

Best Practice Guidelines

Checklist for Prevention of Wrong Level Surgery in Spinal Deformity

Pre-op

Intra-op

Unclear of Level

- Use standard vertebral numbering (SDSG)
 - Exception: Use C2 (axis) for cervical level counting
- Document the **operative plan, including levels, in the pre-op note**
- Discuss aberrant anatomy and vertebral level selection at indications conference**

- Communicate the pre-op plan, including levels, to OR staff** in time-out
- Localize with **opaque marker after exposure at level** of the pedicle
- Obtain **ideal intra-operative images**
 - Region of interest in center
 - Remove extraneous metal
 - Include a known anatomical landmark (must be **visible** and **consistent** with pre-op imaging)
 - Orthogonal view
 - Radiopaque marker proximal to the LIV
- Consider a **radiographic time-out** to obtain **team consensus regarding the vertebral levels**
- Consider **consulting another surgeon or radiologist** if levels remain unclear

*Note: An opaque marker at the level of the skin should **NOT** be relied upon*

- If uncertain of levels, **optimize and/or repeat intra-operative imaging** with fluoroscopy or portable x-ray
- Consult another spine surgeon or radiologist** if levels remain unclear

Reference:

Vitale, MG, Minkara, A, Matsumoto, H, et al. Building consensus: development of best practice guidelines on wrong level surgery in spinal deformity. *Spine Deformity*. 2018; 6(2):121-129.

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