



# Editorial on “Impact of complications on length of stay in elective laparoscopic colectomies”

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Colectomy is one of the most common surgical procedures performed in the United States, with greater than 300,000 procedures performed in 2014 (1), the majority of these are performed laparoscopically (2,3). These procedures are at high risk of complication, and it is known that complications affect length of stay (LOS).

Using the American College of Surgeon's National Surgical Quality Improvement Program (NSQIP) database the authors evaluated the impact of individual complications on LOS after elective laparoscopic colectomy. The study included over 42,000 patients (from 2011 to 2014) and evaluated thirty-day postoperative morbidity and mortality. Authors looked specifically at individual postoperative complications and their effect on LOS. The postoperative complications included in this cohort were bleeding requiring transfusion <72 h, superficial surgical site infection (SSI), organ space SSI, postoperative sepsis, UTI, wound occurrences (deep SSI and/or fascial disruption), pneumonia, unplanned intubation, ventilator dependence >48 h, PE, DVT, MI, acute renal failure (ARF). For this cohort, median LOS was 4 days. After adjustment for patient demographics and other complications; unplanned reoperation had the greatest impact on LOS with increase of 1.6 times. The most frequent postoperative complications included bleeding requiring transfusion <72 h (N=1,765, 4.2% of patients), superficial SSI (N=1,673, 3.9% of patients), unplanned reoperation (N=1,389, 3.3% of patients), and organ space SSI (N=1,003, 2.4% of patients). Postoperative sepsis and UTI each occurred in <2% of patients. Wound occurrences, pneumonia, unplanned intubation, ventilator dependence >48 h, PE, DVT, MI,

and ARF each occurred in <1% of patients. Overall, 30-d mortality was (N=188, 0.4% of patients) and overall readmission (N=2,416, 6.9% of patients). In addition, authors estimated that 12,195 additional hospital days could be attributed to the complications, leading to a burden in excess of \$150 million on the healthcare system.

The relationship between complications and LOS is well documented. As some studies reported two-fold increase in LOS with postoperative complications (4,5). Overall, this study is similar to the other literature. It would have been helpful to look at some of the other known risk factors for complications such as surgeon or institutional volume or cumulative complication risk. Also, given the increased push towards ERAS, it would have been interesting if they could have adjusted for the use of early recovery protocols as it is clear that LOS can be markedly reduced with proper postoperative care (6,7).

Overall, this retrospective study of large database confirmed prior data showing the impact of complications on postoperative outcomes. In addition, to that it presented the financial burden and costs of these complications, looking to improve health care and to decrease institutional costs.

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