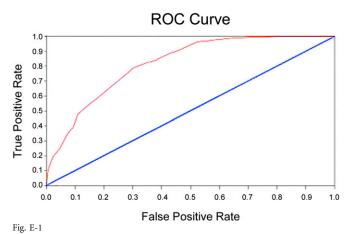
Copyright \circledast by The Journal of Bone and Joint Surgery, Incorporated Sarwahi et al.

Prevalence, Distribution, and Surgical Relevance of Abnormal Pedicles in Spines with Adolescent Idiopathic Scoliosis vs. No Deformity http://dx.doi.org/10.2106/JBJS.M.01058

Page 1 of 3



Receiver operating characteristic (ROC) curve showing the predictive value of our multivariate analysis. The area under the curve was 0.82. The model was created using backward selection with a level of significance of 0.05 (binary GEE [generalized estimating equation] model with compound symmetry correlation structure).

	Patients without Spinal Deformity	AIS Group	P Value
No. of patients	95	91	
Sex (female/male)	42/53	68/23	<0.001*
Age† (yr)	15.3 ± 3.0	14.8 ± 1.9	0.118
Female	15.4 ± 2.9	14.4 ± 1.9	0.060
Male	15.3 ± 3.0	15.8 ± 1.7	0.380
Height† (cm)	162.8 ± 15.0	159.5 ± 10.2	0.076
Female	159.0 ± 10.9	157.0 ± 9.7	0.290
Male	165.9 ± 17.0	166.9 ± 7.9	0.770
Weight† (kg)	62.2 ± 24.8	58.8 ± 15.4	0.276
Female	58.8 ± 20.6	57.2 ± 13.9	0.650
Male	64.9 ± 27.6	63.6 ± 18.5	0.820
Height-growth percentile† (%)	50.8 ± 33.9	44.2 ± 30.0	0.178
Weight-growth percentile† (%)	56.6 ± 33.4	60.9 ± 29.9	0.367

Copyright \circledast by The Journal of Bone and Joint Surgery, Incorporated Sarwahi et al.

PREVALENCE, DISTRIBUTION, AND SURGICAL RELEVANCE OF ABNORMAL PEDICLES IN SPINES WITH ADOLESCENT IDIOPATHIC SCOLIOSIS VS. NO DEFORMITY http://dx.doi.org/10.2106/JBJS.M.01058

Page 2 of 3

	No. (%)				
	Туре А	Туре В	Туре С	Type D	Total No.
Female	1727 (74.7)	426 (18.4)	98 (4.2)	61 (2.6)	2312
Upper thoracic	463 (56.7)	239 (29.3)	64 (7.8)	50 (6.1)	816
Main thoracic	474 (69.7)	168 (24.7)	29 (4.3)	9 (1.3)	680
Thoracolumbar	256 (94.1)	12 (4.4)	2 (0.7)	2 (0.7)	272
Lumbar	534 (98.2)	7 (1.3)	3 (0.6)	0 (0.0)	544
Male	702 (89.8)	47 (6.0)	22 (2.8)	11 (1.4)	782
Upper thoracic	224 (81.2)	28 (10.1)	14 (5.1)	10 (3.6)	276
Main thoracic	202 (87.8)	19 (8.3)	8 (3.5)	1 (0.4)	230
Thoracolumbar	92 (100)	0 (0.0)	0 (0.0)	0 (0.0)	92
Lumbar	184 (100)	0 (0.0)	0 (0.0)	0 (0.0)	184
Total no.	2429	473	120	72	3094

TABLE E-3 Assessment of Pedicle Screw Placement in Normal and Abnormal Pedicles

	Properly Placed Screws*	Misplaced Screws (Medial, Lateral, and Anterior)*	No. of Uninstrumented	Total No.
Normal (Type A)	864 (93)	68 (7)	60	992
Abnormal (Types B, C, D)	266 (79)	69 (21)	57	392
Total	1130 (89)	137 (11)	117	1384

*Values are presented as the number of pedicles with the percentage of pedicles with screws in parentheses.

	Туре А		Type B		Type C		Type D	
	No.	%	No.	%	No.	%	No.	%
Thoracic								
Normal placement	469	81.7	190	72.5	40	62.5	23	46.0
Anterior placement	17	3.0	11	4.2	3	4.7	5	10.0
Lateral placement	31	5.4	28	10.7	6	9.4	9	18.0
Medial placement	5	0.9	4	1.5	1	1.6	1	2.0
Skipped	52	9.1	29	11.1	14	21.9	12	24.0
Lumbar								
Normal placement	395	94.5	8	88.9	4	80.0	1	50.0
Anterior placement	2	0.5	0	0.0	0	0.0	0	0.0
Lateral placement	9	2.2	0	0.0	0	0.0	1	50.0
Medial placement	4	1.0	0	0.0	0	0.0	0	0.0
Skipped	8	2.0	1	11.1	1	20.0	0	0.0

Copyright © by The Journal of Bone and Joint Surgery, Incorporated Sarwahi et al. Prevalence, Distribution, and Surgical Relevance of Abnormal Pedicles in Spines with Adolescent Idiopathic Scoliosis vs. No Deformity http://dx.doi.org/10.2106/JBJS.M.01058

Page 3 of 3

	Abnormal*	Normal*	Odds Ratio (95% CI)	P Value
Control group				
A vs. B, C, D	31F/19M	11F/34M	0.198 (0.082-0.480)	<0.001†
A, B vs. C, D	19F/4M	23F/49M	0.099 (0.031-0.314)	<0.001†
AIS group				
A vs. B, C, D	67F/18M	1F/5M	0.054 (0.006-0.489)	0.004†
A, B vs. C, D	50F/10M	18F/13M	0.277 (0.103-0.741)	0.012†