

CLINICAL STUDY SUMMARY

Combining Expandable Interbody Cage Technology With a Minimally Invasive Technique to Harvest Iliac Crest Autograft Bone to Optimize Fusion Outcomes in Minimally Invasive Transforaminal Lumbar Interbody Fusion Surgery

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OBJECTIVE: The aim of this study was to determine the rate of fusion associated with the ALTERA[®] Articulating Expandable TLIF Spacer and iliac crest bone graft (ICBG) in minimally invasive transforaminal lumbar interbody fusion (MIS TLIF) surgery.

METHOD: A retrospective review was performed on 52 patients who underwent MIS TLIF using the ALTERA[®] Articulating Expandable TLIF Spacer and ICBG at one to two levels for degenerative lumbar pathology. Patients underwent 1-year post-op computed tomography (CT) scans for fusion analysis based on the location of bridging trabeculae in relation to the spacer. Pre-op and 1-year post-op Oswestry Disability Index (ODI) and Visual Analog Scale (VAS) back and leg pain scores were compared.



Sagittal CT scan cross-sectional imaging showing the three areas where bridging trabeculae might be present

Location of bridging trabecular bone as measured on coronal CT scan images

RESULTS

- 55/61 disc spaces had bridging bone through the ALTERA® Articulating Expandable TLIF Spacer, resulting in an overall fusion rate of 90.2%.
- ODI scores improved significantly from 37.94 ± 19.40 pre-op to 18.87 ± 18.32 at 1 year post-op.
- VAS back pain scores improved significantly from 5.03 ± 2.94 pre-op to 2.77 ± 2.79 at 1 year post-op.
- VAS leg pain scores improved significantly from 4.87 ± 3.26 pre-op to 1.95 ± 2.73 at 1 year post-op.
- There were no complications associated with ICBG harvesting.



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CONCLUSION: In this study, combining the ALTERA® Articulating Expandable TLIF Spacer with ICBG harvesting through an MIS technique allowed for high fusion rates and patient-reported outcomes without graft-site complications in MIS TLIF surgery.

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