

Abstract

Background

Immediate postoperative radiographs are routinely obtained in the recovery room to verify the level, alignment of the spine, implant position, and the adequacy of decompression. However, given the ability to use intraoperative imaging for this purpose, the aim of this study is to investigate the utility and relevance of immediate postoperative radiographs in providing critical information necessitating immediate surgical intervention.

Methods

We retrospectively reviewed our clinical database surgeries from 2011 to 2016 and identified all cases that returned to the operating room within 48 hours. Indications for immediate revision were reviewed and the utility of immediate postoperative radiographs in guiding emergent management was analyzed.

Results

Out of 1804 cases, 22 patients returned to OR within 48 hours of their index procedures. 9 of these 22 patients (0.7%) were included as true unplanned immediate revision cases after excluding 13 planned staged procedures/aborted (medical reasons) cases. 7 of these 9 patients returned to the OR secondary to persistent/new neurologic deficit and/or persistent abscess. Only 0.10% of patients (2 out of 1804) had immediate revision based on postoperative radiographs showing inappropriate/failed hardware. Both cases involved instrumentation in the cervicothoracic region and intraoperative imaging provided limited visualization.

Conclusion

The potential benefit of immediate recovery room radiographs following spine surgery should be weighed against the added healthcare cost and patient discomfort and radiation exposure associated with obtaining these radiographs. Imaging may be delayed to a more elective time without any significant risk in majority of spine cases.