



Sagittal Alignment Pendulum
STILL SWINGING!




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Disclosures

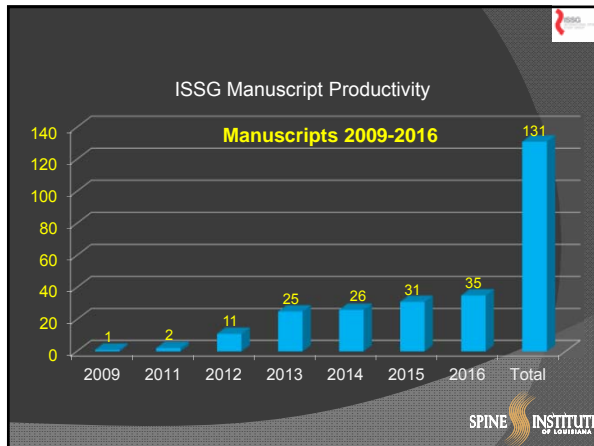
- ◉ K2M – royalties and consulting
- ◉ ISSG – just “a little” conflicted here!



Why are we having this debate?

- ◉ Understanding global spinal alignment
- ◉ Preoperative Planning - Surgimap (or similar)
- ◉ History of how we got here
- ◉ Where are we going?





Sagittal Spinal Analysis

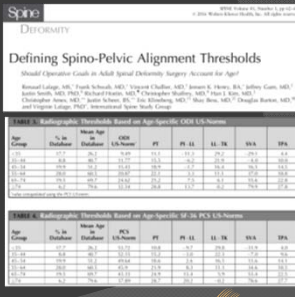
- Measuring deviation stable zone
- Radiographic measures
 - Regional vs. Global
- Regional measures/alignment
 - Familiar
 - Thoracic kyphosis (TK= 20-40°)
 - Lumbar lordosis (LL=30-80°)
 - Relationship of regional curves; proportional relationship
- Global measures/alignment
 - Sagittal vertical axis (SVA)
 - Distance C7 plumbline-posterior superior S1
 - SVA<5cm

Sagittal Spinal Malalignment

- Glassman et al. Spine 2005
- Increasing SVA= increasing disability
 - SF-12, SRS-29, ODI (p<0.001)

What Alignment Should We Obtain?

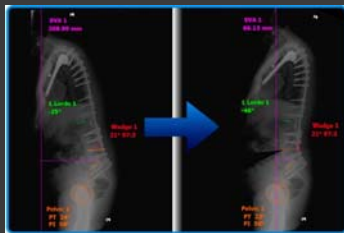
- ⦿ ISSG; Spine 2016
- ⦿ ASD (n=773); OP and NONOP
- ⦿ Age stratified, ODI and SF-36 normative generational values
- ⦿ Radiographic thresholds SSA vs. normative HRQOL values
- ⦿ Linear increase in SVA, PT, PI-LL, TPA with age
- ⦿ Implications for surgical alignment targets
- ⦿ New questions
 - R values=0.5= alignment does not tell the entire story
 - Can patients maintain alignment?




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Surgimap

- ⦿ www.surgimap.com
- ⦿ FREE





Conclusions

- ⦿ We can all agree (FINALLY) that GSA is to be considered in all deformity surgery whether OPEN or MIS
- ⦿ One Size does NOT Fit all
- ⦿ We must continue to collect data to determine the goals of individual deformity surgery
- ⦿ The process BEGINS with knowing what normal is and THEN planning correction based on multiple parameters

