

A Protocol to Avoid Wrong Level Encounters in Spine Surgery

Ekkehard Matthias Kasper MD PhD

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Introduction

Several factors can contribute to wrong-level spine surgery, including suboptimal imaging, partial imaging, morbid obesity, thoracic location, presence of multiple lesions, transitional congenital anomaly, age, and diminished mineralization of bone amongst others (after Reitman, 2015). Some of these factors can be addressed via introduction of protocols and careful preparation e.g. pre-surgical marking in patients in whom difficulty can be predicted. These techniques and added steps (including marking techniques) can save considerable time, minimize uncertainty during surgery, and most importantly, help prevent wrong-level surgery.

Methods

Several years ago, our hospital encountered several such events within a short period of time despite adherence to the Universal Protocol. We addressed this problem with a thorough review of the work flow and a root cause analysis of potential pitfalls. This led to significant changes and implementation of a new Spine Surgery Protocol and Policy, addressing all steps from preoperative status, intraoperative site marking with redefined surgeon responsibilities and OR team responsibilities. This was mandated since 2008 as a hospital wide policy.

Results

No serious adverse events of wrong side or wrong side surgery or exploration have been recorded in a hospital wide prospective database since the introduction of these measures in more than 11,000 performed cases.

Conclusions

Introduction of a strict Spine Surgery Protocol as part of the perioperative services has resulted in a significant reduction of medical errors as encountered in mistakes of side and site. We advocate a more widespread adoption of these measures to increase patient safety and help to avoid medical errors.

Learning Objectives

To learn about a spine surgery protocol that reliably aids in avoiding medical side and site error in spine surgery.

References