Early outcomes and fusion rates in patients undergoing a "hybrid" lumbar total disc replacement and arthrodesis to alleviate symptoms associated with degenerative disc disease

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Disclosures

- None

Back pain

- ~80% lifetime incidence
- 30% chronic low back pain [1]
- Leading cause of activity limitation & work absence world wide [2]
- USA → ~149million work days lost/yr [3]
- ~100-200 billion/yr [4,5]

Back pain

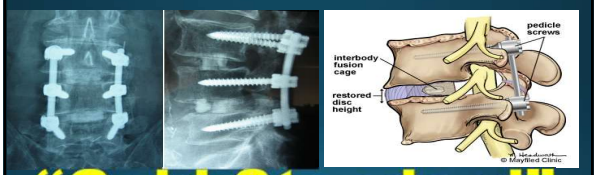
Common

&

Expensive

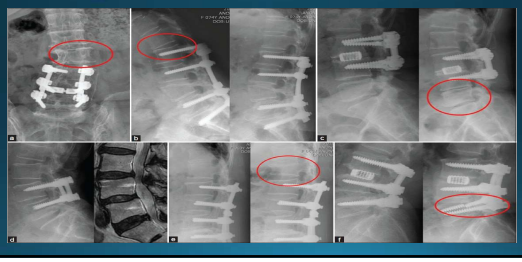
Current Treatments

Fusion



"Gold Standard"

Adjacent Level Disease



Total Disc Replacement

- Preserves Motion
- Reduce adjacent level stresses

- Procedure is relatively new
- Comparison studies are mixed

Potential solution: HYBRID

Combined approach

Preserves motion segment

Maintains structural features

Our Hypothesis

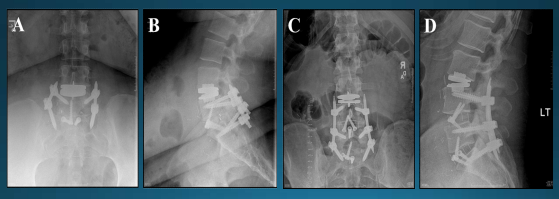
Use of hybrid technique will show:

- Improved Pain & Disability scores
- Less complications
- Superior rates of fusion

Methods :

- Retrospective review:
  - multi-level fusion (ALIF) & TDA between 2008 & 2012
  - Failed non-operative management
  - Facet injections to ensure source of pain
  - 9 females and 15 males

Surgical Technique



Outcome Measures

- Obtained pre-operatively, 6 months post-operatively, and 1 year post-operatively.
  - ODI
  - VAS scores
  - SF-36 scores
  - Blood loss
  - Fusion

Clinical Outcome Scores

	Pre-operative	6 Months	12 Months
ODI	52.5 (13.6)	37.3 (21.6)	38.2 (24.2)
VAS	64.1 (13.1)	44.0 (21.7)	43.8 (16.5)
SF-36 MCS	38.1 (13.1)	42.2 (12.9)	37.8 (12.6)
SF-36 PCS	31.0 (6.9)	36.2 (10.9)	36.8 (11.3)

*Date presented as mean (SD)

Summary of Results

Average **ODI** scores **IMPROVED** 34% at 6m & 12m

Average **VAS** scores **IMPROVED** 33% at 6m & 12m

SF-36 PCS scores **IMPROVED** at one year

SF-36 MCS scores **NO STATISTICAL** difference

Conclusion

Hybrid technique looks promising

- Safe and Effective
- 100% Fusion
- Preservation of spinal mechanics
- Improved pain control and disability scores at 1 year

Hybrid technique looks promising but…

- We did not achieve the same degree of pain reduction seen in other studies
- Small patient population
- Not sufficiently long follow up
- FURTHER RESEARCH IS REQUIRED BEFORE ANY SIGNIFICANT CONCLUSIONS CAN BE MADE

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