

# Hospital readmissions after surgery often related to complications from surgery

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In a study that included readmission information from nearly 350 hospitals, readmissions the first 30 days after surgery were associated with new postdischarge complications related to the surgical procedure and not a worsening of any medical conditions the patient already had while hospitalized for surgery, according to a study in the February 3 issue of *JAMA*.

Readmission as a quality and cost-containment metric is now a major issue for hospitals, clinicians, and policy makers. Financial penalties for [readmission](#) have been expanded beyond [medical conditions](#) to include surgical procedures. Hospitals are working to reduce readmissions; however, little is known about the reasons for readmission after surgery. Identification of these reasons could help direct future surgical quality improvement efforts and policy decisions designed to reduce surgical readmission rates, according to background information in the article.

Ryan P. Merkow, M.D., M.S., of the American College of Surgeons, Chicago, and colleagues examined the reasons, timing, and factors associated with unplanned postoperative hospital readmissions within 30 days after surgery. The study included data from patients undergoing surgery at one of 346 hospitals participating in the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) between January and December 2012.

Readmission rates and reasons were assessed for all surgical procedures and for six representative operations: bariatric procedures, colectomy or proctectomy, hysterectomy, total hip or knee arthroplasty, ventral hernia repair, and lower extremity vascular bypass.

The unplanned 30 day readmission rate for 498,875 operations was 5.7 percent. For the individual procedures, the rate of readmission ranged from 3.8 percent after hysterectomy to 14.9 percent after lower extremity vascular bypass. The

most common reason for unplanned readmission was surgical site infection (SSI; 19.5 percent), ranging from 11.4 percent after bariatric surgery to 36.4 percent after lower extremity vascular bypass.

The most common reason for readmission after [bariatric surgery](#) was ileus (blockage of the intestine) or obstruction (24.5 percent), and ileus or obstruction was the second most common reason for readmission overall (10.3 percent) and for colectomy or proctectomy, ventral hernia repair, and hysterectomy. Other common causes included dehydration or nutritional deficiency, bleeding or anemia, blood clots, and surgical device issues.

When examining early (within 7 days of discharge) and late (more than 7 days after discharge) unplanned readmissions separately, the top 3 reasons for readmission were similar overall (SSI, ileus or obstruction, and bleeding) and when examining each of the 6 procedure groups individually. Only 2.3 percent of patients were readmitted for the same complication they had experienced during their index hospitalization.

"Understanding the underlying reasons for readmission, the timing, and the associated factors should help hospitals to undertake targeted [quality improvement](#) initiatives to reduce readmissions. However, surgical readmissions mostly reflect postdischarge complications, and readmission rates may be difficult to reduce until effective strategies are put forth to reduce common complications such as SSI. Efforts should focus on reducing complication rates overall than simply those that occur after discharge, and this will subsequently reduce [readmission rates](#) as well. Readmissions after surgery may not be an appropriate measure for pay-for-performance programs but rather better suited as measure for hospitals to track internally," the authors write.

In an accompanying editorial, Lucian L. Leape, M.D., of the Harvard School of Public Health,

Boston, comments on this study.

"The findings reported by Merkow et al are noteworthy because they are derived from analysis of ACS NSQIP data, widely regarded as among the most reliable measures of quality. These results contrast with most readmission studies that rely on administrative data, which are known to have major deficiencies. In addition, the authors make several useful suggestions as to how these findings could be used to reduce readmissions—but an important question is how can the data be used to reduce the pain and suffering that complications cause for patients? ... The findings reported by Merkow et al provide an unprecedented opportunity to apply these lessons to make substantial reductions in surgical complications."

**More information:** *JAMA*, [DOI: 10.1001/jama.2014.18614](https://doi.org/10.1001/jama.2014.18614)  
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