

Safety of Inpatient Reconstructive Surgery Care

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Abstract

Background: Improving quality of healthcare is a national priority. To establish quality benchmarks for plastic surgery, we must understand current rates of adverse events. This project assessed risk-adjusted rates of inpatient adverse events for soft-tissue reconstructive procedures.

Methods: Data from 2005-2009 were extracted from the Nationwide Inpatient Sample (NIS), an Agency for Healthcare Research and Quality database. Patients included had a soft tissue reconstructive procedure as their principal procedure. Adverse events were identified using established patient safety indicators (PSI). All procedure and diagnosis codes were identified using ICD9-CM codes. Our comparison group was all other surgical patients in NIS for 2009. Rates were risk-adjusted PSIs per 1,000 patients.

Results: We found 360,549 hospital stays with soft tissue reconstruction as principal procedure and 4.5% had an adverse event during their hospital stay. PSI were associated with increased risk-adjusted mortality (8.5 vs. 0.7, $p<.01$), and longer stays (29.4 vs. 10.0, $p<.01$). Overall, PSI rates in plastic surgery patients were lower than other surgical patients. However PSI risk adjusted rates were significantly higher for death among surgical in-patients with serious treatable conditions (163.02 vs. 128.26), which was almost solely driven by patients with burns. Looking at specific procedures, size reduction (86.83) had significantly higher rates of hematoma/hemorrhage. Rates of hematoma were significantly increased in males compared to female (12.93 vs. 3.62) and were further accentuated when broken down by payer (male, Medicare: 6.02; male, Medicaid, 38.86, male, Private insurance: 12.56).

Conclusions: Plastic surgery patients had lower PSI's than other surgical disciplines, but PSIs were not uncommon in plastic surgery. These data highlight areas in soft tissue reconstructive surgery where quality improvement efforts can be focused, certainly in males receiving size reduction procedures. With the establishment of the basal rate of PSI's, benchmarks can be devised and areas to target for improvement identified.

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