EFFECTIVENESS AND QUALITY OF LIFE OF A NEW TLSO COMPARED WITH THE BOSTON BRACE

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INTRODUCTION: In current medical practice the effectiveness of conservative brace treatment is being questioned due to lack of compliance. Several studies about brace treatment show that the "in-brace correction" of the thoracic and lumbar curve are not similar. Therefore, it seems appropriate to define the thoracic and lumbar curves as different entities. With regard to this observation we developed a new TLSO (Thoracic Lumbosacral Orthosis) named "Brace 2000" with a rigid lumbar module which gives extension of the lumbar spine and functions as the basis for the semi-flexible thoracic brace pad. We hypothesised that the Brace 2000 would lead to less pressure and establish higher outcome score for patient satisfaction as well as SRS22 and Greek Brace Questionnaire

MATERIAL AND METHODS: Pressure measurements were performed in 15 patients wearing the golden standard/Boston brace and in 10 patients wearing the brace2000 to understand the efficacy between the two braces. The SRS 22 and Greek Brace Questionnaire where used to make an assessment of patient satisfaction as well as quality of life.

RESULTS The mean duration of brace treatment prior to participating in the present study was 25.5 months for the Boston brace and 13.9 months for the Brace 2000. In the Boston brace group the mean primary right thoracic curve was 35.8°; the mean secondary curve measured 24.1°. The mean corrective force over the lumbar brace pad in standing position was 394 N; over the thoracic brace pad it was 453 N. In the Brace 2000 group the mean primary right thoracic curve was 30.9°; the mean secondary curve measured 16.0°. The mean corrective force over the lumbar brace pad in standing position was 404 N; over the thoracic brace pad it was 567 N. In comparison to the Boston brace, the Brace 200 scored significantly higher on both the SRS 22 questionnaire and Greek brace questionnaire outcomes as well as patient satisfaction.

CONCLUSION: There was no significant difference in pressure calculation between Boston brace and Brace 2000. However the Brace 2000 showed significantly higher questionnaire outcome indicating a potential better quality of life. Wiley et al reported that a group of patients who were not compliant to wearing their brace had significantly less correction of the curve compared with compliant patients. We believe that the higher patient satisfaction and acceptance of the Brace 2000 will result in a higher patient compliance resulting in an optimal curvature correction.