Research Days   GME Research Days 2023

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Preoperative SRS-22 Scores Predict Postoperative Achievement of Distribution-Based MCID in AIS Patients Treated with Posterior Spinal Instrumentation and Fusion

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Background

- MCID, or the minimal clinically important difference, is the smallest difference between two measures of the same questionnaire that a patient recognizes as favorable.
- No studies have determined if preoperative SRS-22 scores predict postoperative achievement of MCID in adolescent idiopathic scoliosis (AIS) patients undergoing posterior spinal instrumentation and fusion (PSIF). Herein lies our purpose.

Methods

- SRS-22 forms provided to all AIS patients who underwent PSIF in the past 10 years.
- ROC AUC Analysis
  - >0.70 acceptable
  - ≥0.80, <0.90, excellent
  - ≥0.90, outstanding
- 8-stage regression to control

Results

Follow-up:
82 patients (83.7%) had 1-year follow-up scores.

	Gender	Age	Preoperative Cobb Angle	Preoperative SRS-22 Scores
Yes MCID	87% Female	14.8 ± 1.8	59.8 ± 8.6	3.51 ± 0.55
No MCID	73% Female, p=0.06	14.9 ± 2, p=0.7	60.3 ± 9.5, p=0.8	3.91 ± 0.67, p=0.002

	AUC	p-value
Global	0.72	<0.001
Pain	0.76	<0.001
Mental Health	0.80	<0.001
Satisfaction	0.81	<0.001
Function	0.90	<0.001

Threshold Analysis
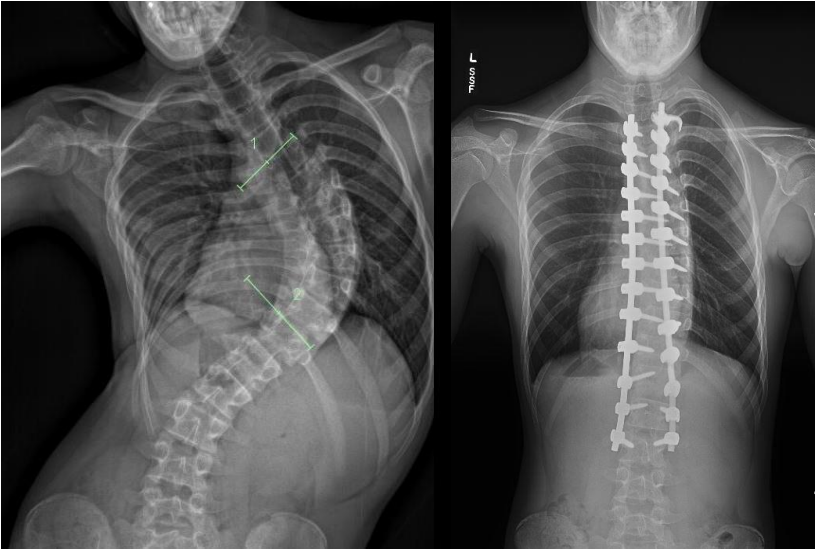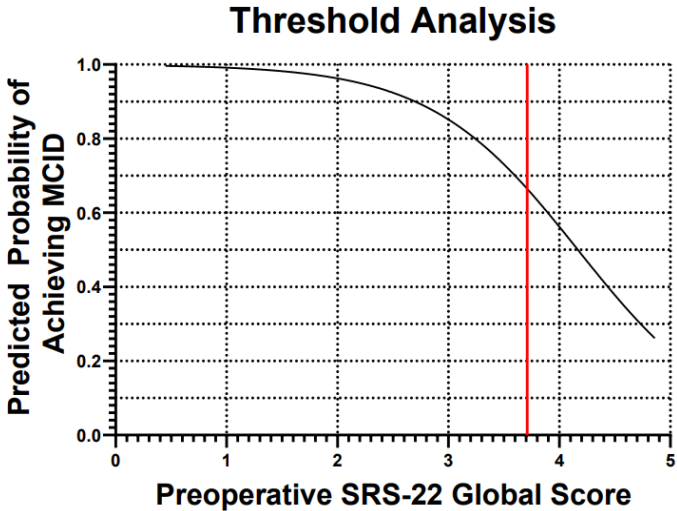
Conclusion

- Global preoperative SRS-22 and pain subdomain scores are acceptably predictive of postoperative achievement of MCID at 1 year
- The Mental Health and Satisfaction domains are excellent and the Function domain outstanding at predicting achievement of MCID 1 year postoperatively
- With this logistic curve, spine surgeons can use preoperative SRS-22 scores to predict whether AIS patients will achieve MCID after PSIF.
- Limitations: We cannot predict the future and a prospective study is needed to test the accuracy of this model.

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