### Methods

<table>
<thead>
<tr>
<th>Complication Type</th>
<th>No. Incidence</th>
</tr>
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<tbody>
<tr>
<td>Blood loss (fatal)</td>
<td>1 0.02%</td>
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<tr>
<td>Pulmonary embolus</td>
<td>1 0.02%</td>
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<tr>
<td>Nonfatal hematologic</td>
<td>6 0.14%</td>
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<tr>
<td>Other</td>
<td>59 1.35%</td>
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<tr>
<td>Wound infection</td>
<td>59 1.35%</td>
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</table>

### Conclusions

- Complications in spinal deformity surgery have an incidence rate of 5%.
- Multimodality monitoring is commonly used by combining somatosensory evoked potentials (SSEP), motor evoked potentials, and electromyography (EMG) to evaluate neuromotor potentials and failed intra-operative monitoring equipment.
- Intra-operative complications that have been studied include neurological, implant related deficiency, and peripheral nerves.
- While protocols have been established to address positioning issues, machinery malfunctions, and surgical problems, in rare situations, the spinal deformity surgeon may decide to discontinue the surgery due to an intra-operative problem.
- In spine surgery, multimodality monitoring is developed a deep surgical site infection, responding to corrective measures to achieve baseline readings.
- Three (27%) developed intra-operative anaphylactic reactions.
- Three patients required multiple surgical interventions, during the hospital stay, to address unresolved neurological monitoring equipment malfunction.
- Seven of the 11 (64%) patients developed abnormal neuromotor potentials and failed intra-operative monitoring equipment.
- Eleven patients were retrospectively identified for a breach or expansion.
- One patient with Charcot-Marie-Tooth type 1, developed a late deep surgical site infection.
- RCA suggests that a spinal cord that was tightly approximated to an apical pedicle was at risk for a neurologic deficit.
- RCA suggested a need for greater understanding of the discontinuation of surgery.
- However, discontinued surgery appears to be a risk factor for the economic impact of a discontinued case.
- Cost of follow up operation and hospitalization will be reported by the total number of cases.
- The annual morbidity and mortality data submitted by the department of Orthopaedic Surgery will be a single-center, retrospective study.
- This is a single-center, retrospective study.

### References:

1. Abumi, Kuniyoshi MD; Shono, Yasuhiro MD; Ito, Manabu MD; Tanichi, Hiroshi MD; Kotani, Yoshihisa MD; Kaneda, Kiyoshi MD. “Complications of pedicle screw fixation in reconstructive surgery of the cervical spine.”