Is 3D Printed Drill Guides Better at Pedicle Screw Placement than Freehand?

3D printed (3DP) pedicle screw drill guides for fluoroscopic pedicle screw placement

3DP drill guide vs. freehand: a meta-analysis

6 studies including 205 patients

Significant difference favoring 3DP guide

- Operation times (WMD* = –32.32 min)
- Estimated blood loss (WMD = –51.41 mL)
- 'Excellent' screw placement (WRD* = –0.12)

No significant difference in

- Pain and Japanese Orthopedic Association scores
- Risk of 'poor' or 'good' screw placement
- Surgical complications

3DP drill guides could be a convenient alternative to freehand technique for pedicle screw placement

Wallace et al. (2020) | DOI: 10.1097/BSD.0000000000001023