

A new device for the rehabilitation of patients with multiple sclerosis.

B. Maertens de Noordhout MD, F. Houlmont PT,
Y. Léonard PT, R. Cornea MD, S. Adam PhD

Centre Neurologique et de Réadaptation Fonctionnelle de Fraiture, BELGIUM

Purpose

Rehabilitation using the HUBER[®] device allows a global muscular strengthening and an interesting proprioceptive work. Various neurological and orthopaedic pathologies should be able to benefit from this original device. This study tried to evaluate the possibilities of using HUBER[®] for the rehabilitation of patients with multiple sclerosis.

Material and Methods

20 patients suffering from multiple sclerosis in non-active periods with weak or moderate motor deficit, EDSS < 7, were included in a randomized, controlled, cross-over clinical trial in order to specify the effect of this rehabilitation technique on the patient with multiple sclerosis. The program consists in 10 training sessions; 1 session/week. The evaluation of the is carried out on the basis of stabilometric test, 10m walking test, neurological assessment, evaluation scales (EDSS, FIM) and patient's performances with HUBER[®].

Results

After training on HUBER[®] MS patients showed significant improvement of walking ability. The average result of the 10 m walking test is 1.37 sec ($p < 0.044$) faster. A net negative correlation is noticed between the walking improvement and both the sensory troubles and the functional level before the study.

Conclusion

As well as a global muscular work, the training with the HUBER[®] system allows to work proprioception and balance in a very specific way. An intense and unique stimulation of psychomotor functions was also noticed. For patients with multiple sclerosis, an improvement of the walking speed is noticed after 10 light training sessions on HUBER[®].