

Performing a Definitive Fusion in Juvenile CP Patients is a Good Surgical Option

Burt Yaszay, MD
Paul Sponseller, MD
Suken Shah, MD
Jahangir Asghar, MD
Firoz Miyanji, MD
Amer F. Samdani, MD
Carrie E. Bartley, MA
Peter Newton, MD



Disclosures

Presenter: Burt Yaszay (a,b,d,e) DePuy Synthes Spine; (b,d,e) K2M; (e) OrthoPediatrics; (b) Nuvasive

Co-Authors: Paul Sponseller (a,b,e) DePuy Synthes Spine; (e) Globus Medical
Suken Shah (a,b,e) DePuy Synthes Spine; (e) Arthrex; (b-unpaid) Kspine; (b-unpaid) OrthoPediatrics; (c) Globus Medical
Jahangir Asghar (b) DePuy Synthes Spine
Firoz Miyanji (a,b) DePuy Synthes Spine
Amer Samdani (b) DePuy Synthes Spine
Carrie E. Bartley No Relationships
Peter O. Newton (a,b,d,e) DePuy Synthes Spine; (a) EOS Imaging; (c) Electrocore; (b) Cubist; (b) Ethicon Endosurgery; (a) Orthopediatrics institutional support.

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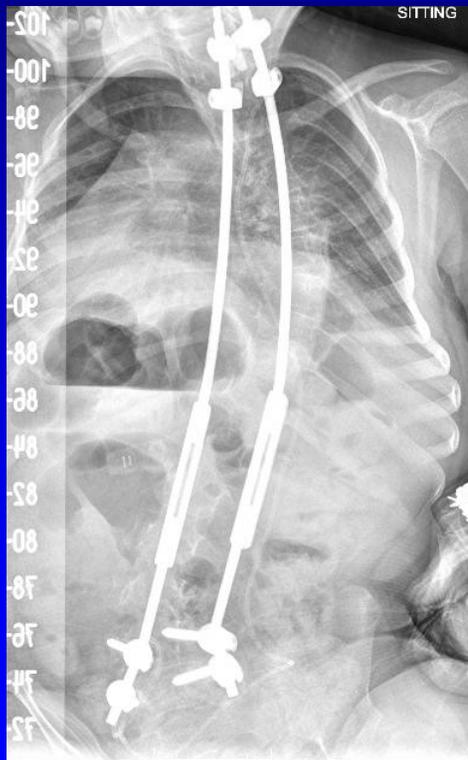
Introduction

- **Management of juvenile CP patients with large scoliosis is a challenge.**



Introduction

- **When observation with or without a brace is no longer an option, surgeons frequently choose surgery**



Growing Construct

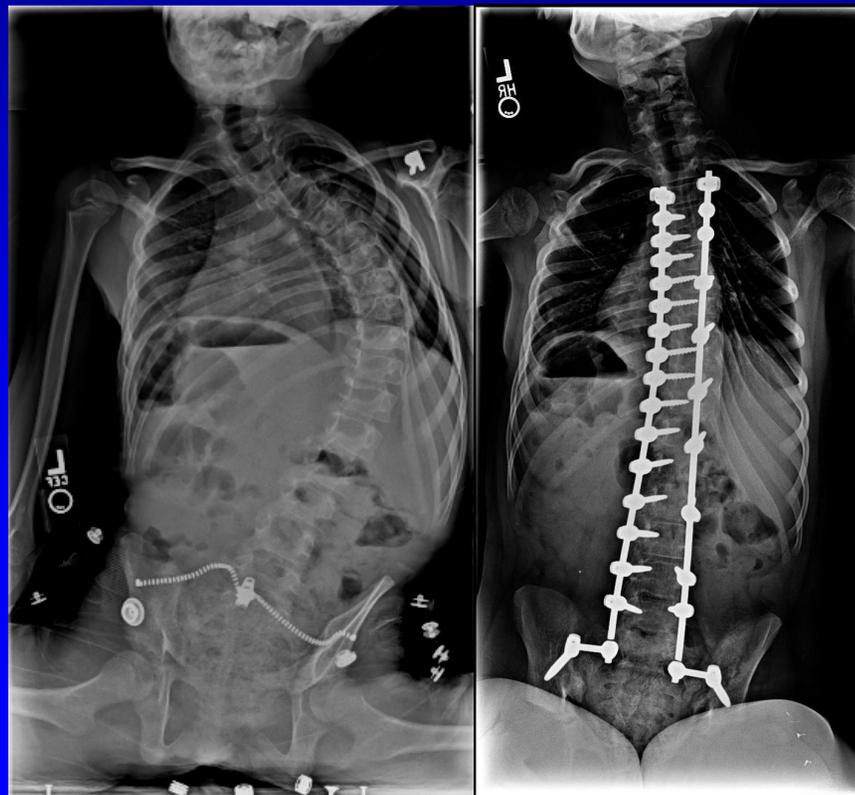


Final fusion



Purpose

- **The purpose of the study is to present a series of juvenile CP scoliosis patients that underwent early definitive fusion.**



Methods

- **A retrospective review of a multi-center database of patients with CP scoliosis was conducted.**
- **Patients ≤ 10 years who had a definitive fusion for their scoliosis and minimum 2 years follow-up were included.**
- **Preoperative and postoperative demographic and radiographic changes were evaluated with descriptive statistics. Repeated measures ANOVA were utilized to compare outcome scores.**



Results

- **15 patients were identified**
 - Average age 9.7 years (8.2-10.7 yrs)
 - All patients were skeletally immature with open triradiate cartilage
 - **Surgical Approach**
 - Posterior spinal fusion only: 14 patients
 - Anterior/Posterior fusion: 1 patient
- 3 patients had unit rods with wires while the rest incorporated pedicle screws.



Radiographic Data

	Pre-op	1 st Post-op	2yrs Post-op	p-value (Pre-1 st post-op)	p-value (Pre-2yrs)
Major Cobb (M±SD)	87 ± 30°	25 ± 16°	29 ± 17°	≤0.001	≤0.001
Avg. % Correction	--	77%	67%		
Pelvic Obliquity	28±14°	4 ± 4°	8 ± 8°	≤0.001	≤0.001
Avg. % Correction	--	86%	71%		



Results

- **None of the patients required revision surgery for progression.**
- **1 patient had a deep infection requiring a return trip to the operating room.**
- **1 patient had a broken rod that did not require further treatment.**
- **From pre to 2yrs post-op, the CPchild Health outcome scores improved from 45 to 58 (p=0.004).**



Conclusions

- **Progressive scoliosis refractory to conservative measures in juvenile CP patients can be a challenge**
- **Balance the need for further growth with the risks of progression or repeated surgical procedures.**
- **Definitive fusion is a viable treatment in these skeletally immature patients.**



Limitation

- **Further follow-up is needed to determine whether those results are stable to skeletal maturity.**

