

Oral presentation

The efficacy of a new CAD/CAM Brace in the treatment of idiopathic scoliosis

Jeffrey Kessler* and Gez Bowman

Address: 4760 Sunset Boulevard, Dept of Orthopedics, Los Angeles Medical Center, Los Angeles, CA 90027, USA

Email: Jeffrey Kessler* - jeffrey.i.kessler@kp.org

* Corresponding author

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Objective

Traditional scoliosis braces are typically crafted from customized casts or molds made of the patient's trunk. More recently, computer aided design/computer aided manufacture (CAD/CAM) and other computer technology has been introduced in order to try to eliminate this close physical contact and minimize the variability of orthotists' skills. The purpose of the present study is to report on the preliminary experience with the Los Angeles brace™, a new CAD/CAM brace.

Study design

This was a retrospective review of forty adolescent idiopathic scoliosis patients who completed treatment with this new CAD/CAM brace. Initial Cobb magnitude of the primary curve averaged thirty degrees (range 25–40 degrees). The distribution of curve patterns included one lumbar, eleven thoracolumbar, eight thoracic, and twenty double major curves. The brace is an asymmetric, under-arm thoracolumbar sacral orthosis (TLSO) that uses computer models and algorithm generated predictions in its construction.

Results

In-brace correction averaged fifty-one percent for the primary curves, with corrections of fifty-three and twenty-two percent for girls and boys, respectively. Average followup was twenty months since brace discontinuation. Six patients (fifteen percent) experienced curvature progression at the completion of bracing.

Conclusion

This study suggests that this new CAD/CAM brace is as effective as other types of orthoses in the treatment of scoliosis [1]. In keeping with prior studies, males in this study had poor in-brace corrections [2].

References

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