

# Outcomes of Lumbar TDR/fusion Versus Single-Level TDR with 8 to 12 Year Follow-up

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# Conflict of Interest

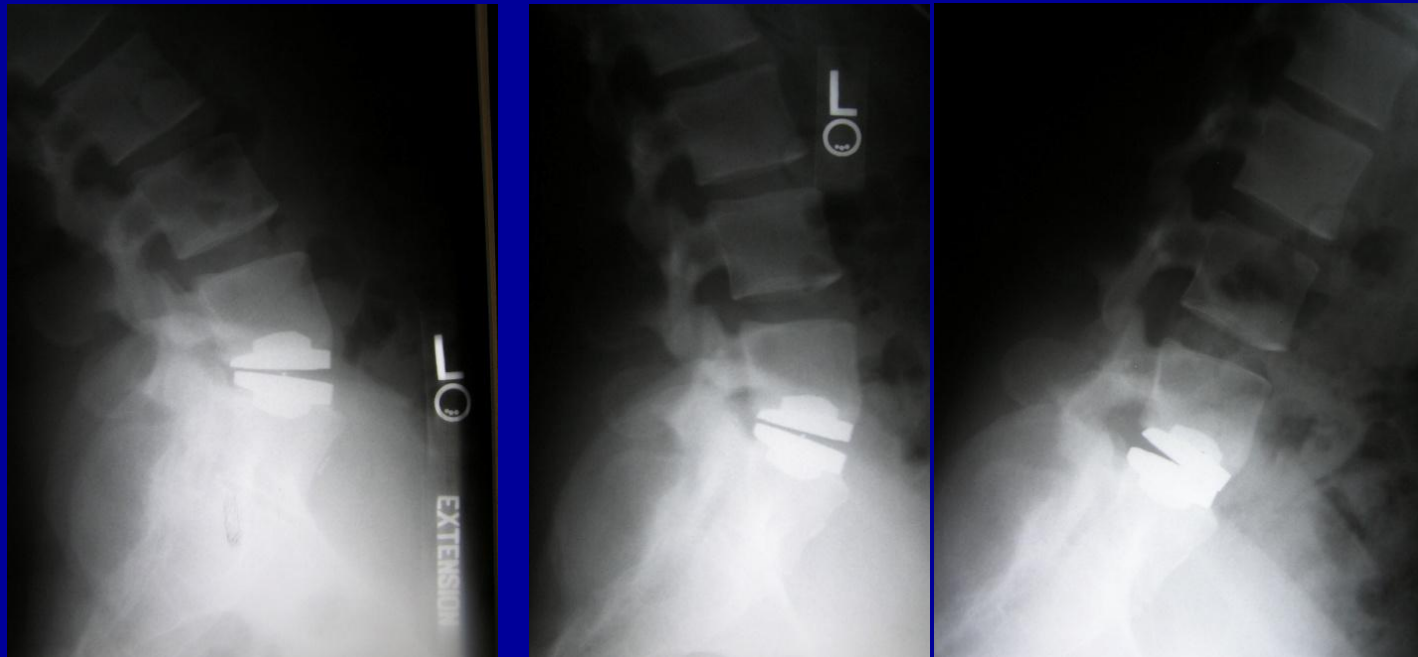
None

# Intro: Lumbar TDR

- Slow growth in TDR procedures and insurance coverage.
- “Hybrid”, combination of disc replacement and spinal fusion, is individualized tx for those with a level(s) not well suited for TDR combined with another level that is.
- Purpose: compare lumbar TDR for one level conditions to “off-label” Hybrid construct for multilevel conditions.
- Long-term, 8 -12 year follow-up.
- Self-funded, no conflict of interest.

# Methods

- TDR (n=31) *consecutive* patient cohort > 8 yr FU.
- Hybrids (n= 37) *consecutive* patient cohort > 8 yr FU.
- Prospective outcomes, retrospective analysis.
- Revisions, 2ndary operations



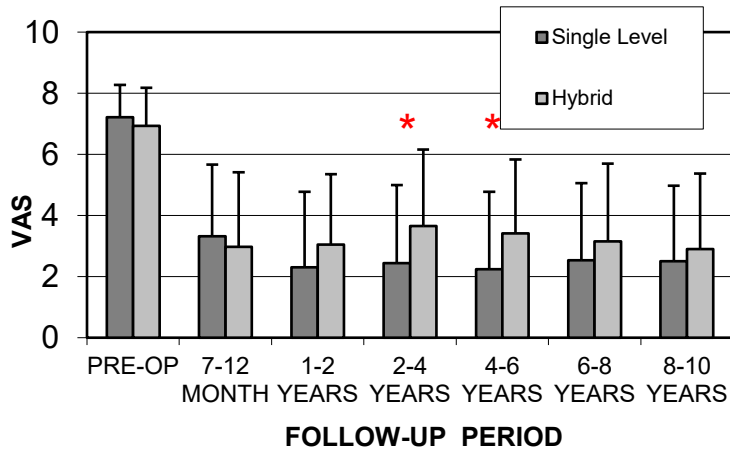
# Lumbar TDR vs Hybrid

**TABLE 1, Patient Characteristics**

	<u>Single Level TDR (n=31)</u>	<u>Hybrid TDR (n=37)</u>	<u>p =</u>
Age (mean +/- SD)	38.7 ± 9.4	43.5 ± 9.9	0.043
Female (%)	63	38	
Smokers (%)	50	26	
Work Comp/Lit (%)	44	64	0.009
EBL (ml, mean +/- SD)	63 ± 52	197 ± 219	0.001
Secondary Surgery (%)	16	11	
Return to Work (median, days)	63	127	<0.05

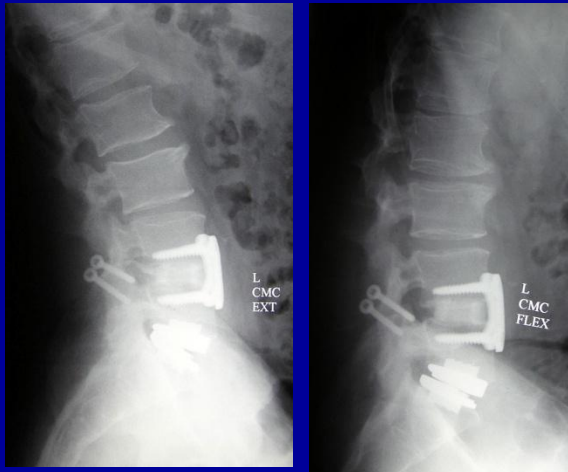
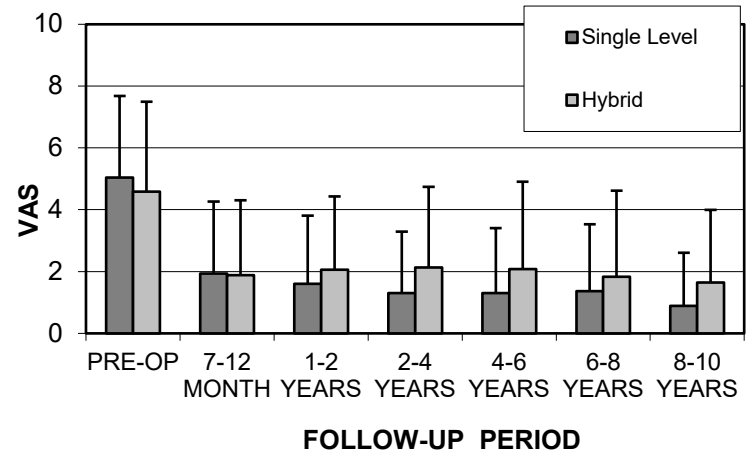
# Low Back & Leg Pain Outcomes

**TDR BACK PAIN**



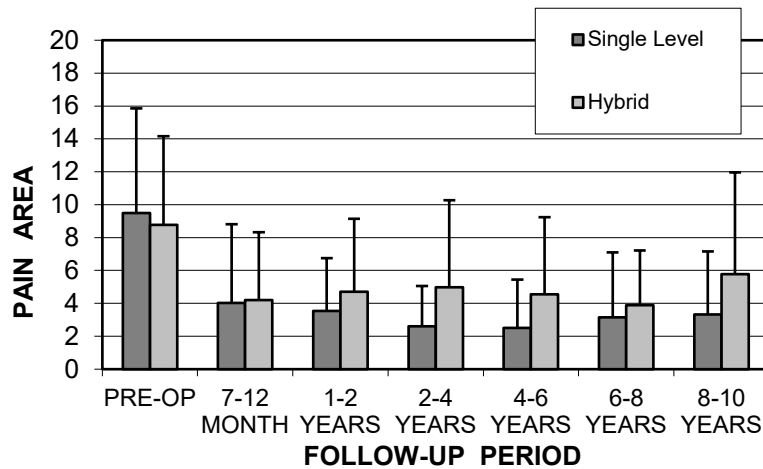
Single level TDR greater LBP improvement at 2-6 yr FU periods,  $p < 0.05$ .

**TDR LEG PAIN**



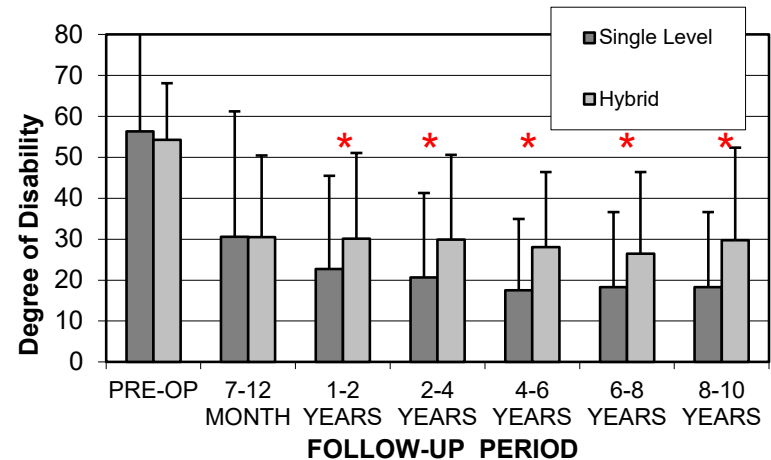
# Pain Drawing & ODI Outcomes

**TDR PAIN DRAWING**



Single level TDR greater ODI improvement at all FU periods > 1 yr,  $p < 0.05$ .

**TDR OSWESTRY DISABILITY**



# Results, Pain Medication

**TABLE 2, Pain medication usage (%)**

	<u>Single Level TDR (n=31)</u>	<u>Hybrid TDR (n=37)</u>
Narcotics		
Preoperative	56	54
7-12 month follow-up	34	41
1-2 year follow-up	22	28
>8 year follow-up	10	14
NSAID		
Preoperative	88	87
7-12 month follow-up	44	38
1-2 year follow-up	47	49
>8 year follow-up	29	53

# Secondary Surgeries @ 8-12 yr FU

- Single level TDRs, n = 31:
  - 1 pt adjacent level posterior decompression.
  - 3 pts fusion, 2 at adjacent level, 1 at index and adjacent level.
  - 1 pt adjacent level TDR.
- Hybrids, n = 37:
  - 2 pts adjacent level posterior decompression.
  - 2 pts fusion, both at adjacent level.
  - 1 Spinal cord stimulator.



# Results

- Both TDR and Hybrid groups had significantly improved outcomes at all follow-up periods.
- There was no significant difference in outcomes between single level and Hybrid groups except:
  - VAS back pain at mid-term FU.
  - ODI > 1 year favored single level TDR.
- Secondary surgery:
  - Single level TDR was 16%. Less than fusion rate.
  - Hybrids was 11% (14% with SCS). Less than fusion rate.
  - No TDR implants revised.\*

# Discussion/Conclusions

- Study *strength* – long-term results with minimal # patients lost to FU (only 1 TDR & 2 Hybrids).
- *Limitations* – small sample size, single surgeon.
- TDR and Hybrid long-term outcomes equivalent to or better than reports for fusion (for properly selected patients).
- Lower secondary surgery rates for TDR groups vs reports for fusion.

# Thank You



Preop



Stand



Flexion



Extension