Compliance with the Best Practice Guidelines (BPGs) for Wrong Level Surgery (WLS) Prevention in high-risk Pediatric Spine Surgery

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Background and Research Gap

- WLS should be a *never event* but it continues to occur despite significant effort
- 50% (200415) spine surgeons reported having 1+ WLS during their careers [1]
- Likely under-reported
- 14% of the population have transitional anatomy of the thoracolumbar and lumbosacral regions [2]
- Makes identifying the correct surgical levels difficult

Aim 1: Best Practice Guidelines to Avoid WLS were developed using multiple survey rounds to make identifying the correct surgical levels difficult

Aim 2: Quantify compliance with the BPGs to prevent WLS among a broad group of pediatric spine surgeons

Study Purpose

- **Background and Research Gap**
  - WLS should be a *never event* but it continues to occur despite significant effort
  - 50% (200415) spine surgeons reported having 1+ WLS during their careers [1]
  - Likely under-reported
  - 14% of the population have transitional anatomy of the thoracolumbar and lumbosacral regions [2]
  - Makes identifying the correct surgical levels difficult

- **Study Purpose**
  - **Aim 1**: Quantity compliance with the BPGs to prevent WLS among a broad group of pediatric spine surgeons (members of PSSG, HARMS, and EPOS)
  - **Aim 2**: Compare any differences in compliance between surgeons from North America and Europe.

Study Design

- **Adapted BPG items into questions with Likert scale responses**
- **Anonymous survey sent to surgeons**
- **Created a Mean Compliance Score (MCS)**
  - Each Likert response was given a numerical value from 0 to 3, and MCS for each guideline was tabulated by averaging all responses

Results

Surgeons Reported High-to-Perfect Compliance (81.53%)

- **Average MCS for the entirety of the BPGs was 2.4**, correlating with a high to perfect compliance
  - Moderate positive correlation between awareness of the BPGs and MCS (r=0.48, p<0.01)
  - MCS was higher among those aware (2.5) than those that were not aware (2.2) (p<0.05)
  - Non-significant association between years in practice and MCS (r=0.41, p=0.64) and between yearly case volume and MCS (r=0.02, p=0.87)

**References**
