

# New care approach to colorectal operations speeds patients' recovery times

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Patients undergoing colorectal operations who participated in an enhanced recovery program left the hospital sooner and had significantly lower hospital costs than patients who had the traditional approach to their care, according to a new study, which also found further postoperative improvements after adding an infection prevention protocol. The study is published online as an "[article in press](#)" on the *Journal of the American College of Surgeons* website in advance of print publication later this year.

"Enhanced recovery after surgery" is a multicomponent perioperative approach pioneered in Europe that is relatively new in the United States. It aims to speed [patients'](#) recovery by reducing the body's stress responses to a surgical procedure and promoting earlier return of bodily functions.

In this single-center study, the new hospital care approach trimmed nearly two days off the hospital stay, on average, compared with traditional surgical care, without leading to a higher readmission rate in the first month after discharge, study authors reported. Additionally, the rate of surgical site infection (SSI), a major cause of prolonged recovery after an operation, dropped by nearly 10 percent according to senior investigator Julie K. M. Thacker, MD, FACS, FASCRS, assistant professor, department of surgery, Duke University Medical Center, Durham, N.C.

Dr. Thacker said their study is the first to combine a best practices

"bundle" of scientifically proven methods for reducing SSIs with an enhanced recovery program for patients undergoing major colorectal operations.

Enhanced recovery encompasses but goes beyond "fast-track surgery" with its minimally invasive techniques and encouragement of early mobilization and eating. Enhanced recovery practices do away with traditional preoperative fasting and bowel-emptying preparation whenever possible, instead allowing clear liquids up to two hours before the procedure. To prevent fluid retention, anesthesiologists reduce the volume of intravenous (IV) fluids given during the procedure. Patients also receive far fewer narcotic painkillers during and after the operation. Use of other types of pain medicine decreases the side effects of narcotics, such as vomiting and constipation, which can lengthen the hospital stay.

Despite studies demonstrating that enhanced recovery significantly shortens hospitalization after colorectal procedures compared with traditional surgical care,<sup>1</sup> Dr. Thacker said U.S. physicians have been slow to accept some components of the approach.

"The scientific evidence that it is safe for patients to drink clear liquids up to a few hours before anesthesia is more than 25 years old," Dr. Thacker said. "It just took us that long to adopt."

Although US hospitals have begun to introduce various pieces of enhanced recovery, Dr. Thacker said Duke's enhanced recovery program covers the entire surgical continuum—before and during the operation and through recovery in the hospital—and involves both the surgical and anesthesia teams. The program is an amalgam of evidence-based programs from the United States, United Kingdom, and Europe.

"Each individual component was studied in the medical literature before

we added it to our program," she said.

For this study, the researchers used data from the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) to identify patients who underwent elective (nonemergency) major colorectal resections at Duke between September 2006 and March 2013. NSQIP® is the leading nationally validated, risk-adjusted, outcomes-based program to measure and improve the quality of surgical care in hospitals.

Dr. Thacker and colleagues found 787 patients who met study criteria and grouped them into three groups based on their [surgical care](#). The first group consisted of 337 patients who received traditional care. In the second group, 165 patients participated in the enhanced recovery program, which the hospital implemented in February 2010, but did not receive the SSI bundle, initiated in July 2011. The final group included 285 patients who received both interventions.

Study results showed each intervention improved surgical outcomes in different ways.

Patients who received enhanced recovery stayed in the hospital 1.7 days fewer than those who received traditional care (6.6 days versus 8.3 days).

According to hospital finance data the average hospital cost for a colorectal surgical admission fell from \$31,926 in 2008, before the enhanced recovery program began, to an inflation-adjusted \$22,044 in 2013, three years after the program started.

The group that underwent operations with both enhanced recovery and the SSI bundle had a decreased rate of superficial (surface) wound infections: 6.3 percent versus 16.1 percent in the enhanced recovery-

only group. Rates of sepsis, a life-threatening infection, also were lower, 1.8 percent compared with 11.2 percent.

The SSI bundle included, among other measures, postoperatively keeping the patient's temperature normal, which promotes healing; removing the bandage within two days of the operation; and washing the incision daily for one week with antiseptic solution.

"The enhanced recovery program and the SSI bundle together have profoundly altered the practice of colorectal surgery at our institution and improved the quality of care," Dr. Thacker commented.

**More information:** 1 Zhuang CL, Ye XZ, Zhang XD, Chen BC, Yu Z. Enhanced recovery after surgery programs versus traditional care for colorectal surgery: a meta-analysis of randomized controlled trials. *Dis Colon Rectum*. 2013 May;56(5):667-678.

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