VEPTR in Patients Who Have Undergone a Previous Spinal Fusion

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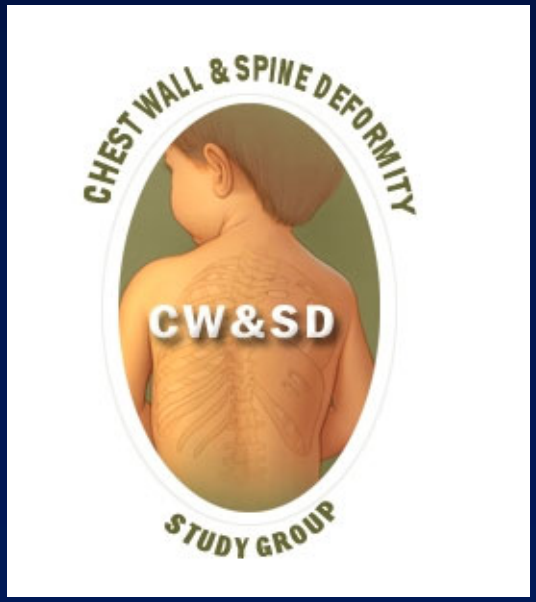

VEPTR with Spinal Fusion

Introduction

Standard VEPTR treatment goals

- Treat thoracic insufficiency
  - Chest wall expansion
  - ↑ space available for lung
- Correct/control spinal deformity

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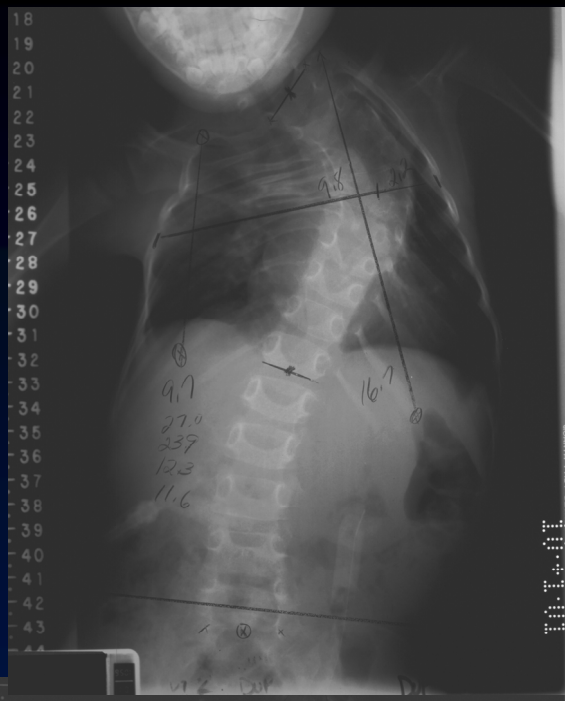
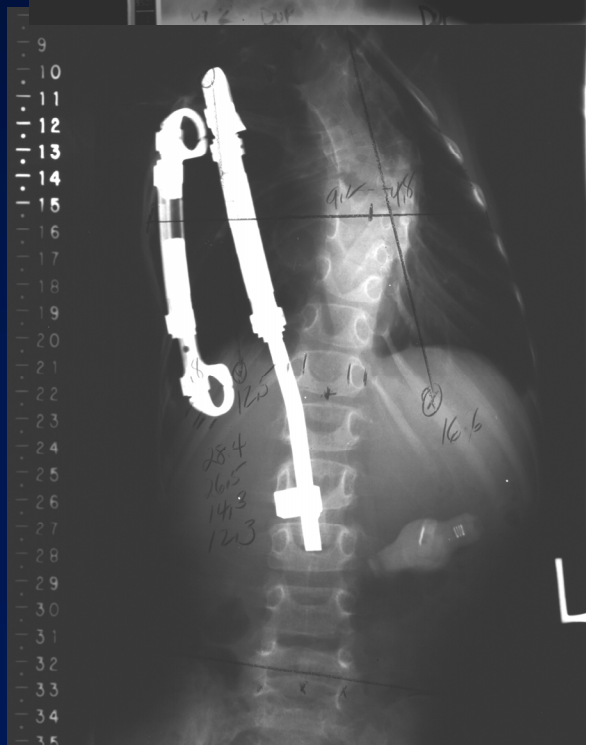
Introduction

Different VEPTR paradigm: the already fused patient

- Improve trunk deformity
- Improve cervical tilt?
- Expand the chest
- Modulate the spinal deformity when possible





Methods

Methods:

- Pts with previous spinal fusion with VEPTR insertion between 9/96 to 2/03
- Indication for VEPTR
  - progressive curve
  - persistent thoracic insufficiency despite previous spinal fusion
- Pre and postoperative Cobb angle, thoracic height, and complications recorded

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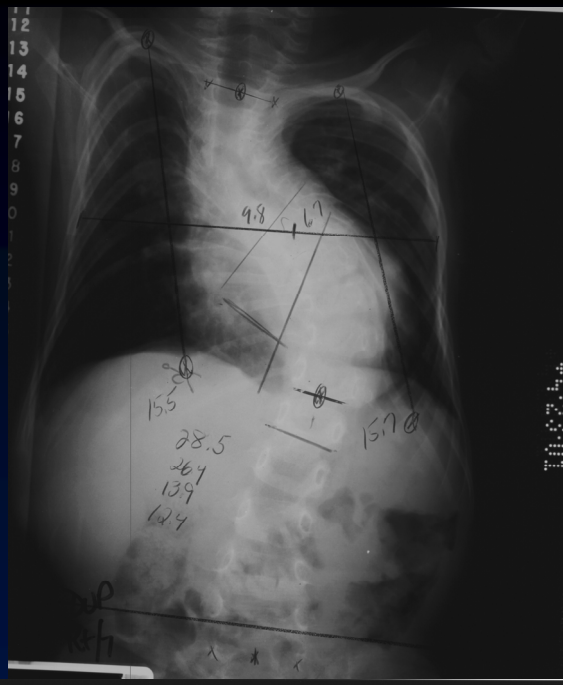
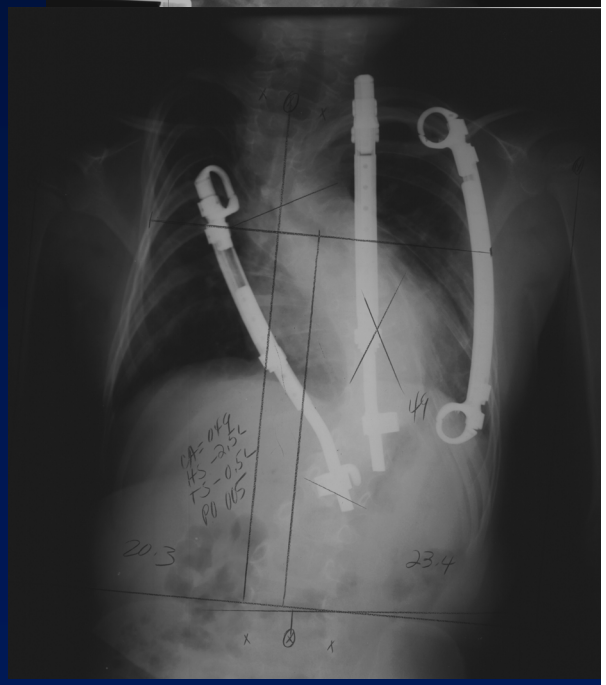
Results

Results:

- 8-12 month follow-up data for 12 patients
- 36 month follow-up data for 7 patients
- Average age at VEPTR insertion: 6yr. 7 mos.
- Average Cobb angle: 59 degrees
- Average post operative curve: 49 degrees





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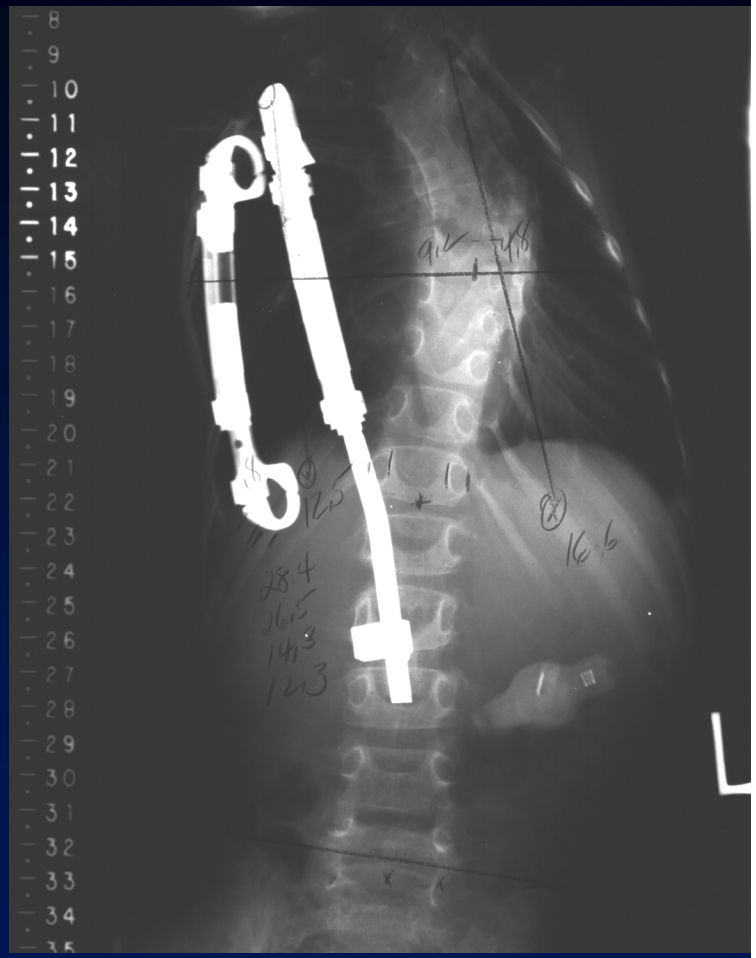
Results

One yr. follow-up subgroup:

- Ave. preoperative Cobb angle: 58.3º
- Ave. postoperative curve: 41.6 º
- Ave. follow-up curve: 48.7º
- Ave. change in trunk height at index surgery: 0.74cm



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Results

Complications:

- 7 patients had complications:
  - 3 patients with loss of fixation alone
  - 1 patient with a postoperative infection
  - 2 patients with both infection and loss of fixation
  - 1 patient with postoperative Horner's syndrome

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Conclusion

Findings:

- Use of VEPTR is beneficial to children with thoracic insufficiency due to various etiologies
- Amount of correction of thoracic height and Cobb angle is less than in children who have not undergone prior spinal procedure
- Complication rate is higher
- VEPTR implantation is a viable salvage procedure in for the “already fused” patient