
Vertebral Column Manipulation (VCM)

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POSNA Annual Meeting

Spine Symposium

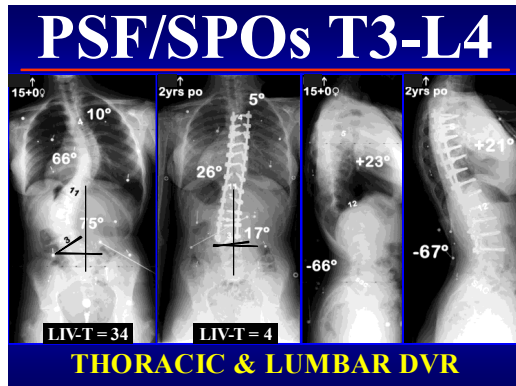
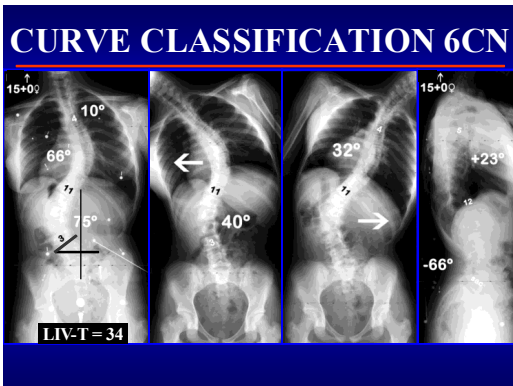
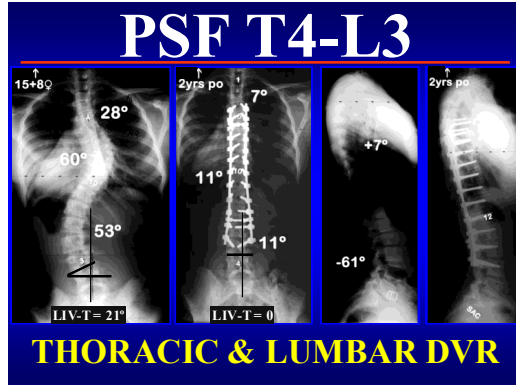
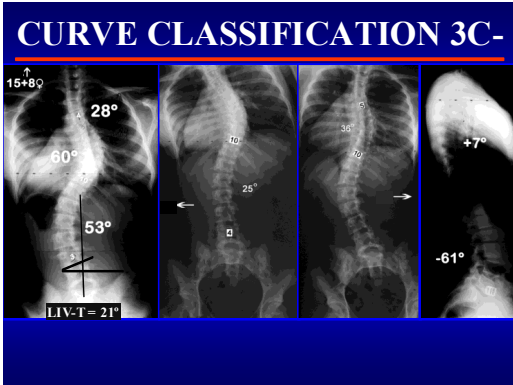
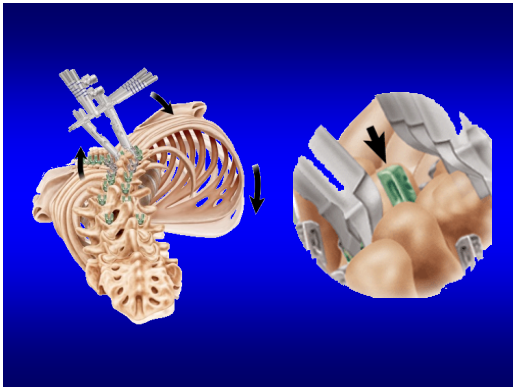
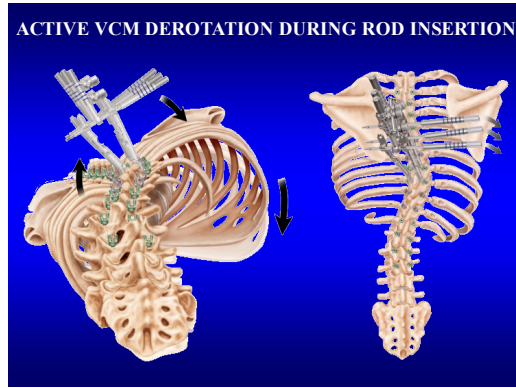
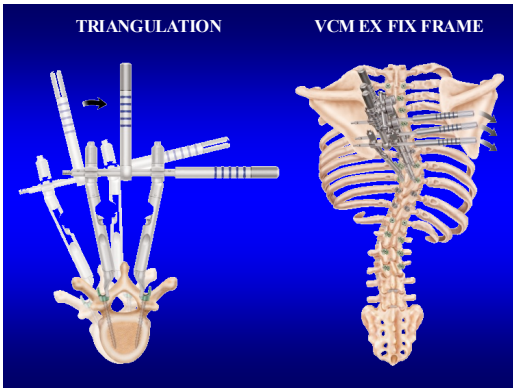
Co-Chairs: David Skaggs, MD, Lawrence Lenke, MD

Denver, CO

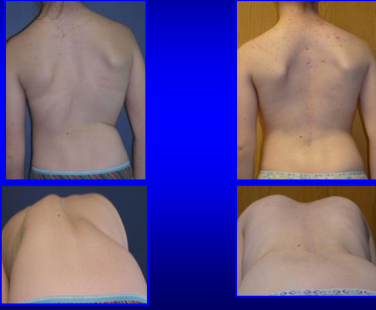
May 17, 2012

1:15pm – 4:35pm

- I. Introduction
 - a. Pedicle screw fixation combined with DVR provides powerful derotational correction in scoliosis surgery
 - b. Primary use in thoracic region to derotate spine & improve rib hump thus avoiding thoracoplasty
- II. Technique
 - a. DVR performed *via* VCM device
 - b. Apical concave MARS used
 - c. Possible separate thoracic derotation
- III. Derotation
 - a. Manipulation of pedicle screws in situ
 - b. Concave screws pulled medially can exit vertebral body laterally
 - c. Convex screws pulled laterally can impale medial pedicle into spinal canal
- IV. Research/Studies Performed
 - a. DVR in the Tx of TL/L AIS: Can it Optimize Correction when Fusing to L3?
 - i. IMAST 2008 paper
 - ii. 32 pts → Lenke 3C-DM & 6C-TL/L-MT curves
 - iii. Pts treated with DVR
 - 1. Ave curve correction 77%
 - 2. Excellent L3 tilt angle
 - iv. Pts treated without DVR
 - 1. Ave curve correction 68%
 - 2. Regression of L3 tilt angle
 - b. Biomechanical Analysis of Derotation of the Thoracic Spine using Linked Pedicle Screws
 - i. Determine most effective method of derotation
 - 1. Compare screw insertion
 - a. Individual
 - b. Single-level bilaterally linked
 - c. Unilaterally linked
 - d. Linked quadrangulated
 - ii. Quadrangulated screws yielded highest torque
- V. Conclusions
 - a. DVR is a useful technique for 3D correction of TL/L DM curve component when stopping fusion at L3
 - b. No added morbidity (thoracoplasty)
 - c. Minimizes LIV title angle



PRE & POST CLINICAL PHOTOS



RESULTS

