

Longer Surgeries Mean More Infections, Longer Hospital Stays

NEW YORK (Reuters Health) Jan 07 - The longer an operation, the greater the risk that a patient will have infectious complications and spend extra days in the hospital, according to a new study.

"These data show that operative duration remains associated with increasing infectious complications in a broad spectrum of general surgery patients after adjustment for numerous patient and operative risks," Dr. Levi D. Procter and colleagues, from the University of Kentucky College of Medicine, Lexington, note.

In a study of nearly 300,000 operations performed at 173 hospitals from 2005 to 2007, the authors found that the 30-day rate of infectious complications rose by almost 2.5% for every 30 minutes between incision and closing.

The rates ranged from 3.7% for cases lasting up to an hour to 31.4% for cases that took more than 6 hours ($p < 0.001$), they report in the January issue of the Journal of the American College of Surgeons.

After adjusting for patient variables, type and complexity of surgery, wound class, and need for transfusion, operative time remained a significant predictor of postoperative infection. Compared to patients whose operations took no more than an hour, those whose surgery lasted 2.1 to 2.5 hours had nearly double the risk of infectious complications, the report indicates.

This pattern was also seen in a subgroup of otherwise healthy patients who had laparoscopic cholecystectomy with a clean or clean-contaminated wound and no blood transfusion. In this subset, infections rates were 0.7% when cases lasted less than 30 minutes, 1.4% in cases lasting from 60 to 90 minutes, and 1.7% in cases longer than 90 minutes.

Across all procedures, hospital stays increased geometrically along with operative times, at a rate of about 6% for every 30 minutes, the authors said.

"Our data contribute to our understanding of the independent infection risk relative to operative duration across a broad range of procedures in a very large, multicenter contemporary patient population," the researchers conclude. "Strategies to reduce operative duration can reduce infectious complications and length of stay."

J Am Coll Surg 2010;210:60-65.