

Short vs Long Fusion

Mr M J H McCarthy
Consultant Spinal Surgeon

Fusion Portfolio Minimally Invasive Surgery Biomaterials Motion Preservation

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Supine MRI

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The Winter Paper

Pick Your Poison

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SPINE Volume 35, Number 20, pp 1872-1875
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Surgical Outcomes of Decompression, Decompression With Limited Fusion, and Decompression With Full Curve Fusion for Degenerative Scoliosis With Radiculopathy

Enzor E. Transfeldt, MD, Raymond Topp, MD, Amir A. Mehdood, MD, and Robert B. Winter, MD

85 pts 2yr FU	Decompression Alone	Decompression Limited Fusion	Decompression Full Correction
Number	21	43	21
Age / yrs	76	70	63
Blood loss / ml	108	450	1538
Complication Rate	10%	40%	56%
Revision Rate	10%	33%	37%
ODI change	20%	22%	nil
RM change	insignificant	insignificant	insignificant
Pt Report Success	64%	74%	75%
Pt Satisfaction	73%	67%	57%

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SURGERY

SPINE Volume 37, Number 10, pp 884-890
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Does a Long-Fusion "T3-Sacrum" Portend a Worse Outcome Than a Short-Fusion "T10-Sacrum" in Primary Surgery for Adult Scoliosis?

Brian A. O'Shaughnessy, MD, Keith H. Bridwell, MD, Lawrence G. Lenke, MD, Woojin Cho, MD, PhD, Christine Baldus, RN, Michael S. Chang, MD, Joshua D. Auerbach, MD, and Charles H. Crawford, MD

- 58 pts min 2yr FU
- Matched cohort 20 UT vs 38 LT to sacrum
- All improved clinical outcomes
 - UT 30% vs LT 16% periop complications
 - UT 20% vs LT 5% pseudarthrosis
 - UT 20% vs LT 11% revision rate
 - UT 10% vs LT 18% PJK but rarely required op

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SPINE Volume 32, Number 24, pp 2653-2661
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Is the T9, T11, or L1 the More Reliable Proximal Level After Adult Lumbar or Lumbosacral Instrumented Fusion to L5 or S1?

Yongjung J. Kim, MD, Keith H. Bridwell, MD, Lawrence G. Lenke, MD, Seungchul Rhim, MD, and Young-Woo, Kim, MD

- 125 lumbar deformity over 2 year FU
- Long instrumenetation to L5 or S1
- No significant differences

	T9/10	T11/12	L1/2
No	37	49	39
PJK	51%	55%	36%
Rev Rate	24%	24%	26%

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SPINE Volume 36, Number 12, pp 958-964
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Short-term Morbidity and Mortality Associated With Correction of Thoracolumbar Fixed Sagittal Plane Deformity

A Report from the Scoliosis Research Society Morbidity and Mortality Committee

Justin S. Smith, MD, PhD,* Charles A. Sansur, MD, MHSc,† William F. Donaldson III, MD,‡ Joseph H. Perra, MD,§ Ram Mudiayam, MD, MBA,¶ Theodore J. Choma, MD,** Reinhard D. Zeller, MD,†† D. Raymond Knapp, Jr., MD,‡‡ Hilali H. Noordeen, MD,§§ Sigurd H. Berven, MD,¶¶ Michael J. Goytan, MD,*** Oheneba Boachie-Adjei, MD,††† and Christopher I. Shaffrey, MD*

- Age not a factor
- The more you do the more complications there are...

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TABLE 2. Complications Associated with the Surgical Treatment of 578 Patients with Fixed Sagittal Plane Deformity, Stratified Based on Corrective Technique*

Complication	No. by Type of Osteotomy (%)						
	No Osteotomy, n = 176 (%)	Osteotomy, n = 402 (%)	SPO (n = 135)	PSO (n = 215)	VCR (n = 18)	ADC (n = 19)	Not Specified (n = 15)
Death*	1 (0.6)	2 (0.5)	1 (0.7)	1 (0.5)	0	0	0
Dural Tear†	4 (2.3)	30 (7.5)	9 (6.7)	15 (7.0)	2 (11.1)	2 (10.5)	2 (13.3)
Wound Infection	5 (2.8)	17 (4.2)	3 (2.2)	12 (5.6)	1 (5.6)	1 (5.3)	0
Superficial	2 (1.1)	5 (1.2)	0	4 (1.9)	0	1 (5.3)	0
Deep	3 (1.7)	12 (3.0)	3 (2.2)	8 (3.7)	1 (5.6)	0	0
New Neurological Deficit*	2 (1.1)	20 (5.0)	5 (3.7)	15 (7.0)	0	0	0
Implant Failure	3 (1.7)	7 (1.7)	1 (0.7)	6 (2.8)	0	0	0
Wound Hematoma	2 (1.1)	7 (1.7)	2 (1.5)	5 (2.3)	0	0	0
Epidural Hematoma	1 (0.6)	7 (1.7)	3 (2.2)	3 (1.4)	1 (5.6)	0	0
Nonfatal PE	0	6 (1.5)	1 (0.7)	4 (1.9)	1 (5.6)	0	0
Pulmonary (not PE)	4 (2.3)	8 (2.0)	2 (1.5)	5 (2.3)	0	1 (5.3)	0
DVT	0	4 (1.0)	0	2 (0.9)	2 (11.1)	0	0
Visual Loss	1 (0.6)	0	0	0	0	0	0
Other	7 (4.0)	32 (8.0)	11 (8.1)	16 (7.4)	3 (16.7)	1 (5.3)	1 (6.7)
Total‡	30 (17.0)	140 (34.8)	38 (28.1)	84 (39.1)	11 (61.1)	6 (31.6)	3 (20.0)

There were a total of 170 complications in 192 patients.

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BUT - Indications UT Fixation

- Large magnitude of thoracic scoliosis (> 40°)
- Thoracic hyperkyphosis
- Thoracolumbar junction kyphosis
- Significant global imbalance in the sagittal and/or coronal plane
- ? Osteoporosis

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Indications Sacral +/- Iliac fixation in ASD

- Significant L5/S1 obliquity
- L5/S1 instability (lysis / prior decompression)
- L5/S1 stenosis requiring decompression
- Advanced DDD L5/S1
- Incomplete correction of sagittal balance
- Osteoporosis / bone stock insufficiency

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SPINE Volume 29, Number 18, pp 1796-2013
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Long Adult Deformity Fusions to L5 and the Sacrum A Matched Cohort Analysis

Charles C. Edwards II, MD, Keith H. Bridwell, MD, Alpesh Patel, MD,
Anthony S. Rinella, MD, Annette Berra, BA, and Lawrence G. Lenke, MD

- L5 - 27 pts vs S1 - 12 pts matched ASD
- 67% L5 group developed advanced L5/S1 disc degeneration and a forward shift in sagittal balance
- 75% Sacrum group required more initial and revision procedures and higher incidence of complications
- Patient self-assessed functional outcomes similar for the 2 cohorts.

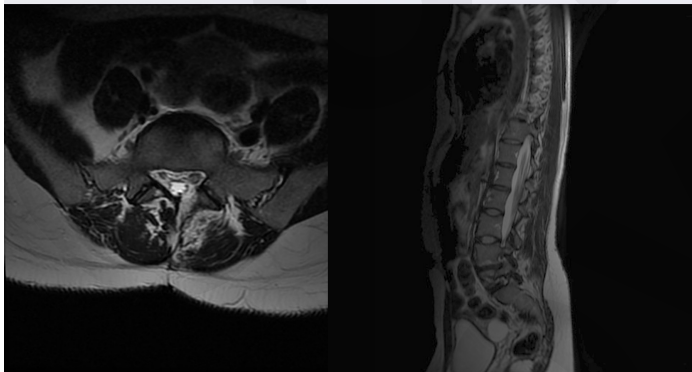
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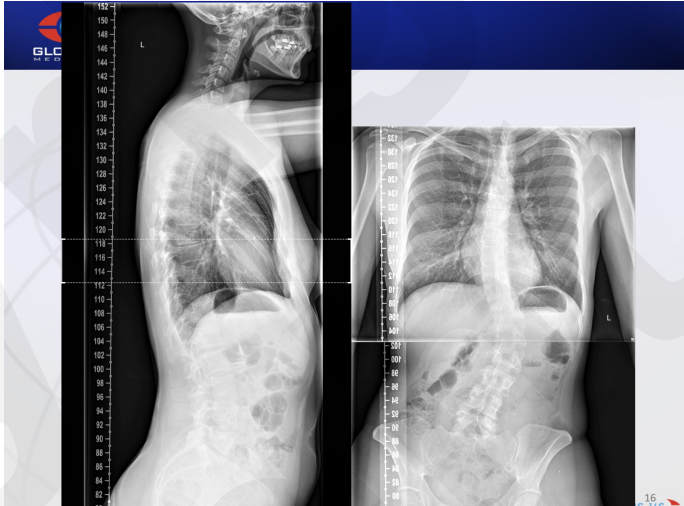
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Supine MRI



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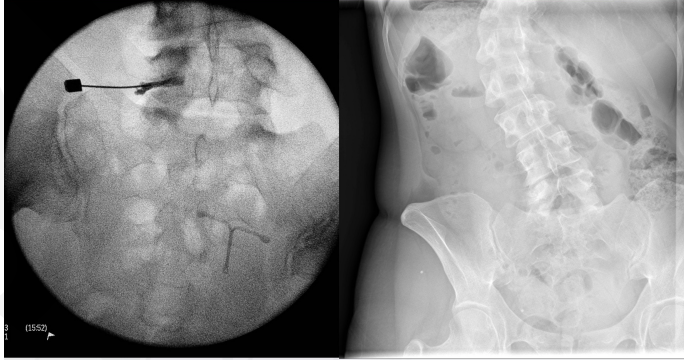
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