

subsequent radiation. Recurrence of his disease led to resection of his 3rd and 4th ribs and repeat radiation. He presented 6 years later with 2 episodes of massive hemoptysis. Review of the literature was conducted to search for similar complications. **Results:** A Chest Computed Tomography scan demonstrated the presence of a pedicle screw tip in the right pulmonary artery. Angiogram revealed no evidence of active arterial extravasation. In the operating room, the patient had a right lower lobectomy, with segmental pulmonary artery sacrifice, as well as replacement of the spinal fixation hardware. Literature review revealed multiple aortic injuries following spinal instrumentation. However, this was the first case of pulmonary artery erosion. **Conclusions:** Spinal instrumentation has been associated with screw migration and penetration of nearby tissues and vessels. A high incidence of suspicion is required when patients present with delayed and unusual complications.

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Factors Contributing to Prolonged Length of Stay in Adults Undergoing Spine Surgery: Results from a Quaternary Spinal Care Center

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Background: Prolonged length of stay (LOS) is associated with increased resource utilization and worse outcomes. The goal of this study is identifying patient, surgical and systemic factors associated with prolonged LOS overall and per diagnostic category for adults admitted to a quaternary spinal care center. **Methods:** We performed a retrospective analysis on 13,493 admissions from 2006 to 2019. Factors analyzed included patient age, sex, emergency vs elective admission, diagnostic category (degenerative, deformity, oncology, trauma), presence of neurological deficits in trauma patients, ASIA score, operative management and duration, blood loss, and adverse events (AEs). Univariate and multivariate analyses determined factors associated with prolonged LOS. **Results:** Overall mean LOS (\pm SD) was 15.80 (\pm 34.03) days. Through multivariate analyses, predictors of prolonged LOS were advanced age ($p < 0.001$), emergency admission ($p < 0.001$), advanced ASIA score ($p < 0.001$), operative management ($p = 0.043$), and presence of AEs ($p < 0.001$), including SSI ($p = 0.001$), other infections (systemic and UTI) ($p < 0.001$), delirium ($p = 0.006$), and pneumonia ($p < 0.001$). The effects of age, emergency admission, and AEs on LOS differed by diagnostic category. **Conclusions:** Understanding patient and disease factors that affect LOS provides opportunities for QI intervention and allows for an informed preoperative discussion with patients. Future interventions can be targeted to maximize patient outcomes, optimize care quality, and decrease costs.

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Variations in and Determinants of Length of Stay at an Academic Spinal Care Center from 2006-2019

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Background: Length of stay (LOS) is a surrogate for care complexity and a determinant of occupancy and service provision. Our primary goal was to assess changes in and determinants of LOS at a quaternary spinal care center. Secondary goals included identifying opportunities for improvement and determinants of future service planning. **Methods:** This is a prospective study of patients admitted from 2006 to 2019. Data included demographics, diagnostic category (degenerative, oncology, deformity, trauma, other), LOS (mean, median, interquartile range, standard deviation) and in-hospital adverse events (AEs). **Results:** 13,493 admissions were included. Mean age has increased from 48.4 (2006) to 58.1 years (2019) ($p < 0.001$). Mean age increased overtime for patients treated for deformity ($p < 0.001$), degenerative pathology ($p < 0.001$) and trauma ($p < 0.001$), but not oncology ($p = 0.702$). Overall LOS has not changed over time ($p = 0.451$). LOS increased in patients with degenerative pathology ($p = 0.019$) but not deformity ($p = 0.411$), oncology ($p = 0.051$) or trauma ($p = 0.582$). Emergency admissions increased overtime for degenerative pathologies ($p < 0.001$). AEs and SSIs have decreased temporally ($p < 0.001$). **Conclusions:** This is the first North American study to analyze temporal trends in LOS for spine surgery in an academic center. Understanding temporal trends in LOS and patient epidemiology can provide opportunities for intervention, targeted at the geriatric populations, to reduce LOS.

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Investigating the changes in ITP after CSF drainage in patients with acute traumatic SCI: Results from a Quaternary Spinal Care Center

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Background: Mean arterial pressure augmentation is one current established practice for management of patients with SCI. We present the first data investigating the effectiveness of Intrathecal Pressure (ITP) reduction through CSF drainage (CSFD) in managing patients with acute traumatic SCI at a large