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Title

Clinical Evaluation of a dynamic flexing lumbar orthosis on patients with neurogenic claudication. A prospective randomized study.

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Summary

The conducted study examines a newly developed dynamic flexing lumbar orthosis concerning its clinical effectiveness. Results indicate that the orthosis helps to reduce pain and increases functional daily activities.

Introduction/Basis

A conservative treatment of lumbar neurogenic claudication includes physical therapy on the one hand and epidural infiltration on the other hand. The effect of a lumbar orthosis has not been evaluated sufficiently yet. The conducted study examines the clinical effects of the newly developed dynamic flexing lumbar orthosis on patients suffering from lumbar neurogenic claudication.

Scientific Method

In the prospective randomized study 30 patients suffering from neurogenic claudication because of a lumbar neurogenic claudication were included. 20 patients (Ø Age 62,7 years, 12 #, 8 #) were instructed to wear the orthosis during a time period of 21-28 days. 10 Patienten (Ø Age 71,7 years, 3 #, 7 #) formed a control group that didn't receive any kind of intervention. Clinical tests with standardized elements concerning every day loading were performed at the beginning and at the end of the time frame: Stairs up and down, chair rising test and 6 minute walk test. EQ-5D, ZCQ, ODI, VAS and the analgetic consumption were also ascertained.

Implementation

The follow-up rate was 100%. A significant and clinically relevant improvement in gait distance of around 13,3% was found in the 6 minute walking test. Other clinical test (stairs up and

down, chair rising test) also showcased positive effects with improvements of 27,6% and 18,8%. Moreover all 5 assessments revealed improvements of the orthosis group. This was especially significant in the ZCQ, ODI and VAS since an improvement in the orthosis group was accompanied with a decrease in the control group.

Conclusion

The use of the dynamic flexing lumbar orthosis led to a significant improvement in gait distance for patients suffering from neurogenic claudication because of a lumbar neurogenic claudication. In addition positive effects were also evaluated in all other assessments during a between-group comparison.

References

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Image: Figure 1, Figure 2_2126.GIF

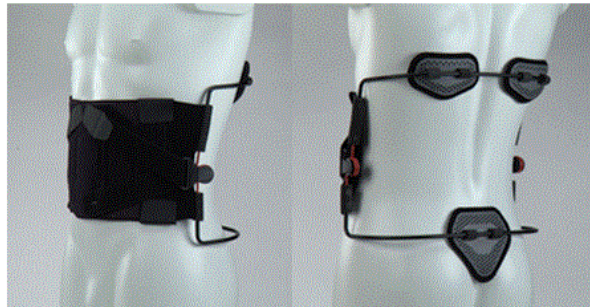


Figure 1: Dynamic flexing lumbar orthosis Dyneva (Otto Bock)

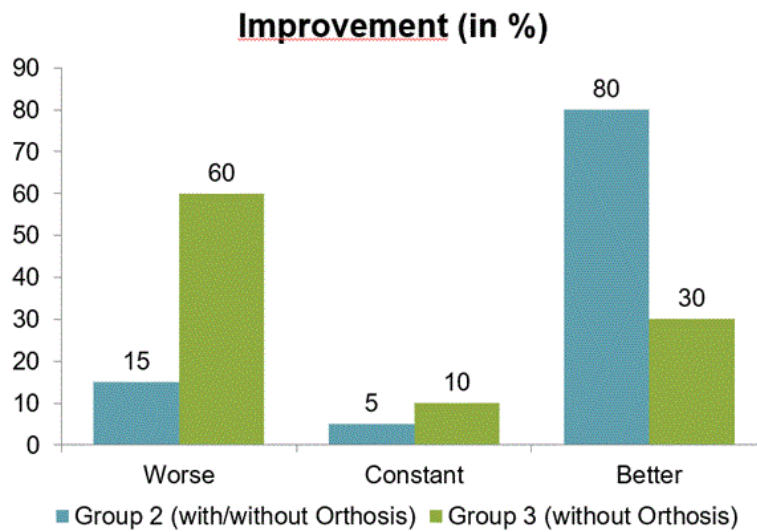


Figure 2: Improvement in walking distance, when comparing the intervention group (group 2) and the control group (group 3)