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### Hospital Cost Analysis of Adult Scoliosis Surgery in 120 Consecutive Cases

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**Summary:** This retrospective review is designed to determine the surgical and hospitalization costs, charges, and reimbursements for adult scoliosis correction at one institution. Identification of specific contributors to cost will enable a targeted approach to cost reduction and resource allocation. We report a mean total cost of \$47,127. Implants remain the largest individual contributor to overall cost. Age, operative time, and number of screws used predicted increased cost.

**Introduction:** Achieving clinical success is the primary goal of surgical treatment for adult scoliosis. Socioeconomic pressures due to rising health care costs have made it imperative to do so in the most cost-effective manner possible. This study sets out to determine the surgical and hospitalization costs, charges, and reimbursements for adult scoliosis correction at one institution.

**Methods:** We performed a retrospective review of 30,185 individual costs, charges, and reimbursements on 120 consecutive patients who underwent primary spinal fusion for adult scoliosis by three different surgeons between 2006 and 2009. Demographic, surgical, and radiographic data were recorded for each patient. Stepwise multivariate linear regression was used to determine factors predictive of increased cost. Pearson correlation was used to assess the correlation between cost, charge, and reimbursement.

**Results:** The patients' (86 females, 34 males) mean age was 40 (range 18-82), and the average number of levels fused was 10. The mean total surgical and hospital cost was \$47,127, mean total charge was \$140,286, and mean total reimbursement was \$62,138. The hospital was reimbursed 44% of total charges and 132% of total costs. Reimbursement correlated most with charge ( $r=.611$ ,  $p<0.001$ ). Cost and charge were also highly correlated ( $r=.772$ ,  $p<0.001$ ). The largest contributor to overall cost was implants (29%). Other large contributors to overall cost were inpatient room/ICU (20%), operating room/recovery room (12%), operating room instruments (8%), and bone graft (6%). Age, operative time, and number of screws used predicted overall cost.

**Conclusion:** Surgical correction for adult scoliosis remains expensive, with a mean total cost of \$47,127. Implants remain a large contributor to overall cost. Reimbursement was highly correlated with charge, but not with cost. This study characterizes the relative contributions of factors that contribute to total cost, charge, and reimbursement for the surgical correction of adult scoliosis. These contributors serve as targets for overall cost reduction or resource re-allocation.