

Minimally Invasive Posterior Lumbar Transforaminal Interbody Fusion:

A prospective, consecutive analysis of **212 patients** followed for a minimum of **24 months**; a safe, consistent, effective, surgical treatment for **Symptomatic Segmental Lumbar Disc Disease-SSLDD**

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IMAST 2009

IMAST E-Poster # 612: Minimally Invasive Posterior Lumbar Transforaminal

- David P Rouben MD- Author/Presenter
- 16th IMAST- Authors Disclosure Information

Medtronic Spine- Biologics Development and
Training Consultant

Introduction

- 212 consecutive adult patients prospectively underwent a single segment, solid tube, **Minimal Access Spinal Technology/Transforaminal Posterior Interbody Fusion-MAST/TLIF**-with percutaneous pedicle instrumentation for failed laminotomy/discectomy, massive disc herniation, degenerative segmental collapse, or symptomatic grade I and II spondylolistheses between January 2002 through December 2006 (sixty months).
- Prospective data collection included estimated blood loss, operative time, length of stay, operative time, operative C-arm radiation time, lordosis, disc height, time to work return, infection rate, fusion rate, post operative narcotic use, complications (return to surgery), VAS, and Oswestry outcome scores

MAST TLIF Surgical Technique

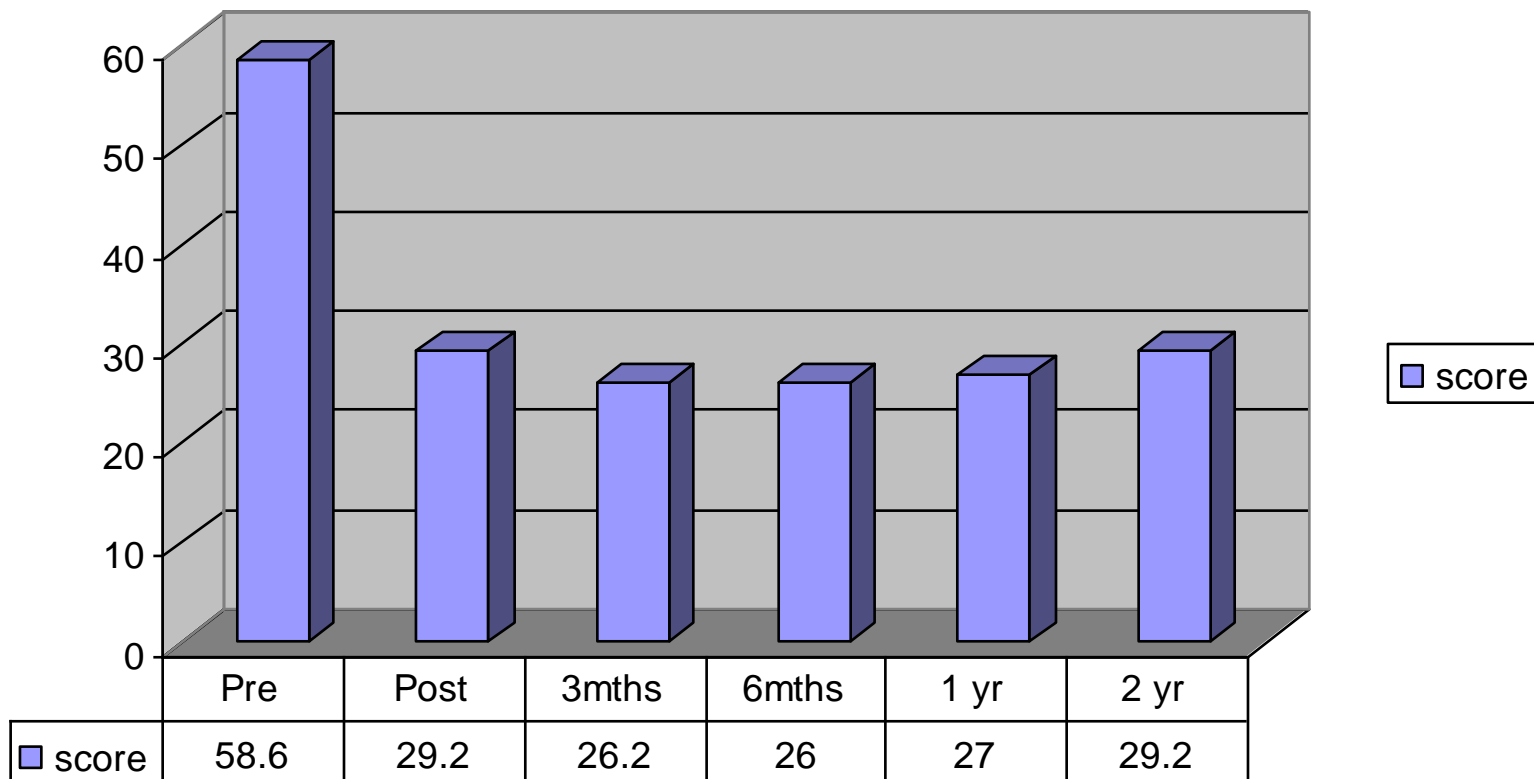
- Patients documented with single level, SSLDD underwent a **m**inimally **i**nvasive **t**ransforaminal **l**umbar **p**osterior **i**nterbody **f**usion with a fixed 26 mm tube-METRX[®], insertion of an intra-disc cage made of either titanium, PEEK[®], or HYDROSORB[®] filled with locally harvested autologous bone with or without INFUSE[®] BMP-2, and percutaneously bilateral pedicle screw instrumentation with the SEXTANT[®] System.

Results-Data

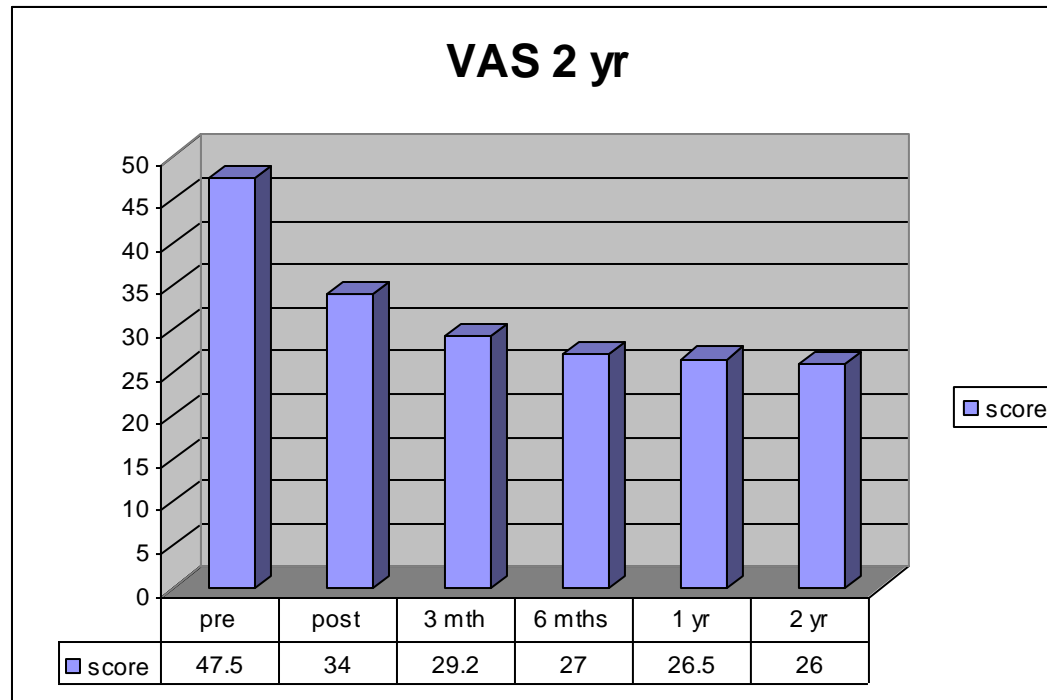
- M/F- 44%/56%
- Avg Age-44
- EBL-152cc
- Operative time-145 minutes
- C-arm time-121 seconds
- Length of Stay-13.5 hours
- Return to Work-11 weeks
- P/O narcotic use (@ 6 Months)-12%
- Fusion Rate-99%
- Lordosis +7.4 degrees
- Disc Height +2mm
- Infection Rate- 0%
- Removal of Hardware)- 5%
- VAS- 21.5 point reduction
- Oswestry- 29.2 point reduction

Results

Oswestry 2yr



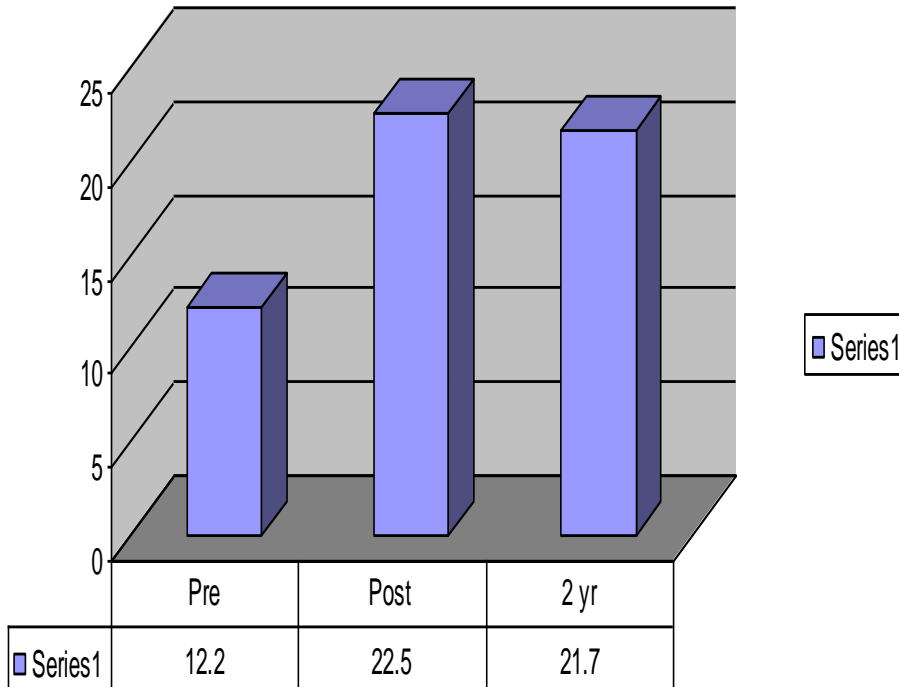
Results



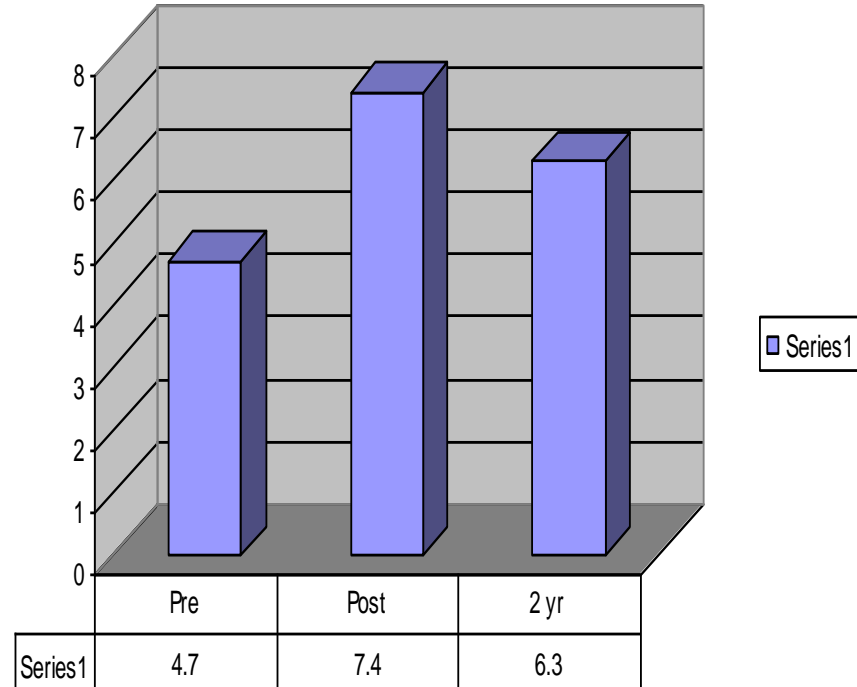
Implant Data

Lordosis and Foraminal Height

Crescent Lordosis

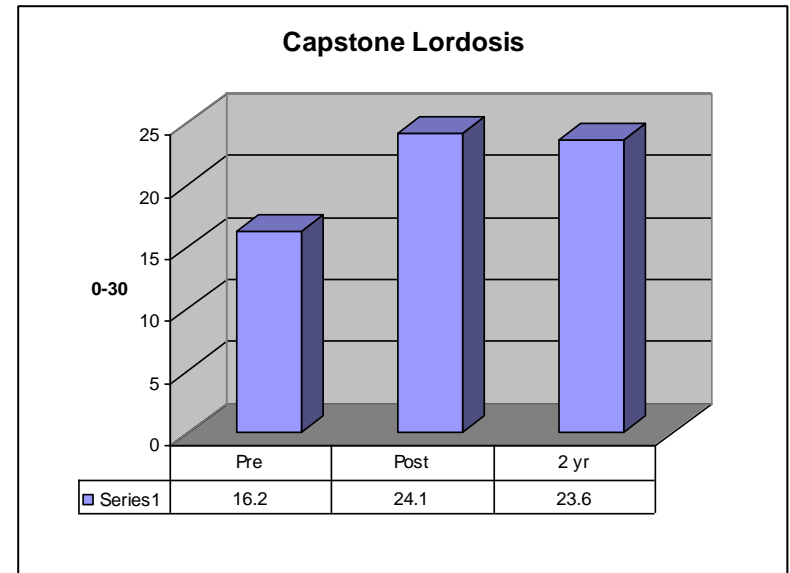
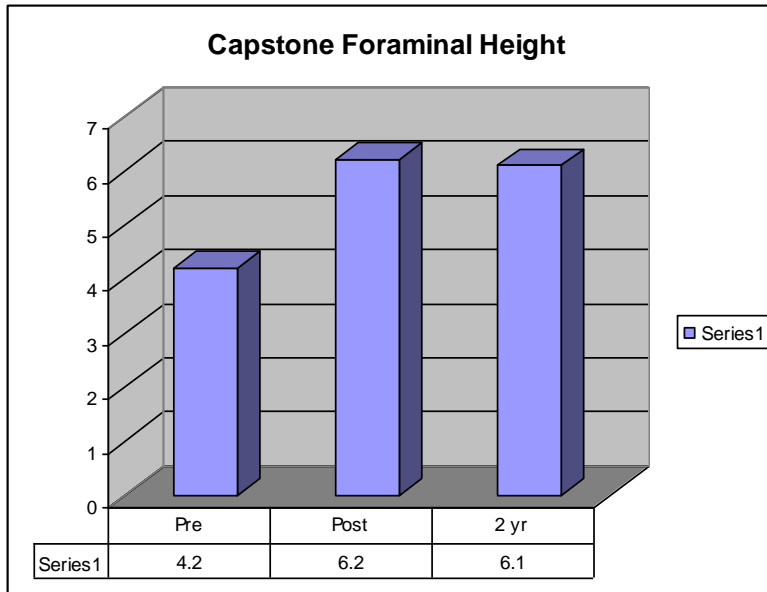


Crescent Foraminal Height



Implant Data

Lordosis and Foraminal Height



Conclusion & Significance

- This study adds to reported evidence that the MAST TLIF, operative lumbar fusion technique, is a safe, efficacious, and consistently reproducible surgical treatment for SSLDD. Furthermore, the large patient base and data points should give spinal surgeons, patients, healthcare insurance companies and governmental oversight agencies, a legitimate impetus to suggest the preferential use of this specific treatment option.
- The selection of the MAST/TLIF surgical spine fusion technique, as described in this study, for the treatment of SSLDD, should be considered a preferred surgical treatment option by healthcare providers that wish to offer their patients a way to reduce their disability by using a safe, reproducible, and consistent methodology.

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