



Tethering in the very young?

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Disclosures

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- Spinologics (c)

- (a) Grants/Research Support
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- (d) Speakers' Bureau
- (e) Other Financial Support



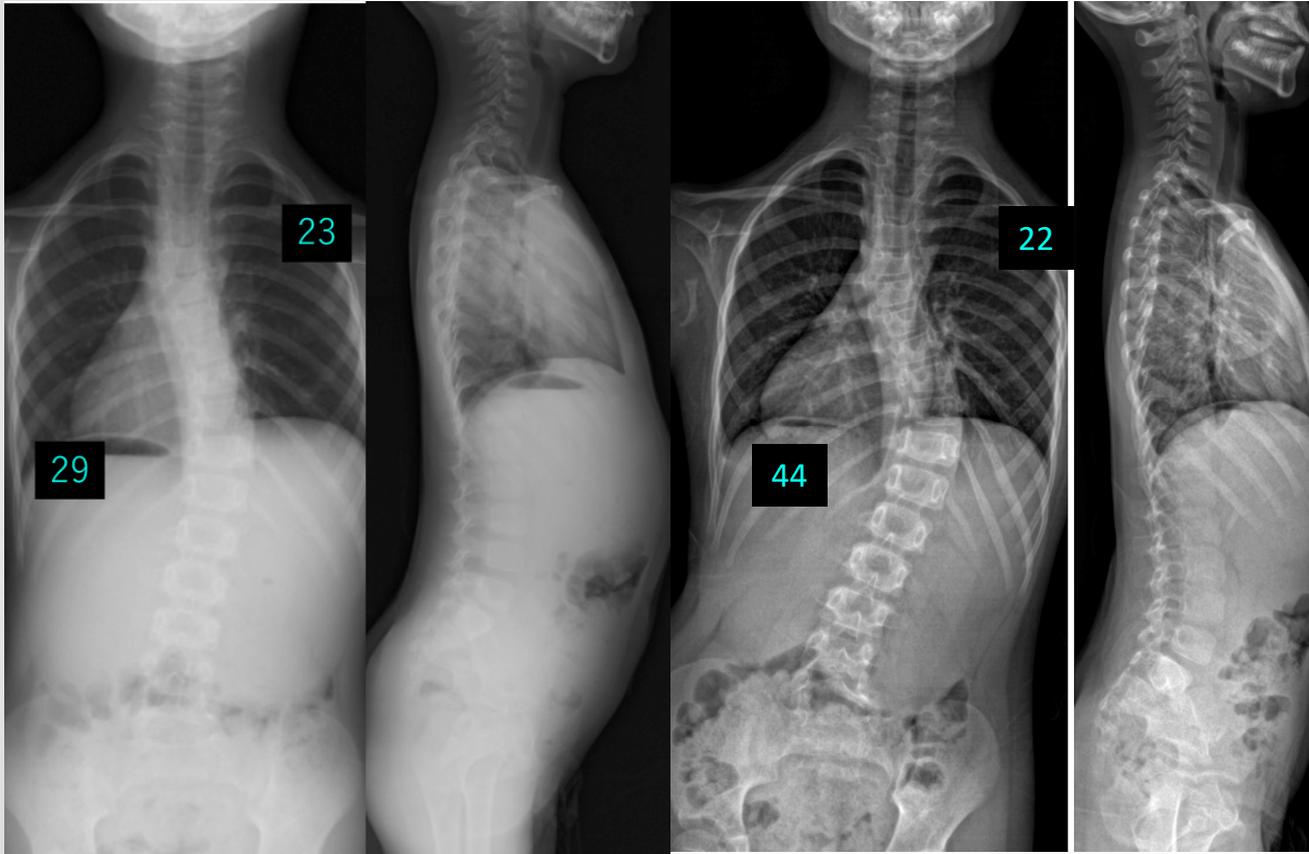
Introduction – OFF-LABEL PROCEDURE

- Vertebral body tethering (VBT) is a relatively new procedure
- THIS IS AN OFF-LABEL USE of a posterior-based instrumentation system
- Aim: use residual growth to correct scoliosis progressively
- Therefore: Need GROWTH!!!
- This presentation will focus on younger patients with open Tri-radiate cartilages



9 year old female
69 degree right thoracic curve

Male Scoliosis with Upper Limb Deficiency



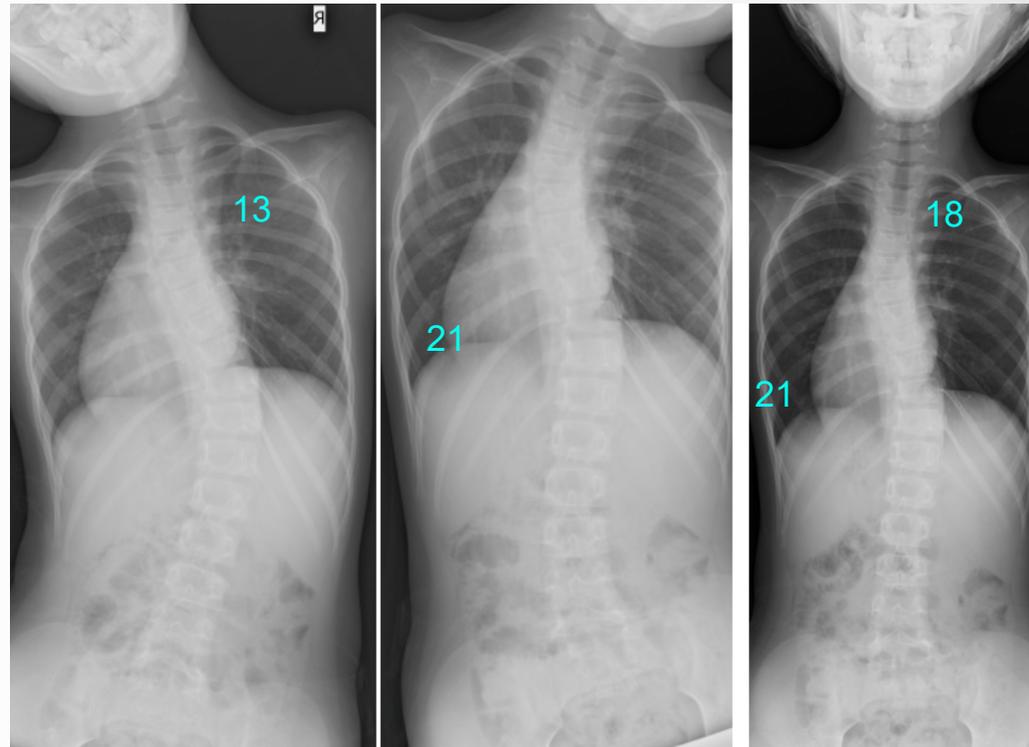
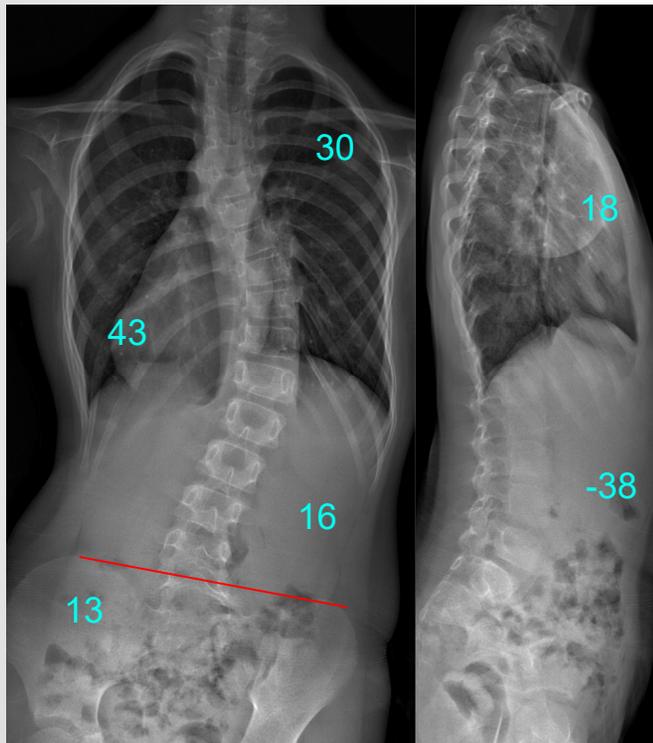
Alternative cast & brace treatment for 2 years 9 months.
Scoliosis progressed from 29 degrees to 46 degrees.

At 1st visit (6+11)

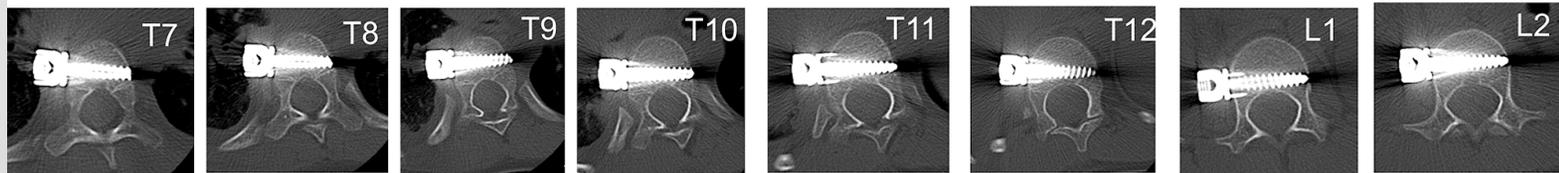
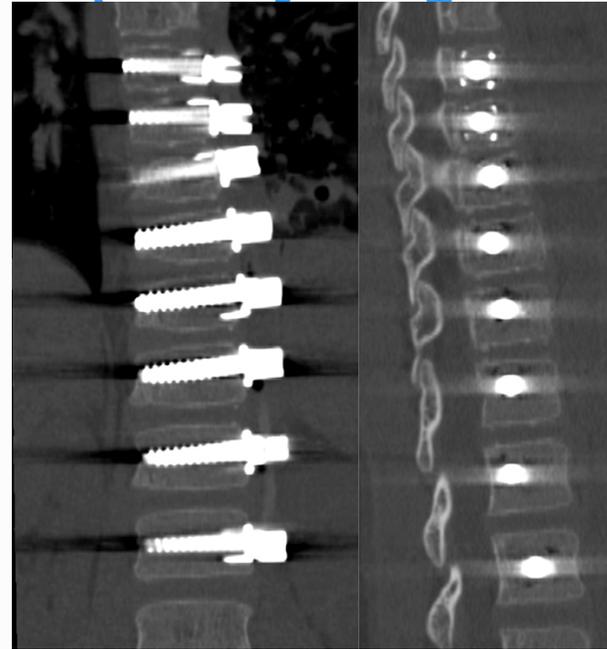
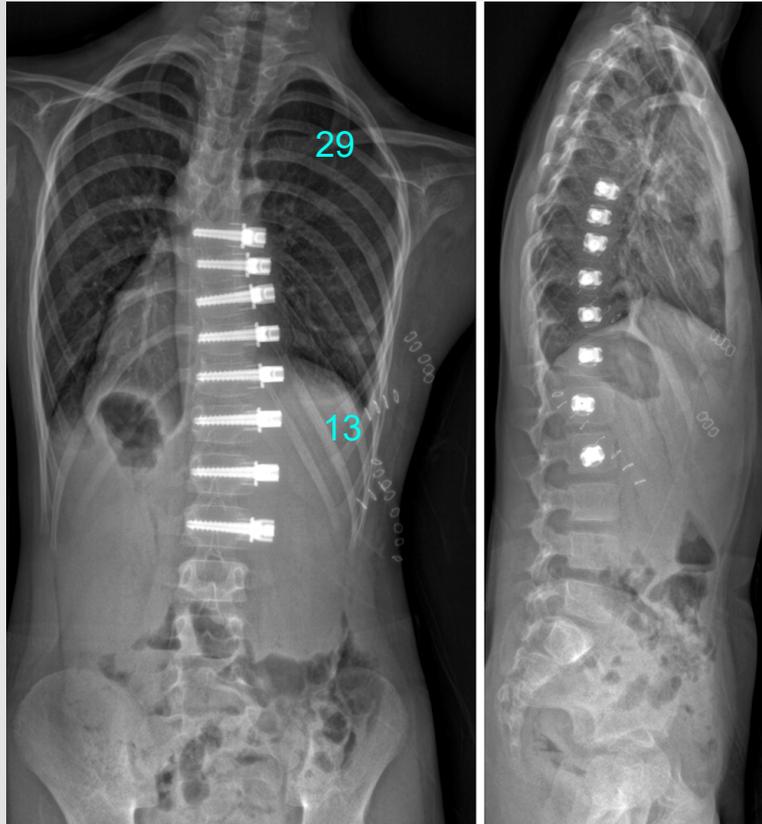
December 2015 (9+8) Height 130.1cm, BW 24kg

Preop. Evaluation (05/25/2018)

10+1, Height 133 cm, BW 24 kg

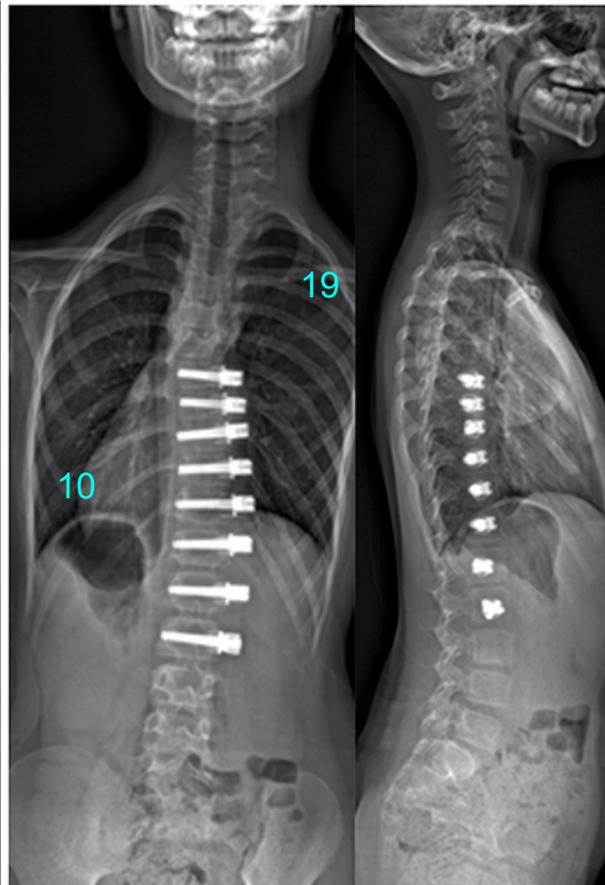
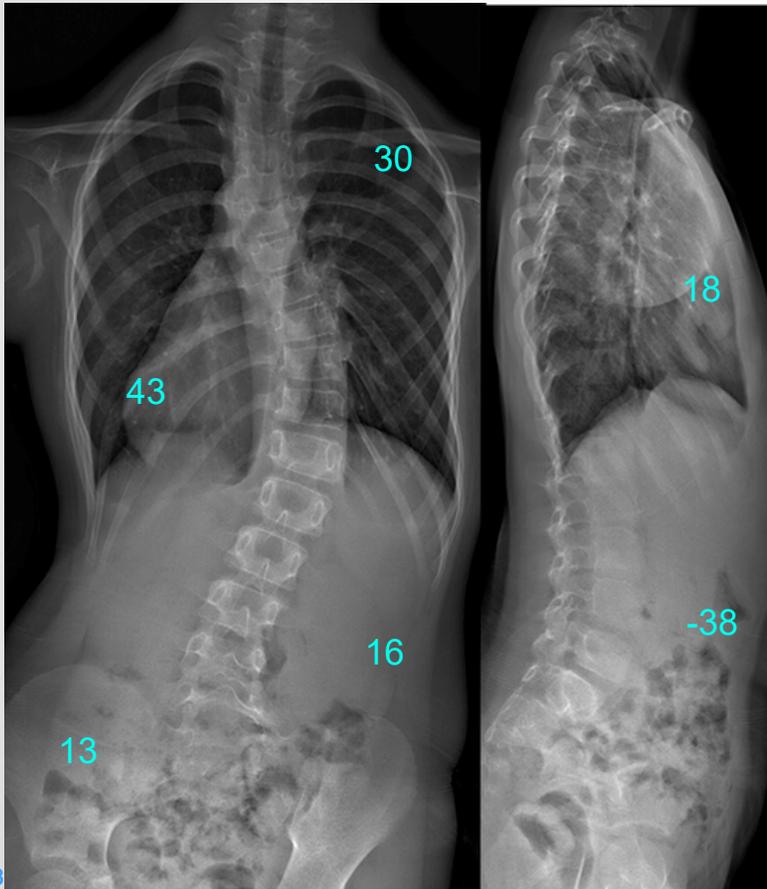


Surgery: June 15, 2016 Postop. X-ray Images & CT Images



Preop.

Postop. 3 months

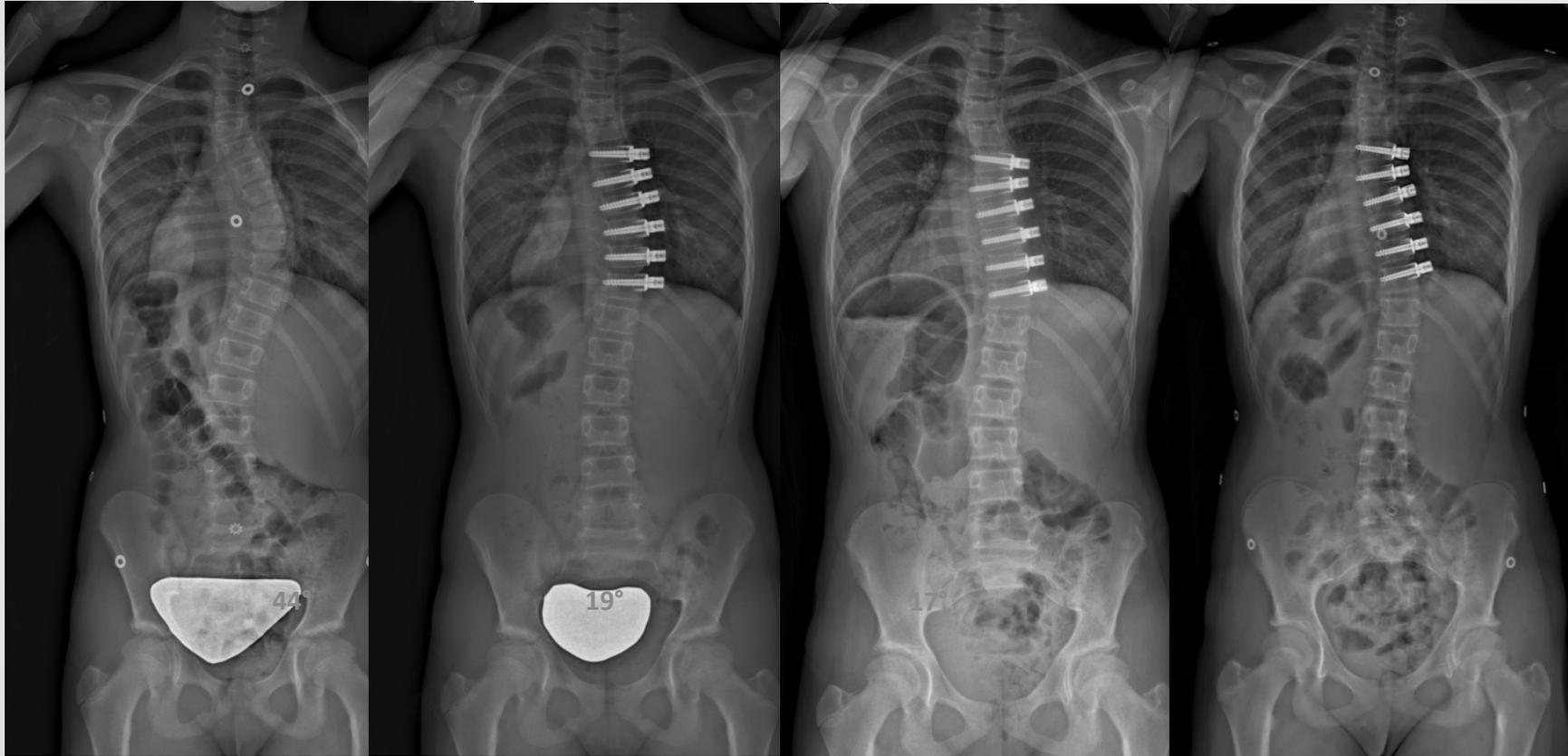


Pre-Op

3 Months

14 Months

24 Months

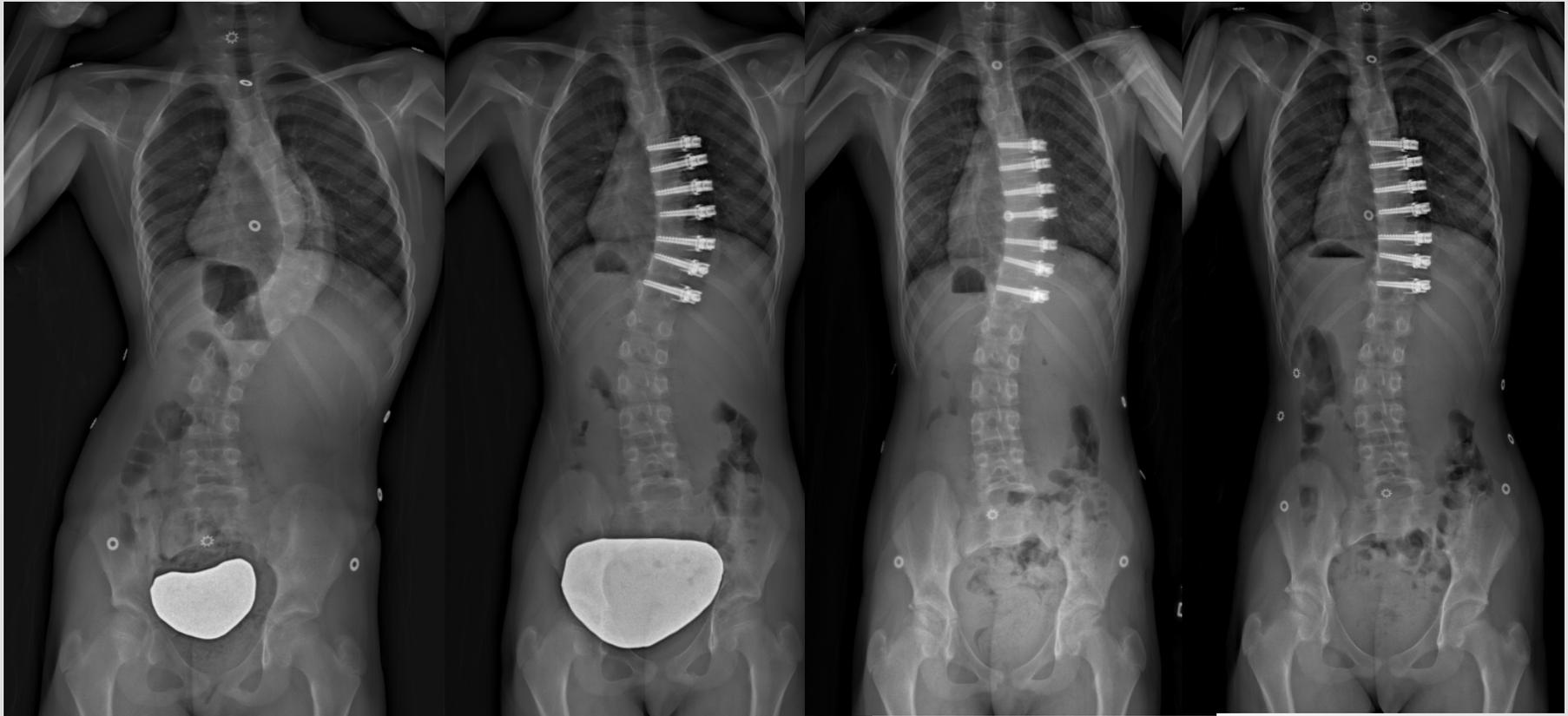


Pre-Op

4 Months

12 Months

19 Months



66°

35°

24°

22°

Pre-Op (27 Months)



31°

1 Month post-op revision



24°



Pre-Op



40°

10 Months



24°

12 Months



26°

Revision Surgery

Pre-Op
(15 Months)



27°

2 Months
(post-op revision)



23°

Current indications

- AIS, Lenke 1A, 1B preferred (1C possible)
- 40° - 70°
- Pre-menarchal
- Risser 0 or 1
- Open TRC preferred
- Older than 8-9 years or > 30 kg
- Patients and families are told this is **EXPERIMENTAL**

Benefits

- Less blood loss
- Shorter hospitalization
- Retaining spine flexibility
- Potential to correct spine without fusion



Limitations

- Over-correction
 - Risk greater for smaller curves that are younger
- Patients are told that there will be at least one other surgery to remove material
- No long-term outcomes
 - Don't know what the impact on the disk will be
- Is it really better than bracing/traditional surgery
 - If you are considering growth preservation methods, this is certainly an option

Acknowledgements



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MENTOR

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