

Study examines risk factors for small-bowel obstruction following surgery

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Surgical technique is a factor related to small-bowel obstruction (SBO) and compared with laparoscopic surgery, open surgery appears to be associated with an increased risk of SBO, according to a study published in the April issue of *Archives of Surgery*.

SBO is a common reason for emergency admission and a major cause of SBO is intraperitoneal (within the abdomen) adhesions that can develop from peritoneal trauma, such as prior [abdominal surgery](#), and form within days of a surgical procedure, the authors write in their study background.

"Laparoscopic surgery is considered to be associated with less surgical trauma, implying a reduction of adhesions," the authors comment in the background. They also note that reports in the literature regarding the clinical effect of [laparoscopy](#) on adhesion-related morbidity have not been convincing.

Eva Angenete, M.D., Ph.D., of Sahlgrenska University Hospital/Ostra, Gothenburg, Sweden, and colleagues conducted a population-based register study that included procedures from January 2002 through December 2004 using the Inpatient Register held by the Swedish National Board of Health and Welfare. A total of 108,141 patients were included in the study that examined the incidence of SBO after abdominal and [pelvic surgery](#) for several common surgical and gynecological conditions to identify possible risk factors for SBO. Among the procedures included were cholecystectomy ([gall bladder](#)

removal), hysterectomy (uterus removal) , appendectomy (appendix removal) and bariatric surgery, including gastric bypass. Follow-up was until death or up to five years after the initial surgery.

Study results indicate the incidence of SBO ranged from 0.4 percent to 13.9 percent depending on the type of operation.

"This study shows that, beyond important factors such as age, previous abdominal surgery and comorbidity (coexisting illnesses), the surgical technique is the most important factor related to SBO. Compared with laparoscopic surgery, open surgery seems to increase the risk of SBO at least four times," the authors conclude.

In an invited critique, Luke M. Funk, M.D., M.P.H. and Stanley W. Ashley, M.D., of Brigham and Women's Hospital, Harvard Medical School, Boston, write: "This finding adds to the body of literature suggesting that laparoscopy decreases the incidence of adhesion-related readmissions and has important implications for both the quality and cost of surgical care."

"For patients, who typically face up to a 1-in-3 chance that they will be readmitted for management of adhesive-related disease within 10 years of open abdominal surgery, it offers an opportunity for improved quality of life and decreased morbidity," the authors note.

They conclude: "For surgeons, it highlights another potential benefit of minimally invasive surgery and challenges us to continue to offer less invasive procedures whenever they are feasible. For payers and health care policy leaders, it suggests that substantial cost savings could be achieved if [open surgery](#) were replaced with laparoscopic [surgery](#) more often."

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