

# Lateral Lumbar Interbody Fusion with Lateral Modular Plate Fixation and Interspinous Process Fixation: 2-Year Outcomes from a Prospective Multi-Center Study

Clint Hill; Brandon Streng; Chris M Ferry BS MS; Brieta Bejin; Sarah Martineck; Kim Martin; Tom MS Glorioso; Ryan Peter Denhaese MD, MS  
[Institution]

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## Introduction

Lateral lumbar interbody fusion (LLIF) with integrated lateral modular plate fixation (MPF)(Fig. 1) can be an advantageous technique when seeking to enhance anterior column rigidity and diminish the need for extensive posterior fixation. The aim of this analysis was to determine 1) whether MPF increases intraoperative demand and 2) whether outcomes of LLIF+MPF, supplemented with interspinous process fixation (ISPF), are comparable to those of traditional LLIF with adjunctive pedicle screw fixation (PSF).

## Methods

Data was retrospectively collected from a prospective multi-center study. Eight LLIF+MPF+ISPF subjects were compared with 15 LLIF+ISPF subjects whom received intervention during the same time period of the study. Posterior fixation was determined by parent study randomization (2:1 ISPF to PSF subjects). All cases were single-level for the treatment of symptomatic degenerative disc disease and/or spondylolisthesis (= Grade 2). Perioperative, patient reported, and radiographic outcomes, as well complication profiles, were reported at 1.5, 3, 6, 12, and 24mos.

## Results

ISPF subjects experienced significantly less blood loss, OR time, incision lengths, and fluoroscopy than PSF subjects in the posterior aspect. No intraoperative or perioperative procedural related complications were observed in the MPF+ISPF cohort.

Mean ODI score change from baseline at 12/24mos post-op was 25.7/22.5 for LLIF+MPF+ISPF subjects and 20.4/23.5 for PSF subjects, respectively (Fig. 2). Mean ZCQ Physical/Symptom and SF-36 Physical/Mental scores were comparable at 24mos. 100% of LLIF+MPF+ISPF subjects and 78% of LLIF+PSF subjects achieved solid interbody fusion.

## Conclusions

LLIF+MPF+ISPF demonstrated clinically advantageous outcomes out to 24mos, comparing well to LLIF+PSF, the standard-of-care for circumferential LLIF.

## Learning Objectives

By the conclusion of this session, participants should be able to discuss/identify...

- 1)How does the novel LLIF+MPF+ISPF technique compare to traditional circumferential constructs?
- 2)Patient demographics/pathologies for which the novel LLIF+MPF+ISPF technique may be advantageous
- 3)Potential limitations associated with the LLIF+MPF+ISPF technique

## References

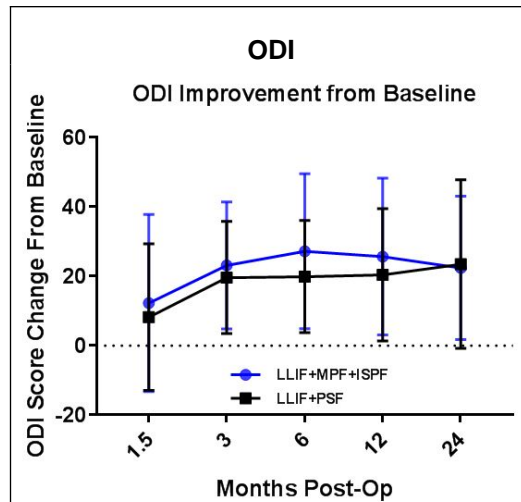


Fig 2. ODI Score Improvement vs. Time

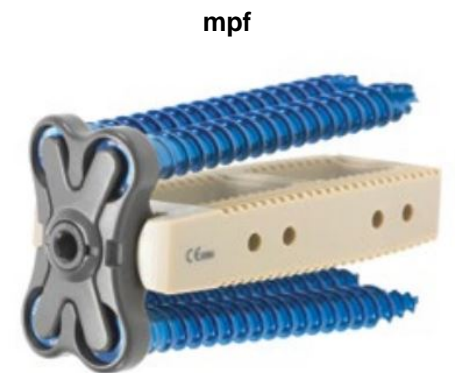


Fig 1. Lateral Cage with Modular Plate Fixation