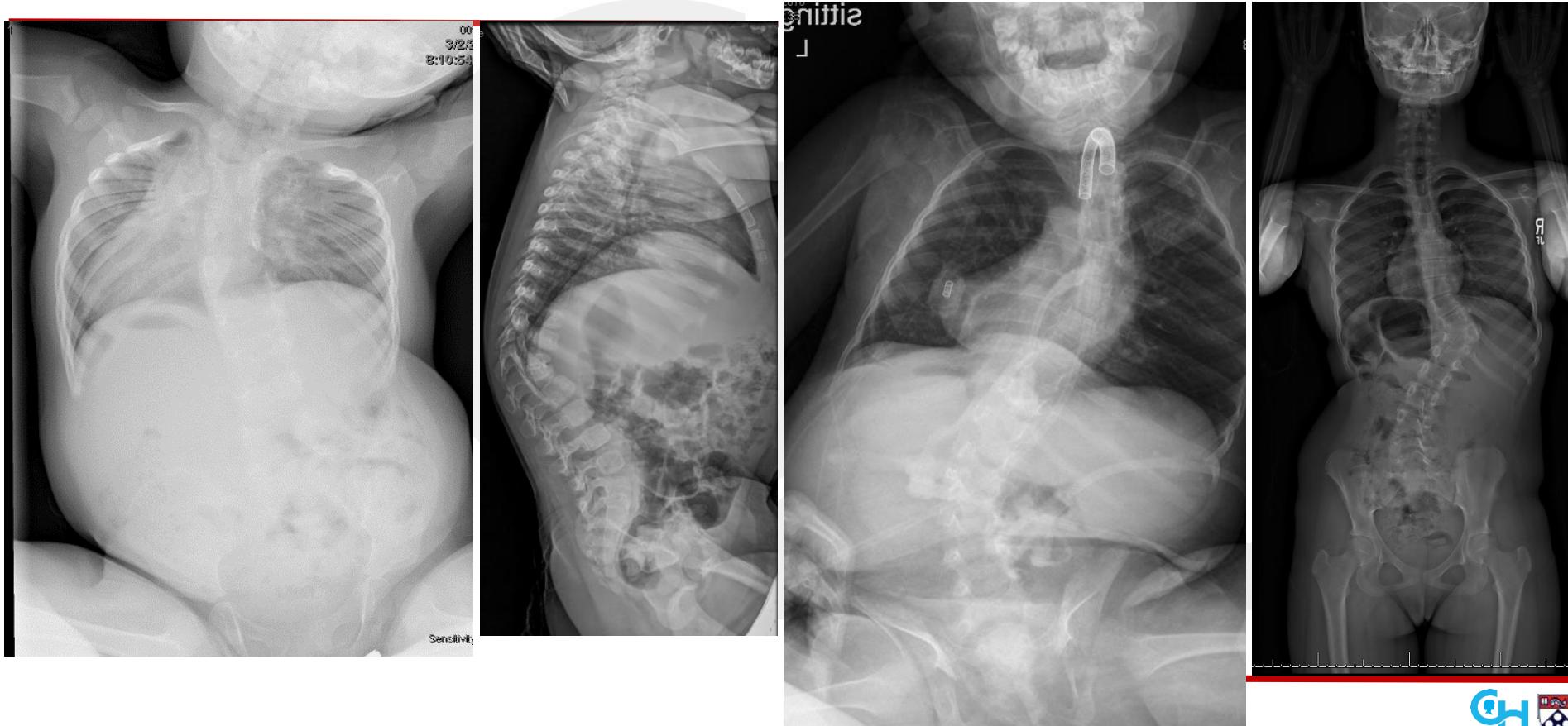

Expert Consensus for Early Onset Scoliosis Surgery 2018

**Jason B. Anari MD, Patrick J. Cahill MD,
Divya Talwar MPH; John M. Flynn MD**



**The Children's Hospital of Philadelphia
Perelman School of Medicine at University of Pennsylvania**

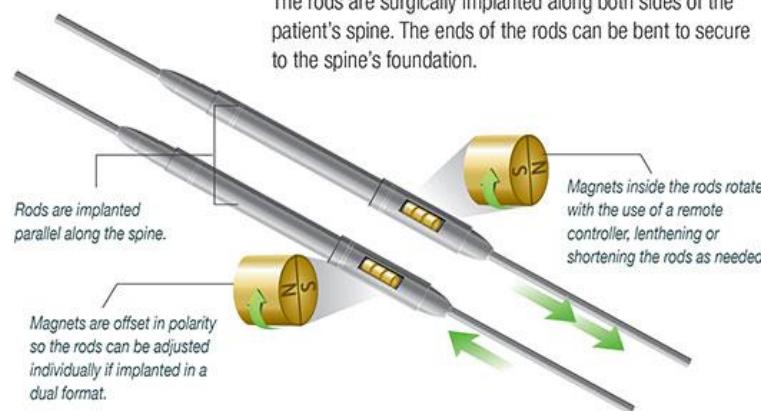
Various Deformities of Early Onset Scoliosis



Question ?

- Has technology outpaced surgeon ability to define indications in early onset scoliosis?

Classification of Early Onset Scoliosis (C-EOS)

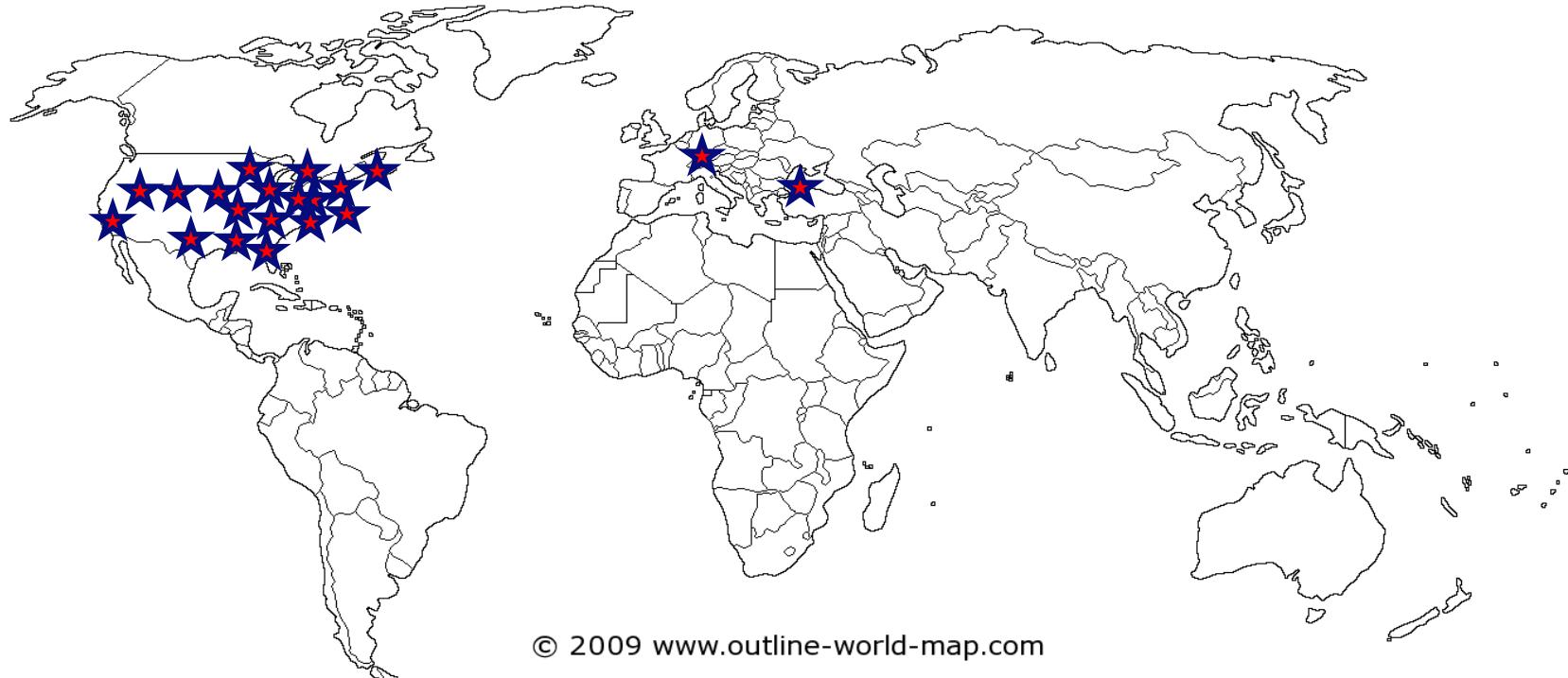


► The Magnetic Growing Rods

The rods are surgically implanted along both sides of the patient's spine. The ends of the rods can be bent to secure to the spine's foundation.

'HO

EOS Thought Leaders



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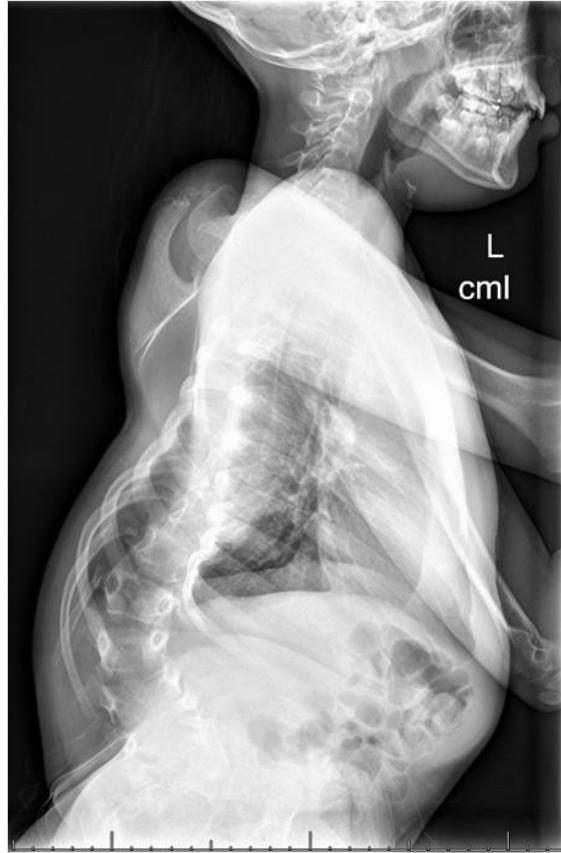
Methods

- Define consensus > 80%
- Red cap 2 weeks prior to ICEOS deadline
 - 100% response by 10 days
- 478 years of experience



UR HU

Methods



Case 1

- 9 y/o F
- Spina Bifida
- Wheelchair
- C-EOS:M4+
- TL curve has progressed 30° over past 2 years (now 92°)



Methods

Case 1

Treatment you would offer now:

- a. Observe
- b. Brace
- c. Mehta cast
- d. TGR
- e. VEPTR
- f. MCGR
- g. Shilla
- h. PSF
- i. Other _____

If growth-friendly surgery:

- 1. Proximal anchor fixation choice
 - a. Ribs
 - b. Spine
 - c. Combination
- 2. Distal Anchors
 - a. Spine
 - b. Pelvis--S/U hook on iliac wings
 - c. Pelvis—iliac/sacral screws

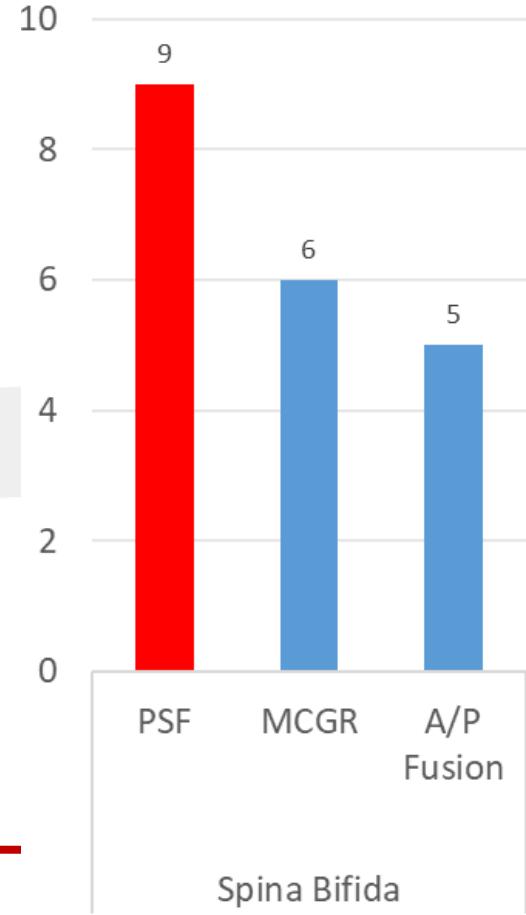
ORTHO

Results

Case 1: 9/20 - PSF

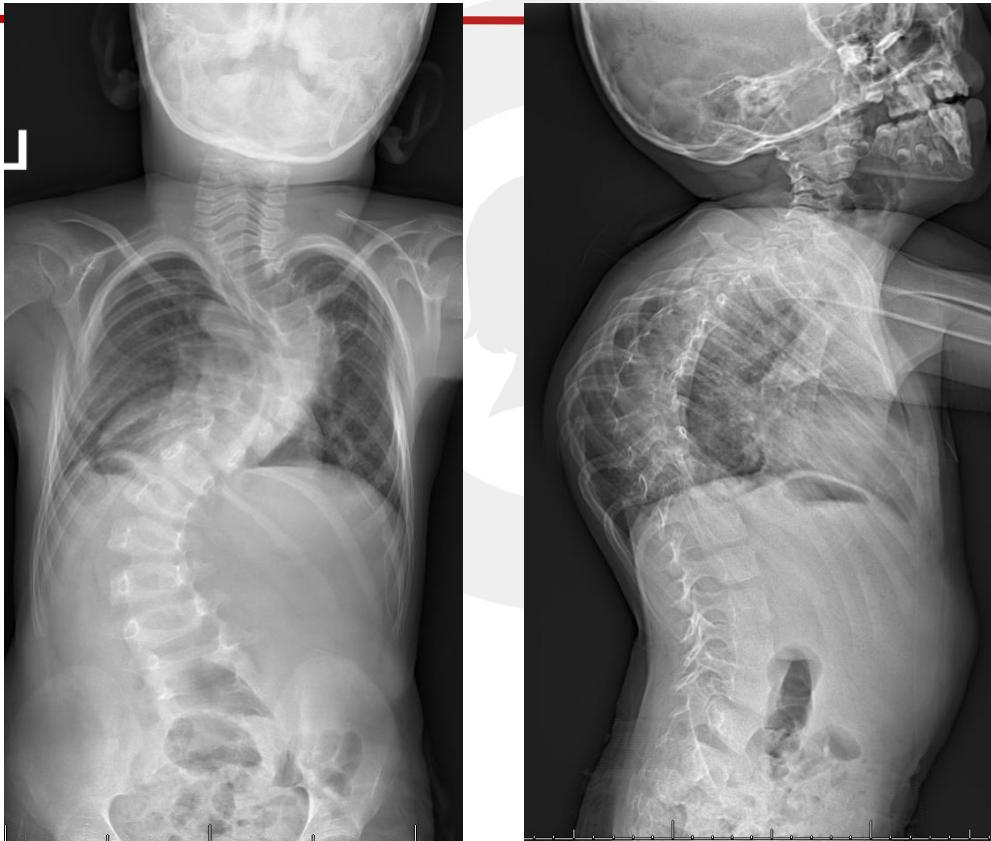


4 different treatment options



12

Results Case 2: 12/20 - MCGR



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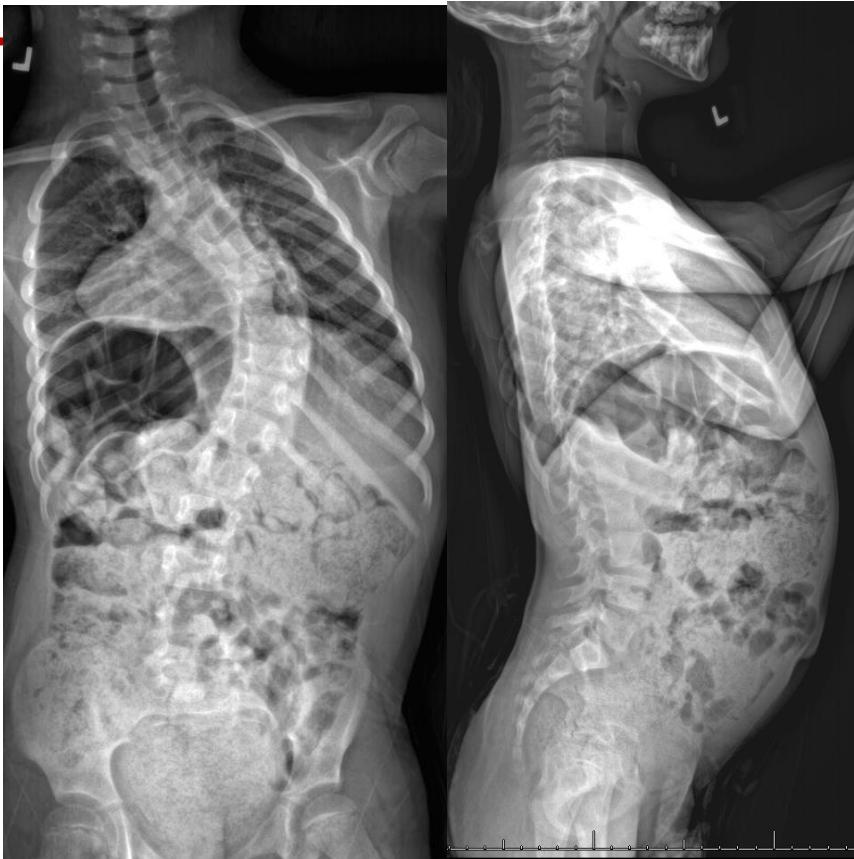
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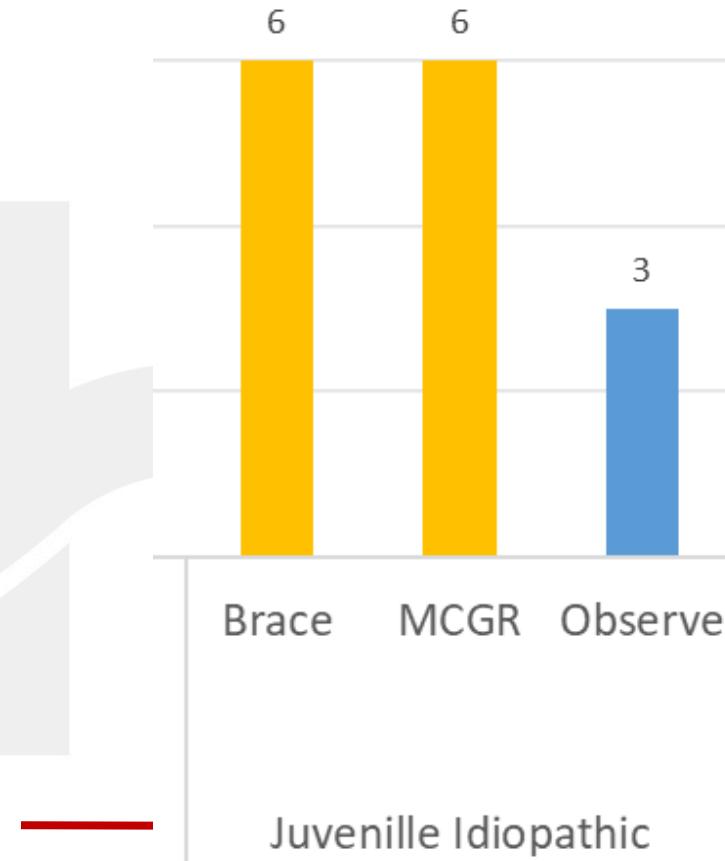
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Results

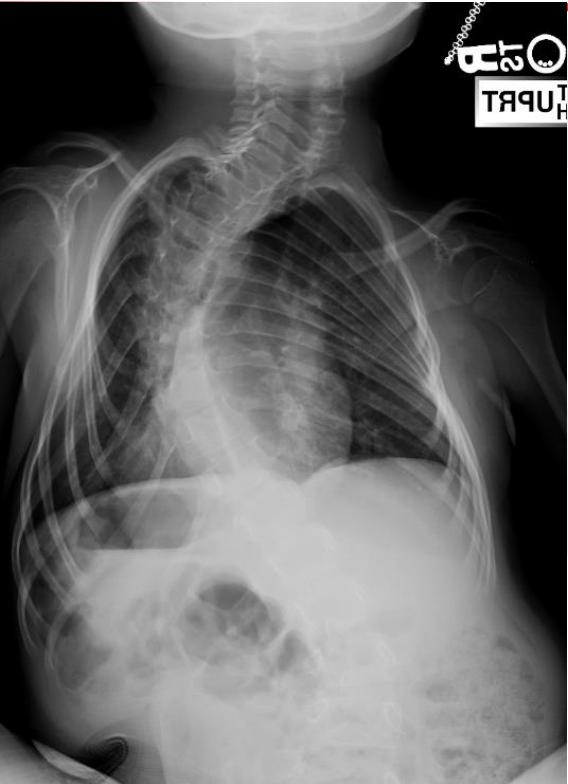
Case 3: 6/20–Brace 6/20–MCGR



6 different treatment options



Results Case 4: 15/20 - MCGR



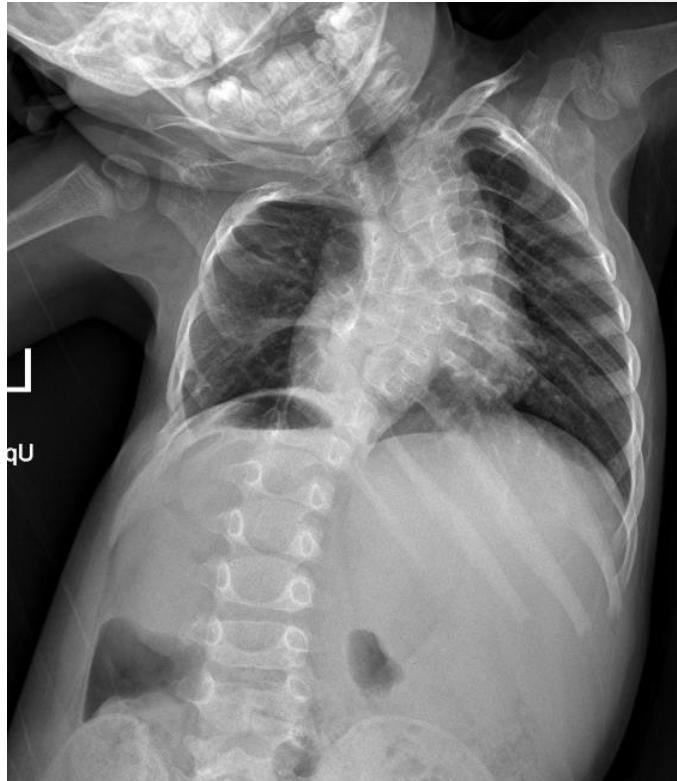
OR



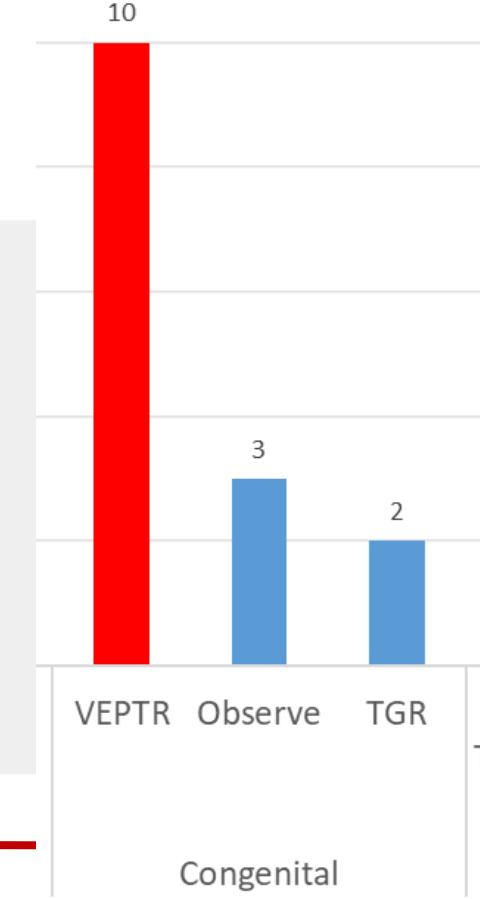
4 different treatment options

SMA Syndrome

Results Case 5: 10/20 - VEPTR

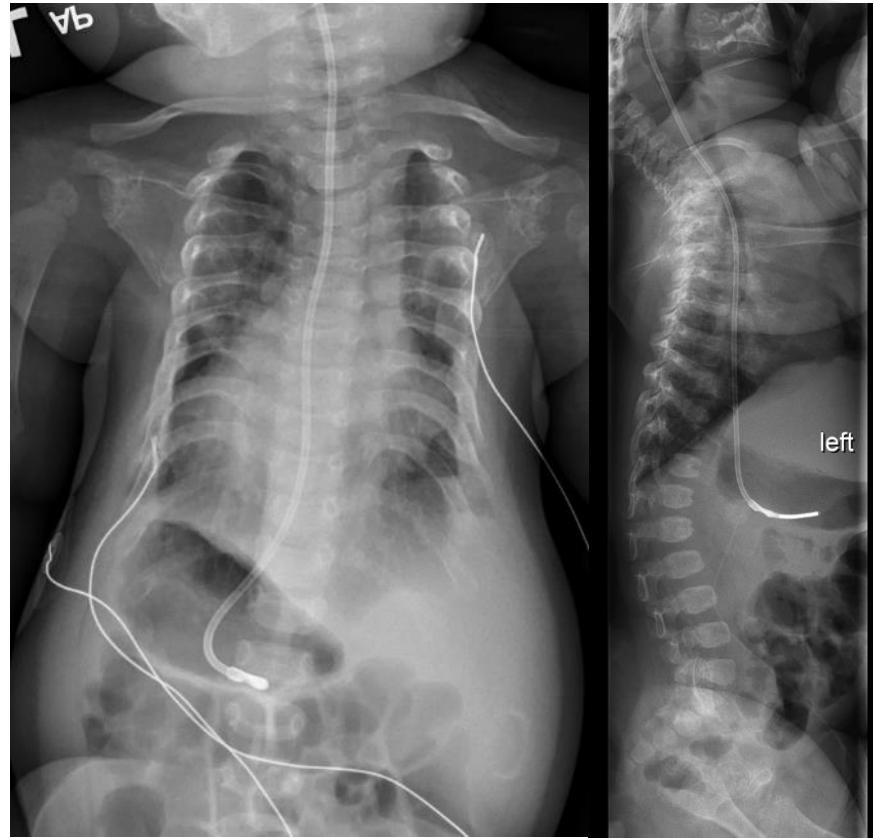


7 different treatment options

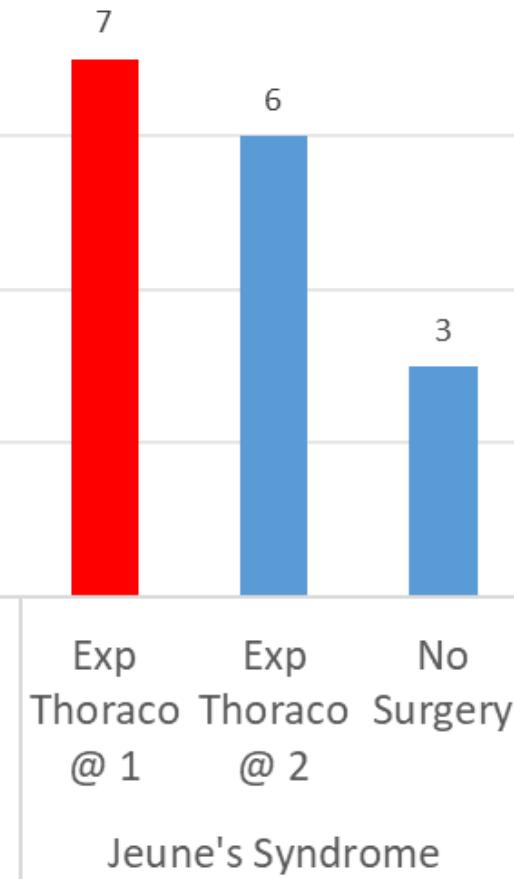


Results Case 6: 7/20 – VEPTR thoracoplasty

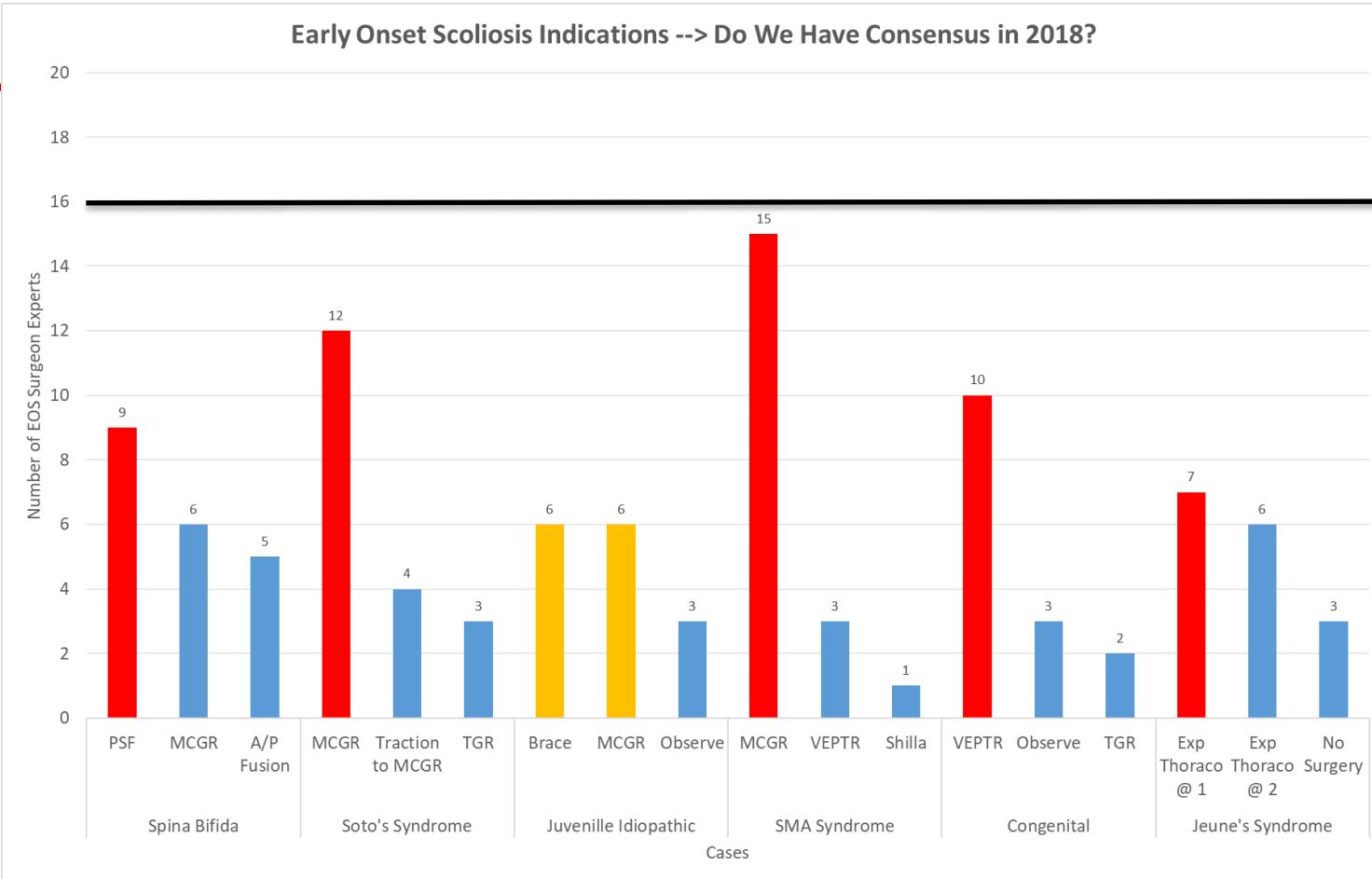
@ 1 y/o



5 different treatment options



In 2018 EOS consensus is no where to be found



Consensus



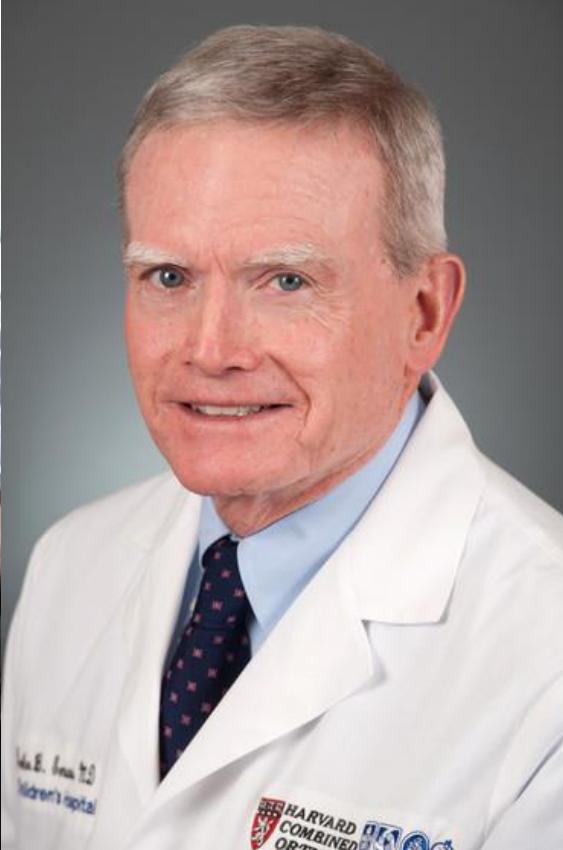
Last Question

**Name the single surgeon/thought-leader,
current or past, who has had the greatest
impact on your decision-making for EOS:**

ORTHO



Impact on Thought Leaders



- Robert M. Campbell
- John B. Emans
- Combined: 11/20

ORTHO

2020

Where do we go from here



A
Modern Luque
trolley Construct



B
Shilla
Construct



○ Trolley Gliding Vehicle
● Fixed pedicle screw

Age	Etiology	Major Curve Angle	Kyphosis	APR Modifier
Continuous Prefix				
	Congenital/ Structural	1: <20°	(L): <20°	P ^b : <10°/yr
	neuroMuscular	2: 20-50°	N: 20-50°	P ^a : 10-20°/yr
	Syndromic	3: 51-90°	(H): >50°	P ^c : >20°/yr
	Idiopathic	4: >90°		



S4+ → TGR

I3- → MCGR

C4N → VEPTR

S2N → Growth
Guidance

I2+ → Brace

I2- → Tether??

2015 Letter to Editor

**Spine
Deformity**

www.spine-deformity.org



Spine Deformity 3 (2015) 105–106

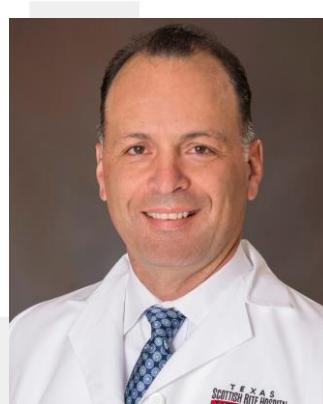
Letter to the Editor

Early Onset Scoliosis - Time for Consensus



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Thank You

