

A stylized graphic of a human spine, rendered in blue with a fine horizontal line texture. It is positioned on the left side of the slide, partially overlapping the title text.

The effect of the lower instrumented vertebra (LIV) on pain and quality of life in patients surgically treated for an idiopathic scoliosis

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Objectives

- To determine the relationship between the LIV and the mobility of the lumbar spine
- To evaluate the relationship between the LIV and the mobility with:
 - pain
 - quality of life
 - subjective perception of trunk flexibility (TF)

Material

- Inclusion criteria
 - idiopathic scoliosis
 - age < 35 years
 - minimum follow up 2 years
- Exclusion criteria
 - re-intervention (infection, implant failure)
 - pseudoarthrosis
 - evident adjacent level degeneration

Material

- 41 patients (37 F / 4 M)
- Mean age 27 y
- Mean time since surgery 135 months (range 30 to 239 months)
- Instrumented fusion 35 PSFI, 5 ASFI, 1 ASF + PSFI
- LIV T12 in 1 ; L1 in 7, L2 in 6, L3 in 13, L4 in 9, L5 in 4 and S1 in 1 case

Methods

- Cross-sectional study
- Lumbar mobility (Dual Inclinator Microfet 6 ROM)
- SRS-22 Patient Questionnaire
 - Image, Activity, Mental Health
 - Pain
 - Subtotal score (possible range 20-100)
- Trunk Flexibility Scale (Quality Life Profile Spinal Deformities)
 - 3 questions (possible range 3-15)
- Low-back pain intensity (NRS)

Results

- SagFF 31.4°
(SD 17.6)
- LIV vs SagFF
r=0.53

LIV	SagFF
T12	57.6°
L1	44°
L2	35.6°
L3	32.9°
L4	23.8°
L5	14.8°
S1	9.3°

Results

- SRS-22 subtotal 81 (± 11.2)
- SRS-22 Pain 4 ($\pm .8$)
- LBPI 1.5 (± 2.2)
- TF 6 (± 2.8)

Results

	SRS-22 Subtotal	SRS-22 Pain	TF	LBPI
LIV	-.44 (.004)	-.43 (.005)	.22 (.1)	.18 n.s.
SRS-22 Subtotal		.91 (.0001)	-.38 (.01)	-.56 (.0001)
SRS-22 Pain			-.42 (.007)	-.62 (.0001)
TF				.43 (.005)

A stylized graphic of a human spine, composed of horizontal blue bars of varying lengths, arranged to form a curved, S-shaped spine. The bars are light blue with a fine horizontal line pattern.

Discussion

- It is not a population-based study
- Variables not analyzed
 - Age
 - Magnitude of the scoliosis
 - Sagittal plane alignment
 - Psychosocial aspects



Conclusions

- LIV correlates with lumbar mobility although correlation is moderate.
- LBPI is low whereas TF is high indicating low influence of surgery on these parameters.
- LIV correlates with health-related quality of life and spinal pain but not with intensity of pain in the lumbar area nor the perception of TF.

A stylized graphic of a human spine, composed of horizontal blue bars of varying lengths, arranged to form a curved, S-shaped column. The bars are filled with a fine, light blue horizontal line pattern.

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