Is Orthotic Bracing Necessary after Surgical Stabilization of Thoracolumbar Burst Fractures: A review

Carmine Zoccali MD; Nikolay L. Martirosyan MD; Jesse M. Skoch MD; Orel Zaninovich BS; Ali A. Baaj MD

Introduction

Orthotic braces can be costly and a source of discomfort for patients. Their utility, even after internal fixation of thoracolumbar fractures, is not well understood. We performed a literature review to determine if there are data to support the use of bracing after surgery for thoracolumbar burst fractures.

Methods

An electronic literature search of the National Library of Medicine was performed for publications from 1990 to 2013. The review process yielded 81 peer review publications reporting data on the implications of POB.

Data were compared according to type of surgical approach (anterior, posterior or combined); extent of surgical procedure (standard or minimally invasive); fusion techniques; and the length of instrumentation. Analysis was performed to reveal indications for POB.

Results

POB was used in 61 studies for a median wearing time of 3 months. POB was recommended in 75.3% of the posterior surgeries, in the 76.5% of the anterior and in 45.4% of combined surgery. POB was used in the 78.9% of cases with fusion and in 72.2% without fusion. None of the studies clearly delineated rational for use of POB. No relevant data was available on POB with regards to the stabilization length and extent of the surgical procedures performed.

Conclusions

The majority of published studies indicate that the use of POB is prevalent even after internal fixation of thoracolumbr burst fractures. However, most do not indicate rationale, effectiveness or complications associated with POB. Comparative effectiveness research is warranted to better understand the role of POB after surgical stabilization of thoracolumbar burst fractures.

Learning Objectives

By the conclusion of this session, participants should be able to:

1) Describe the importance of postoperative bracing after thoracolumbar fusions for burst fractures

2) Discuss, in small groups implications for postoperative bracing

3) Identify effectiveness of postoperative bracing