

A Clinical Comparison of Anterior Cervical Plates Versus Stand-Alone Intervertebral Fusion Devices for Single-Level Anterior Cervical Discectomy and Fusion Procedures

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Preoperative



12m post-op integral screw
fixation at C5-C6



Preoperative



12m post-op plate and
spacer at C5-C6

OBJECTIVE: To compare radiologic and clinical outcomes, including rates of dysphagia and dysphonia, using a no-profile stand-alone cervical intervertebral spacer with integrated screw fixation versus an anterior cervical plate and spacer construct for single-level anterior cervical discectomy and fusion (ACDF) procedures.

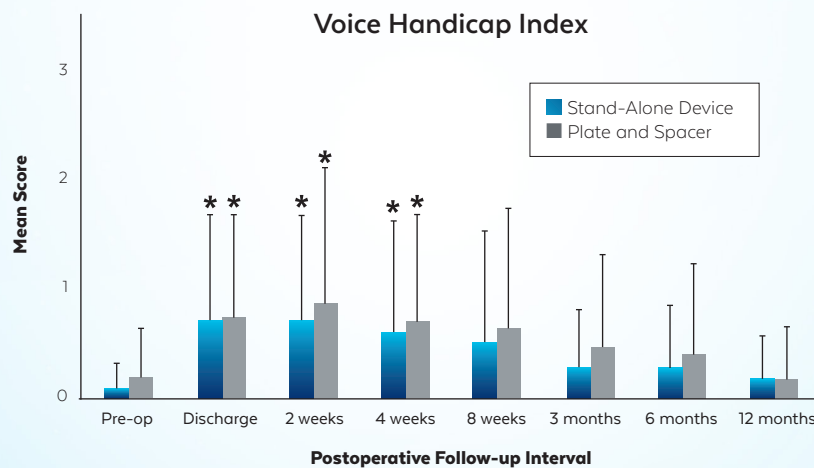
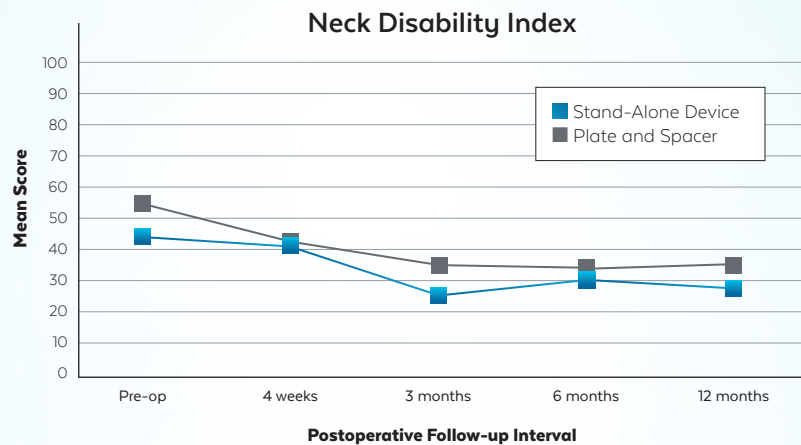
METHOD: This multicenter, randomized, prospective study included 54 patients with degenerative disc disease requiring ACDF at a single level at C3-C7. Twenty-six patients underwent single-level ACDF with stand-alone spacers, and 28 with plate fixation and spacers. Analyses were based on comparison of perioperative outcomes, Neck Disability Index (NDI), Visual Analog Scale (VAS) neck and arm pain scores, and incidence of dysphagia and/or dysphonia using the Voice Handicap Index (VHI) and Eating Assessment Tool (EAT).



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Stand-Alone ACDF Spacer

RESULTS:

- Mean patient age was 48.8±10.1 years
- Mean visual analog scale pain scores and neck disability index scores improved significantly from preoperative to last follow-up (10.8±2.6 months) in both groups ($P < 0.05$)
- Preoperative intervertebral disc and neuro-foraminal heights increased significantly across treatment groups ($P < 0.01$)
- Mean VHI and EAT scores improved significantly from discharge to last follow-up for both groups ($P < 0.05$)
- No cases required surgical revision at index or adjacent levels



*Indicates statistical significance compared with preoperative values ($P < 0.05$)

CONCLUSION: Anterior cervical discectomy and fusion with stand-alone spacers resulted in similar clinical and radiologic outcomes as compared with plate and spacers and may help minimize postoperative dysphonia.