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Final Fusion After Growing Rod Treatment for Early Onset Scoliosis: Is it Really Final?

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**“Final fusion”
is commonly felt to be the
end point for early onset
scoliosis patients with
growing rod treatment.**

But is it?



Purpose

To determine:

- **Incidence of reoperation**
- **Cause of reoperation**

after final fusion for GR patients with EOS



Methods

**Multicenter early onset scoliosis
database (GSSG)**

Growing rod patients

**Minimum of 2 years follow-up after
final fusion**

**All reoperations after final fusion and
causes were recorded**



Results

**119 potential patients (13 centers) - 96 (81%)
met criteria**

**Mean age at final fusion - 12 years (range, 8-18
years)**

**Mean follow-up after final fusion - 4 years
(range, 2-10 years)**

**Mean time to first reoperation - 2 years (range,
10 days-7.4 years)**



Diagnoses

N = 96 pts

**19 pts (20%)
reoperation**

34 - Neuromuscular

6 (18%)

30 - Syndromic

8 (27%)

23 - Idiopathic

5 (22%)

9 - Congenital

0 (0%)

Mean number of operations – 2 (range, 1-7)

11 pts had 1 complication; 8 pts had 2 or more



Reoperations

Complications **19 patients** **38 procedures**

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Infection	8 (8%)	15
Instrumentation fail.	6 (6%)	8
Painful / prom. implants	6 (6%)	7
Sag. decomp.	2 (2%)	2
Progressive deformity	2 (2%)	2
Pseudoarthrosis	2 (2%)	2
Neurological (Chiari)	1 (1%)	1
Thoracoplasty	1 (1%)	1



Conclusions

**Higher than anticipated percentage
required reoperation after final fusion**

**Long term follow-up after final fusion is
necessary to determine final results**

**Further investigation into prevention of
reoperations after final fusion**



Significance

Reoperation after final fusion has not been studied before

Parents and patients need to be advised about possibility of further surgery

Long term follow up after final fusion is important





THANK YOU







