

DEBATE

Fusion vs non-fusion options

EARLY FUSION

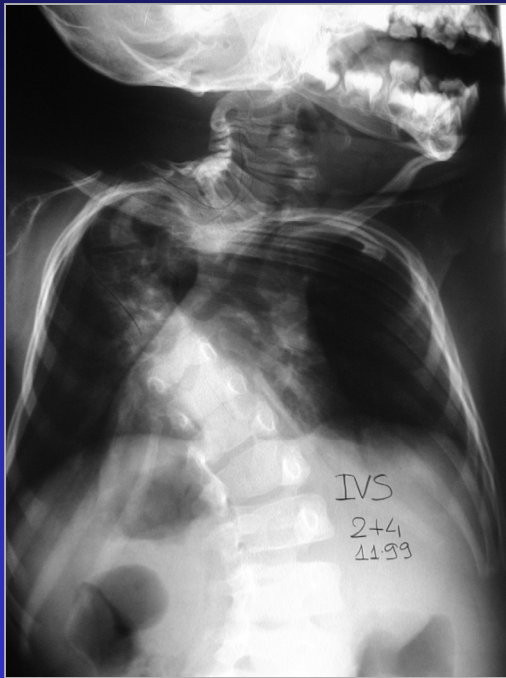
The right choice ?

F.Pérez-Grueso

R. McCarthy

EOS

Dynamic deformity



- *Spine growth*
- *Chest growth*
- *Lung development*



Early-onset Scoliosis Treatment Options

- *Orthosis*

- Less effective

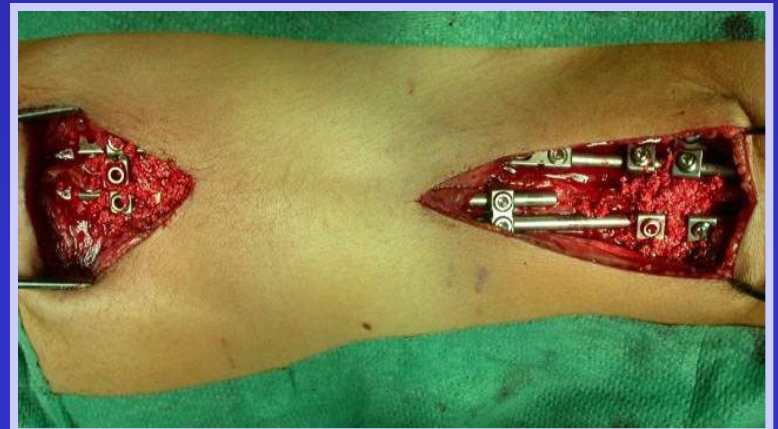
- *Surgery*

PSF
PSF/ASF

- *Limited fusion*

- *Apical fusion*
- *Convex growth arrest*

- *Non-fusion techniques*



Fusion at an early age

- *Torso shortening*
- *Crankshaft. (Chest repercussions)*

Fusion at an early age

“it is always better to have a short straight spine than a shorter crooked spine”

RB Winter and JH Moe

The results of spinal arthrodesis for congenital spinal deformity in patients younger than five years old

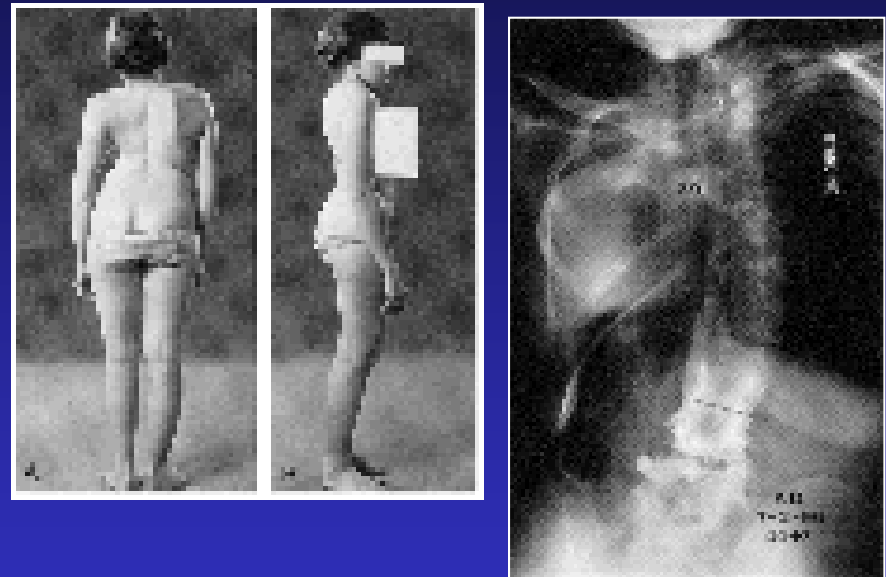
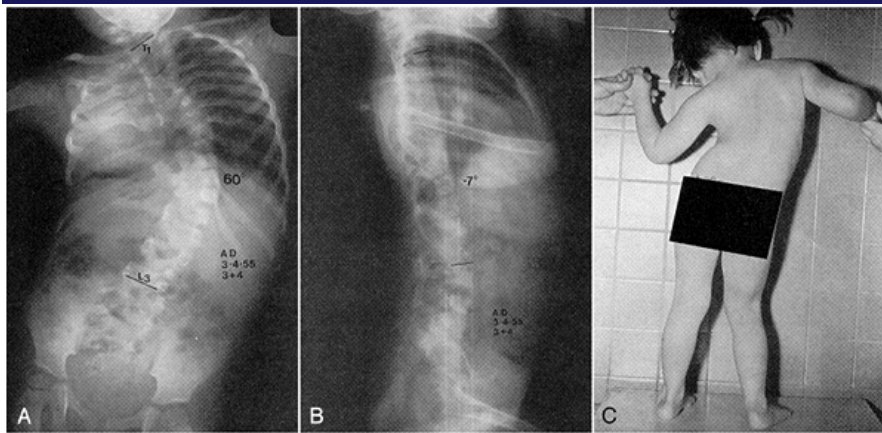
J. Bone Joint Surg. Am., Mar **1982**; 64: 419 - 432.

We reviewed the results of spinal arthrodesis for congenital spinal deformity in forty-nine patients who were younger than five years old. The minimum follow-up was five years, and eleven patients had completed their growth. Posterior arthrodesis alone was found to be effective in most scoliotic patients. There was minimum bending of the fusion mass in most patients, almost no creation of lordosis, and minimum effect on torso-lower limb relationships. For congenital kyphosis, posterior arthrodesis was highly effective, giving better eventual correction than when both anterior and posterior arthrodesis was done.

Congenital Scoliosis With Posterior Spinal Arthrodesis T2-L3 at Age 3 Years With 41-Year Follow-Up A Case Report

Spine 1999;24:194-197

Robert B. Winter, MD; John E. Lonstein, MD



- *Posterior fusion T2-L3*
- *Localizer Risser cast*
- *Pseudo repair*
- *Osteotomy of fusion mass*
- *Left pelvis lengthening innominate osteotomy (at age 15)*

Age 44:

- *No back pain*
- *No pulmonary problems*
- *Height: 1,48 cm.*

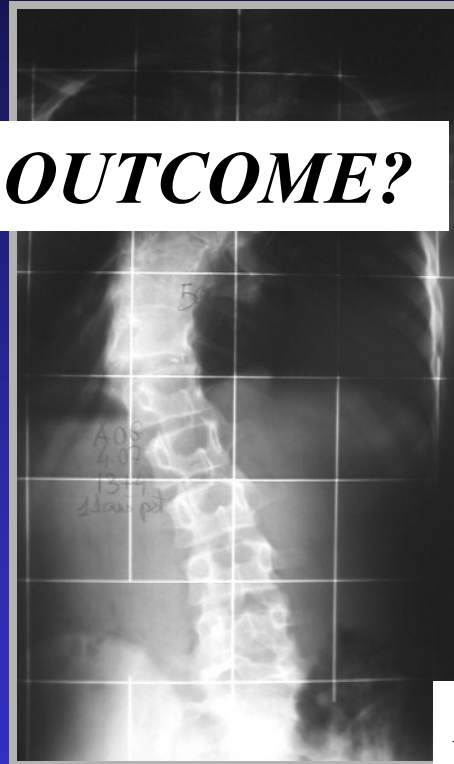
Early Fusion



Age 2



POOR OUTCOME?



Age 13



One surgery. Normal pulmonary function. Mild cosmetic defect