

# Study shows short and long-term cost-savings associated with minimally invasive surgery

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Adding to the clinical benefits and improved patient outcomes associated with minimally invasive surgery, Medtronic highlighted a study published in the March 25 online edition of *JAMA Surgery*. The new study demonstrated that patients who underwent laparoscopic colectomy procedures required fewer days of health care utilization and the health care system spent less on their acute and follow-up care than those who underwent traditional open surgery.

"We found that the use of minimally invasive laparoscopic approaches in a select group of patients undergoing colectomy procedures resulted in significantly lower [health care](#) costs and resource utilization compared with open surgical approaches. This may expand access and lower the cost of patient care in the long term," said lead author Conor P. Delaney, MD PhD, of University Hospitals Case Medical Center in Cleveland, Ohio. "These results reflect the well-documented benefits of [laparoscopic surgery](#), which include faster recovery, less pain and fewer complications."

A colectomy is the surgical removal of part or all of the colon and the rectum and is usually performed to treat several digestive health conditions, including diverticulitis, Crohn's disease, ulcerative colitis and cancer of the colon and rectum.

The study found that laparoscopic colectomy procedures - which utilize three or four small incisions instead of one large one - resulted in \$6,689 lower costs to payers, with open surgery totaling \$29,753 compared to \$23,064 for the laparoscopic approach. Overall health care expenditures in the three months after open colectomy were \$8,272 and rose to \$21,598 after a year, compared to \$4,176 and \$11,719, respectively for patients who underwent [laparoscopic procedures](#). That equates to a

difference of \$4,096 after three months and \$9,879 after the first year. In the first year after their procedures, the open surgery patients were hospitalized 2.12 times more and spent 1.13 times more on medicines than patients in the laparoscopy group.

"With significantly fewer days required for health care utilization in the laparoscopic group, patients are less likely to miss days of work, further strengthening the economic benefit of these procedures which have long been associated with better patient outcomes than [open surgery](#)," said Michael Tarnoff, MD, chief medical officer, Covidien Group at Medtronic. "In support of optimizing patient care costs and efficiencies, we continue to offer innovative and less invasive, more successful procedures for earlier diagnosis, better treatment and faster, complication-free recovery."

Researchers conducted a retrospective multivariate regression analysis of national health insurance claims utilizing data obtained from the Truven Health Analytics MarketScan Commercial Claims and Encounters database. The study measured three main outcomes: health care utilization, including office, hospital outpatient, and emergency department visits and inpatient services 90 days and one year after the procedure; [health care expenditures](#); and estimated patient days off from work. The study population was comprised of 4,160 patients aged 18 to 64 years old who underwent elective laparoscopic (45.6%) or open colectomy (54.4%) from January through December 2010.

Clinical benefits of laparoscopic colectomy, including but not limited to decreased complications, mortality and rates of readmission have been demonstrated in multiple studies.

Provided by University Hospitals Case Medical  
Center

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