Ten Percent of Patients with Adolescent Idiopathic Scoliosis have Variability in the Number of Thoracic or Lumbar Vertebrae

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Disclosures

- David A. Ibrahim
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- Karen S. Myung
 - None
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Background

 Nearly 50% of spine surgeons have committed at least 1 Wrong Site Surgery during career.¹⁻²

 Variable anatomy cited as the cause in ≈40% of cases.¹⁻³





Study Question

1. How often are the number of vertebrae in AIS variable?

2. How often is this identified in the radiology report?



Methods

- 364 consecutive AIS patients identified retrospectively at a single institution.
- Radiographs reviewed for # ribs, thoracic & lumbar vertebrae, and lumbosacral transitional vertebrae (LSTV).





Results: 10% of Patients have a variable # of Vertebrae

Number of Vertebrae

Thoracic			Lumbar		
11 Thoracic	12 Thoracic	13 Thoracic	4 Lumbar	5 Lumbar	6 Lumbar
3.8%	94.2%	1.9%	1.1%	93.4%	5.5%
(14/364)	(343/364)	(7/364)	(4/364)	(340/364)	(20/364)
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Results

Only 2/364 cases (0.5%) of vertebral number variability identified on radiologist reading.





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11 Thoracic Vertebrae/Ribs



13 Thoracic Vertebrae/Ribs





8

Take Home Lesson:

Prevent wrong site surgery by systematically counting thoracic and lumbar vertebrae preoperatively. Do not rely on the radiologists' report.





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4 lumbar vertebrae, no LSTV

References

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