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M E D I C I N E

# Impact of Depression on HRQL Outcomes in Surgically Treated Patients with Severe Adult Spinal Deformity

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# Study Aim

- To **prospectively** compare surgically treated patients with **severe adult spinal deformity** (ASD) with vs. without clinical symptoms of **depression** with respect to improvements in HRQL after surgical treatment



# ScoliRisk-1 Study Design

- A collaborative effort between **15 institutions**: 9 in North America, 3 in Europe, and 3 in Asia.
- Patients with “**severe**” **deformities** were **prospectively enrolled** 2011-2012.



# Depressive Symptom Definition

- Based on the prior spine literature, SF-36 Mental Component Summary, **MCS ≤ 35** was used to classify patients as having **depressive symptoms (DS)**

## MCS diagnostic properties

MCS Cutoff	Sensitivity	Specificity	AUROC	% Correctly identified
30	63%	93%	0.783	84%
35	80%	90%	0.852	87%
40	86%	83%	0.855	84%

*T.L. Walsh et al. / The Spine Journal 6 (2006) 316–320*



# Results

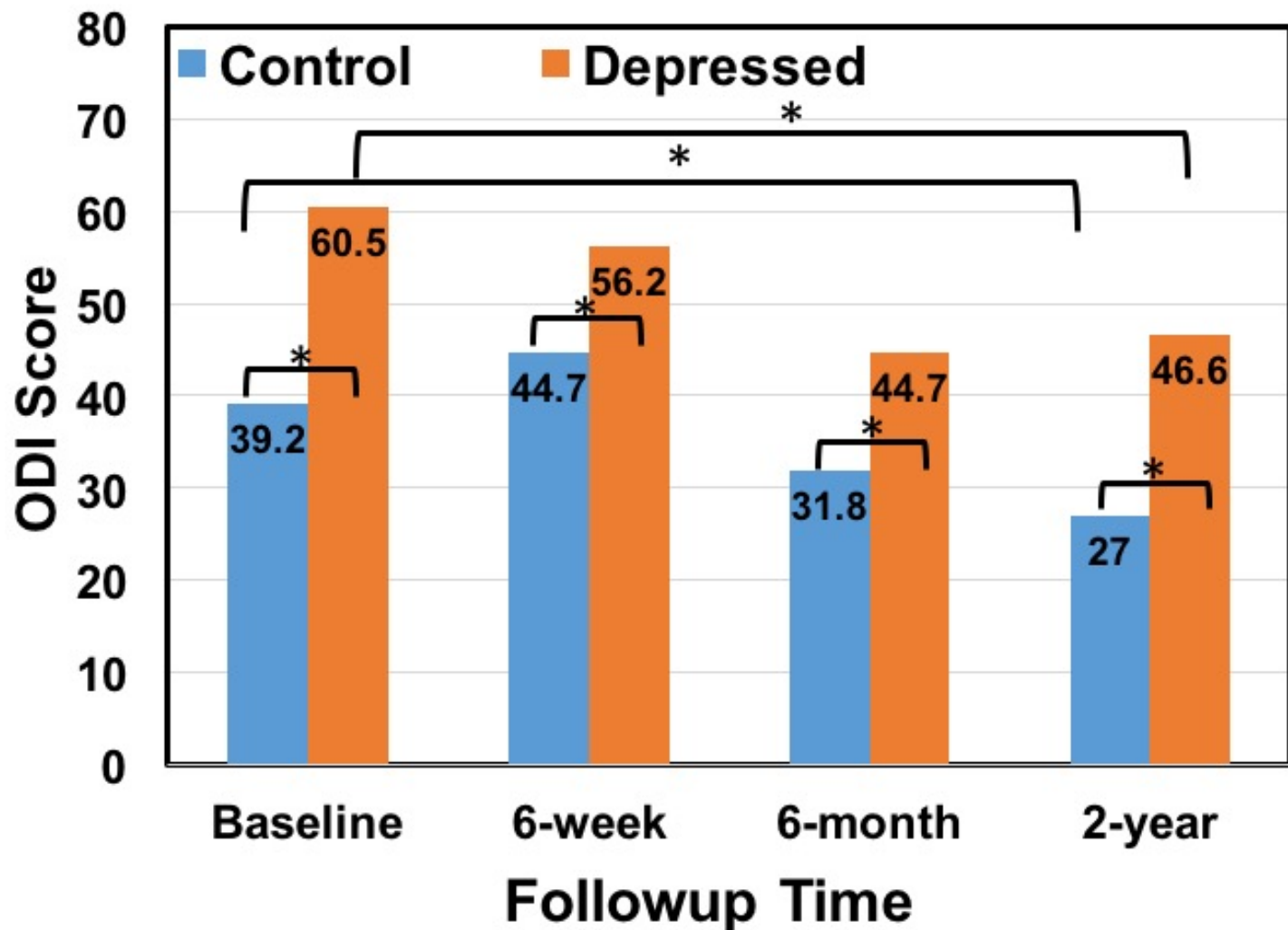
- 260 of 272 patients filled out SF-36 at enrollment
- 78 patients (30%) were identified as having DS
- 182 patients (70%) were identified as controls



# Patient Demographics

Characteristics	Controls	DS	P-Value
<b>Age (<math>\pm</math> st. dev)</b>	54.9 (16.1)	60.7 (11.9)	<b>0.001*</b>
<b>Female Gender</b>	120 (65.9)	52 (66.7)	0.909
<b>Smoker</b>	14 (7.8)	10 (12.8)	0.200
<b>Race</b>			
White	144 (79.6)	64 (82.1)	
Black	2 (1.1)	0 (0.0)	
Native American	1 (0.6)	0 (0.0)	0.064
East Asian	34 (18.8)	11 (14.1)	
Other	0 (0.0)	3 (3.8)	



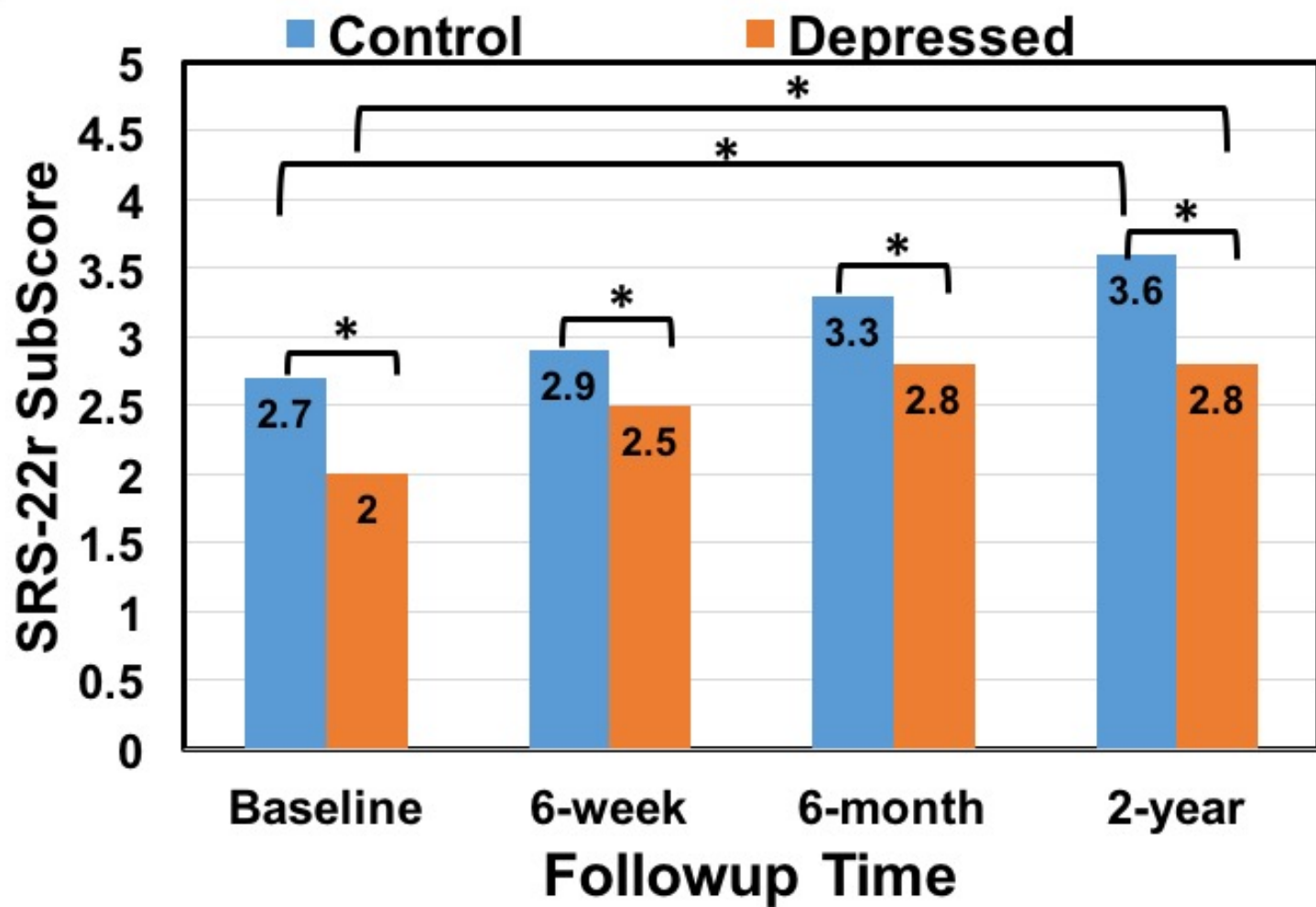


# Definition: SRS SubScore

- To examine the differences in SRS-22r scores between the depressed vs. control groups, a variable called **“SRS SubScore”** was defined.
- The SRS SubScore excluded the mental health domain.
- **SRS SubScore = Mean (function, pain, self-image)**







# Discussion

- 30% of the cohort was designated as having depressive symptoms using MCS≤35 cutoff.
- At enrollment and at final f/u, depressed patients had significantly worse absolute HRQL scores.
- The magnitude of HRQL improvement in the depressed vs. control group was similar over the 2-year f/u.



# Conclusion

- This is the first prospective study to analyze the impact of depressive symptoms on HRQL outcomes of surgically treated patients with severe ASD.





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