**Supplemental File 1 Summary and characteristics of adverse events**

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| **Adverse events** | **Number (percentage)** |
| ***Deviation of screw in pedicle***  |  |
| Superior | 0 (0) |
| Inferior | 2 (4.3%) |
| Medial | 10 (21.2%) |
| Lateral | 35 (74.5%) |
| Penetration | 47 (100%) |
| ***Screw region for FJV*** |  |
| Screw shaft | 15 (19.5%) |
| Screw head | 62 (80.5%) |
| Rod | 0 (0) |
| Violation | 77 (100%) |
| ***Complications***  |  |
| Intraoperative revision due to screw malposition | 0 (0) |
| Postoperative revision due to screw malposition | 0 (0) |
| Neurological symptoms due to screw insertion | 0 (0) |
| Wound infections | 1 (1.4%) |
| Patients  | 72 (100%) |