic and national level)
- 1 golfer (amateur level)
- 5 fitness amateurs
- 3 swimmers (amateur level)

Training on HUBER: 60 days, 2 sessions per week, 1h each session (total of 16 sessions).

Evaluations (before and after training):

- *Baropodometry*: measure of the plantar pressures and gravity centre oscillations during 4 exercises in a standing position, open or closed eyes (monopodal and bipodal support).

- *Dinamometry*: measure of the maximal force maximal during isometric contraction of upper and lower limbs (muscles internal and external rotation).

Results : After training on HUBER, the area of gravity centre oscillations decreases significantly. Regarding maximal force of upper limbs muscles (for internal rotation), there is a significant difference between right and left for fencers before training. This result is also observed with muscles for external rotation and only for fencers. After training on HUBER, the left maximal force increases in fencers and the significant difference observed before training disappears. No modifications are seen for all sports put together, probably due to their asymmetrical and symmetrical characteristics

Conclusions : After 2 months training on HUBER, stability in standing position, right/left coordination and balance recovery of sporty subjects are improved. Regarding maximal force, muscle groups are re-balanced. HUBER has an important role in postural re-education.