

Preliminary Result

Total disc replacement

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Bones and Spine

HISTORY



HISTORY



- 1955 Hamby/Cleveland
 - Cement injection
- 1962 Nachemson
 - Silicone injection
- 1964 Fernstrom
 - Ball bearing
- 1970's to 80's
 - Urbaniak
 - Lee
 - Kotsuik
 - Steffee

History-Present



Charite' (depuy) Oct 04



Prodisc (synthes) Aug 06



Maverick (Medtronic)



Flexicore (stryker)

Loma Linda Univ. Medical Center

- feb 2005 to present
- 31 patients, 37 discs
- Male : female = 14 : 17
- Age 24 to 66 (avg. 40.7)
- f/u 18 month to 6 wks
(average 7 month)



Levels

Levels	L5/S1	L45	L34	L23
# of TDR	16	14	6	1

Total number of disc replacement = 37

Simple TDR vs. hybrid



Type of surgery

<i>Type of surgery</i>	<i># of patients</i>
1 level TDR	17
2 level TDR	4
2 level hybrid	5
3 level hybrid	5

Implants



Charite 33 TDR

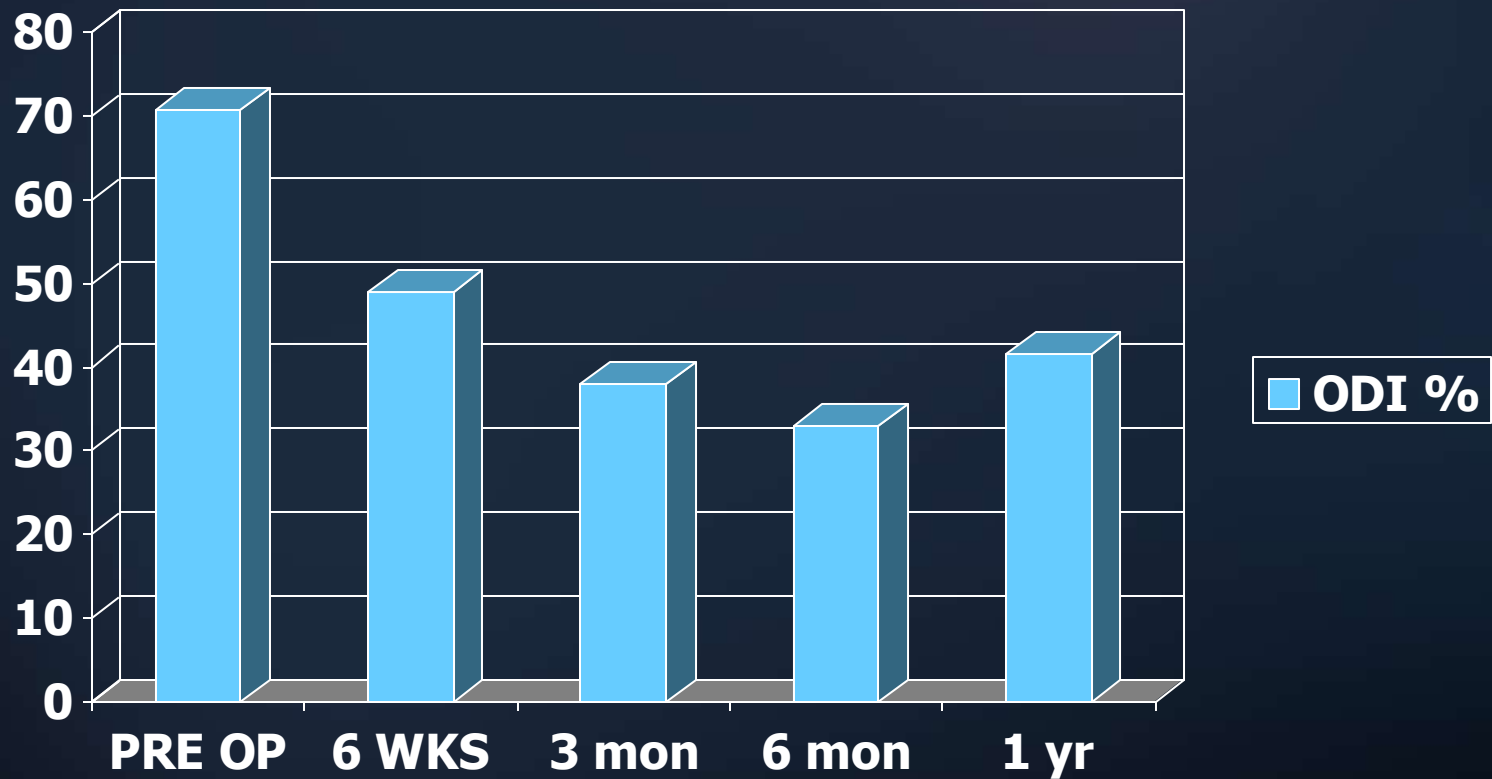


Kineflex 4 TDR

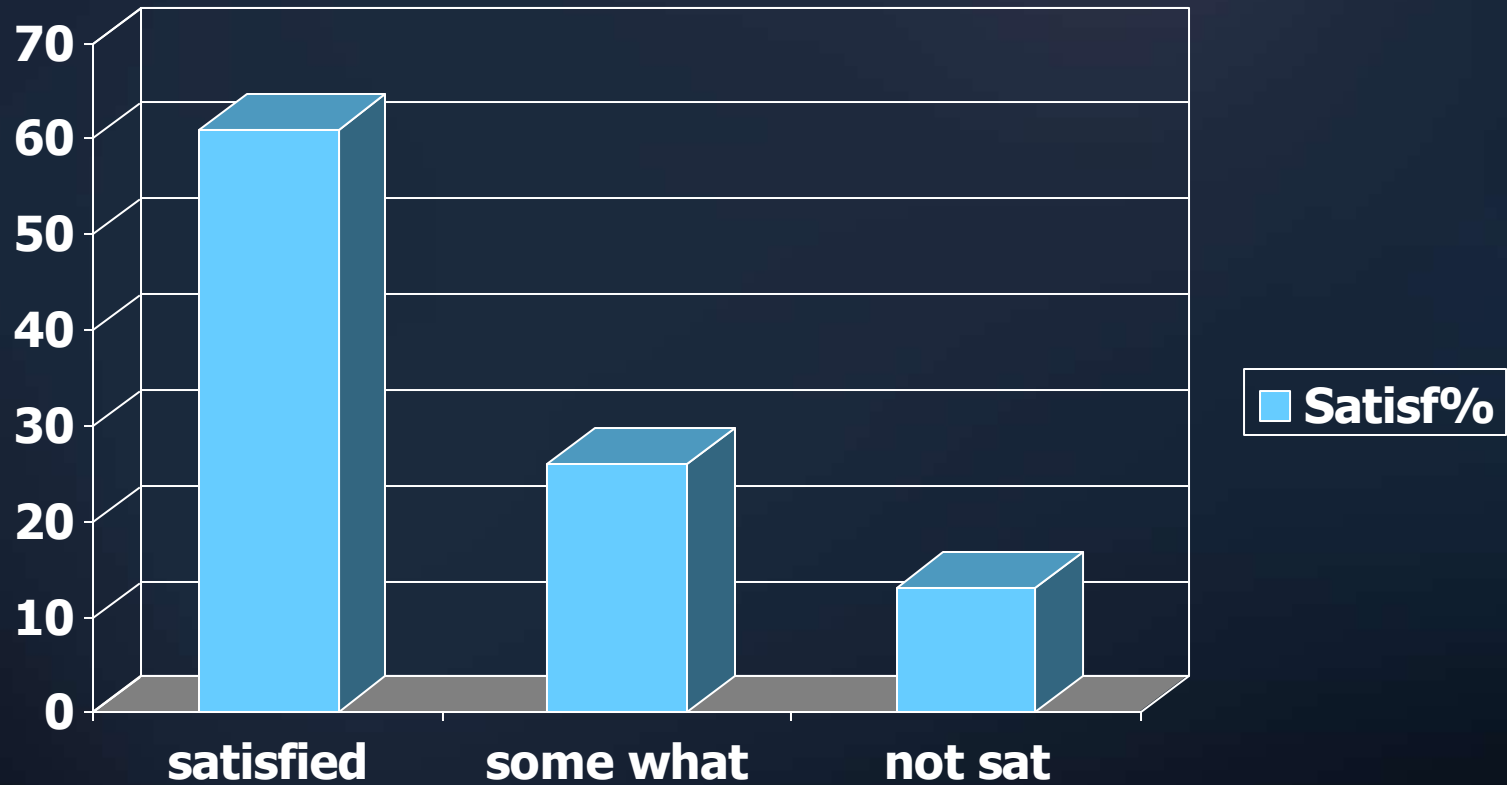
Pain Relief (VAS)



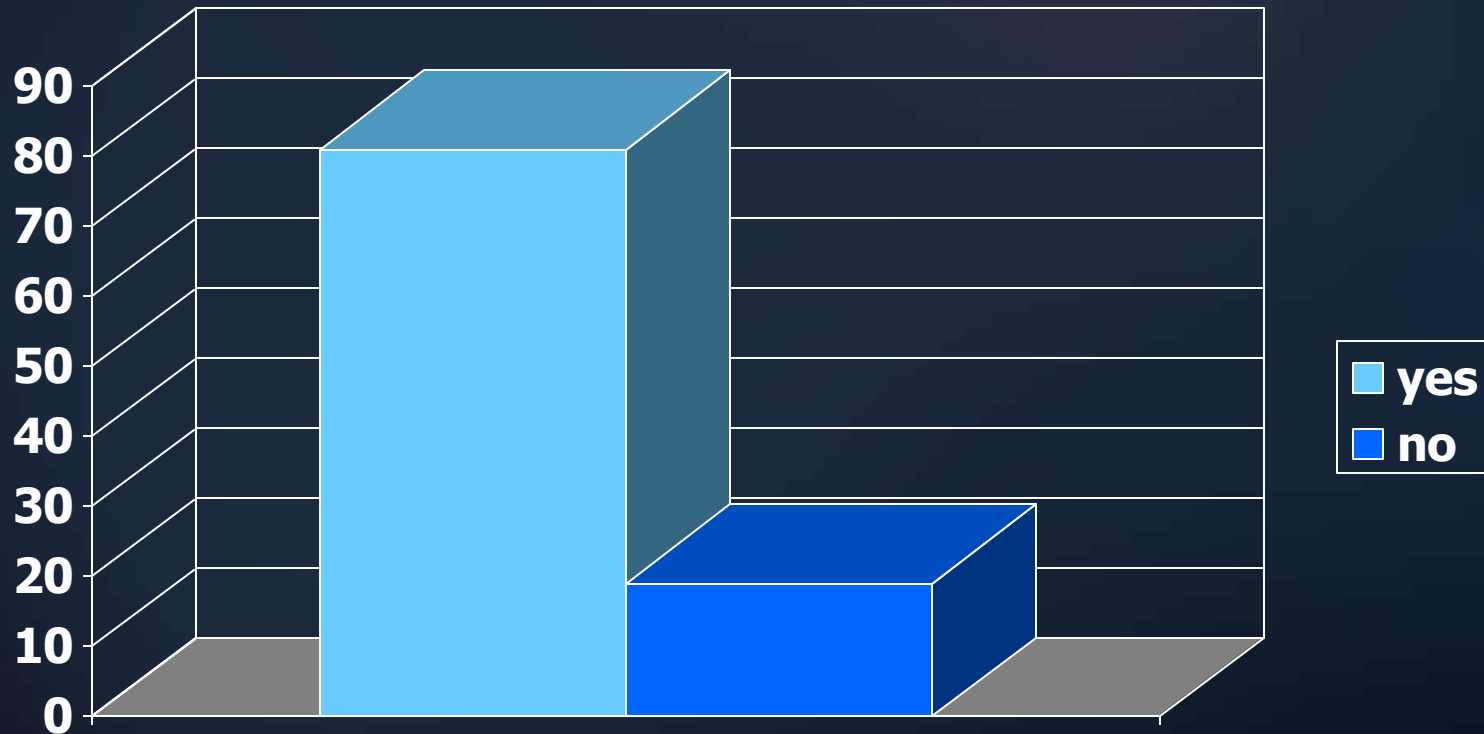
Pain & Function (ODI)



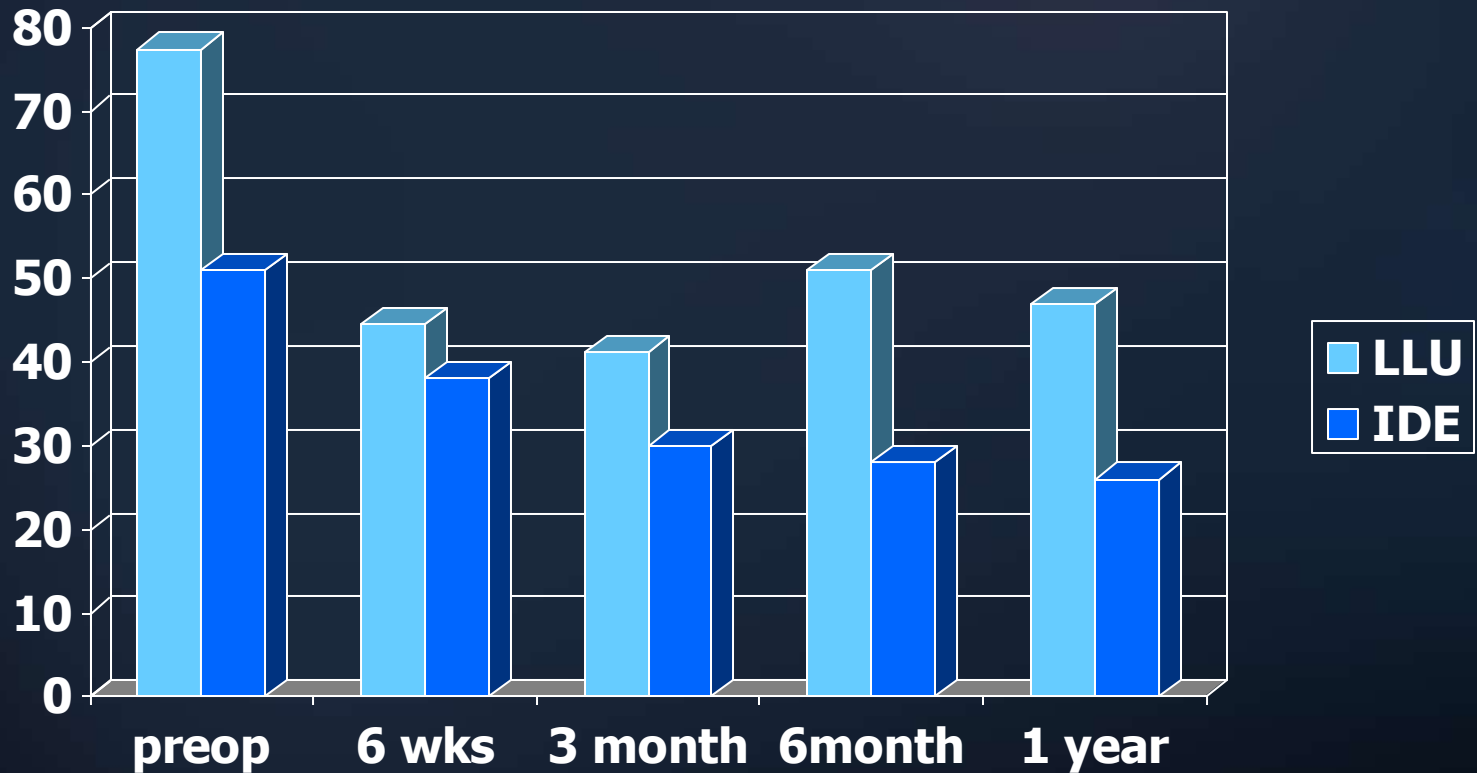
Patient Satisfaction



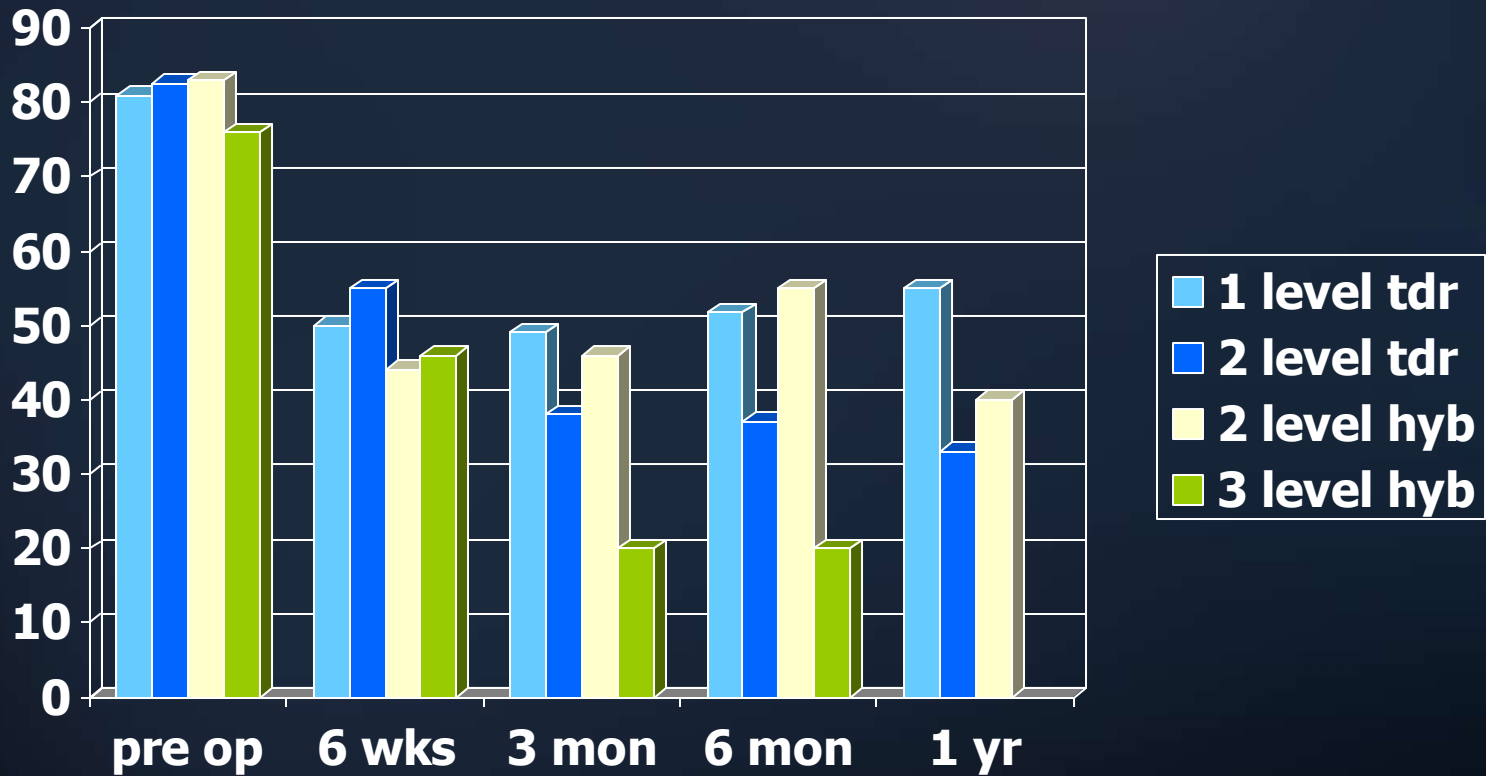
“ will you make the same choice again?”



COMPARE TO IDE STUDY (VAS)



Simple TDR vs. Hybrid (VAS for pain)



COMPLICATION

Secondary surgery	7
Leg pain	6
Malposition of hardware	5
ileus	5
vascular injury	3
fracture	1
Heterotopic ossification	1
Retrograde ejaculation	0

Complication

	1 level TDR	2 level TDR	2 level hybrid	3 level hybrid
Malposition	0/17	1/4	3/5	1/5
2nd procedure	2/17 (pain pump, fracture)	2/4 (post decomp, scoliosis)	2/5 (poor exposure, disc tilt)	1/5 (poor position changed to fusion)
ileus	1/17	0/4	2/5	2/5
Leg pain	2/17	1/4	2/5	1/5
Vascular injury	1/17	0/4	1/5	1/5

CONCLUSION

- TDR is a viable method to achieve reasonable patients satisfaction
- Complication is significantly higher than anticipated
- Multi-level is as good as single level for pain relief
- Multi-level has higher complication rate