9 year-old:
Tether vs. Early Fusion

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• No disclosure!
1st ICEOS/November 2, 2007
10 year-old girl with idiopathic scoliosis: Tether vs. Early Fusion

- Why 9 year old?
  - 10!

- Girl or boy?
  - Girl!

- Idiopathic or non-idiopathic
  - Idiopathic!

<table>
<thead>
<tr>
<th>Age</th>
<th>Newborn</th>
<th>5 year</th>
<th>10 year</th>
<th>15 year</th>
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<tbody>
<tr>
<td>78%</td>
<td>62%</td>
<td>42%</td>
<td>100%</td>
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10 year-old girl with idiopathic scoliosis: Tether vs. Early Fusion
10 year old boy with IS

- Definitive fusion vs. tether
  - Of course GFT
Why fusion?

• One stage
• Predictability
• No significant morbidity
  – Easy to recover
  – Fast return to daily activity
  – Maximum correction in all plane
  – No chest destruction
Why not fusion?

- Fusion
- Crankshaft
Why tether?

• Motion
• Disk preservation
  – ?????
• Minimal invasiveness
  – Thoracoscopy!
Why not tether?

• Relatively high complication!
  – Success
    • 59%
  – Revision
    • 7 out 17
    – 1 revised by PSF and 3 more is planned!

• Rotational correction rib hump correction?
• Uncertainty
• Disc health??
Why not tether?

Uncertainty is more stressful than certainty of bad things to come.
Tether

- Innovation
- New, modern, popular and sexy!
- Motion preservation vs. stiffness
PSF

• Stiffness
  – Udoekwere, Sturm et.al, Spine Def 2014
  • Plug-in-gait model
    – Reduced trunk mobility in all motion planes
    – Peak forward flexion reduction 24-28% for LIV=T12-L1
    – Limitations of axial rotation and backward extension are same in all LIV’s
PSF

- Segmental hypermobility @ unfused segments
  - Marks et.al., Spine 2012 and Spine Def 2015
    - Digital images on static bending positions
      - Increased summed motion @ unfused segments
      - More distal LIV, significant increase on L3-S1 segments
  - Holewijn, de Kleuver, Spine J 2018
    - Gait analysis/ dynamic
    - No compensatory increase in The ROM
Is this risky?

• Motion today
• Degeneration tomorrow
• If not
  – Why we are looking for adventure
Tether vs. fusion

• Motion preservation vs. stiffness

– Fact or fiction?
Tether

BANDWAGON EFFECT
Tether
Friday, November 16

**2028 continued**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Moderators</th>
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<tbody>
<tr>
<td>2:45 – 3:00</td>
<td>Refreshment Break &amp; Exhibit Viewing</td>
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<tr>
<td>3:00 – 3:35</td>
<td><strong>Session 10: The Bandwagon I Jumped On and then Off…</strong></td>
<td>Charles Johnston, Brandon Ramo</td>
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<td>3:00 – 3:05</td>
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<td><strong>Stephan Parent</strong></td>
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<td>3:06 – 3:11</td>
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<td>Carol Hasler</td>
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<td>3:12 – 3:17</td>
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<td><strong>Discussion</strong></td>
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<td>3:18 – 3:23</td>
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<td>Rich Anderson</td>
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