Influence of an Eccentric Load Placed at the Back of the Head on Head-Neck Positioning

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Method

Group A (n=10, aged 28.9±12.1yrs) Asymptomatic subjects

Group B (n=10, aged 39.6±18.4yrs) subjects that had experienced mild, occasional neck pain

Head movements were acquired during four consecutive trials, lasting 5 min each:

a) no load applied,
b) wearing the loading cap,
c) wearing the cap after walking for 5 min,
d) no weight applied after having had the loading cap applied for 15 minutes.

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Model

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Results
Anterior Head Movement, example

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Results
Anterior Head Movement

Asymptomatic subject

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Results

Anterior Head Movement

Occasional Neck Pain Subject

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Asymptomatic Group vs Occasional Neck Pain Group

Results for the two trials with Cap and for the last trial, after removing the cap (values are relative to the initial trial Without Cap)

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Preliminary conclusions

• With the cap, all subjects, despite the forward compensating protraction of the head, decrease the load of the neck extensor muscles;

• Such a decrease is more pronounced in symptomatic subjects, particularly after the first period of adaptation;

• After removing the cap, the symptomatic subjects show a more retracted head position, keeping a decreasing load on neck extensor muscles.

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