

Large-scale enhanced recovery program improves outcomes for bariatric surgery patients

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A large-scale implementation of a protocol to improve recovery of patients after weight-loss operations was found to reduce rates of extended hospitalization by almost half at 36 participating accredited bariatric surgery centers nationwide, according to a study published online ahead of print in the current issue of the journal *Surgery for Obesity and Related Diseases*. The initiative, titled ENERGY—for Employing Enhanced Recovery Goals in Bariatric Surgery—compared outcomes of 8,946 bariatric operations before with 9,102 operations that occurred after implementation of the protocol, known as an enhanced recovery program (ERP).

For this study, ERP measured 26 different process measures aimed at improving outcomes after weight-loss operations. "The key finding of this study is that the more adherent a program was to all of the process measures of the protocol, the greater the reduction their patients experienced in their extended length of stay," said lead author Stacy A. Brethauer, MD, FACS, professor of [surgery](#) at The Ohio State University, Columbus. The researchers defined extended length of stay (LOS) as any hospitalization of more than four days after the operation. Before the ERP, 8.1 percent of operations resulted in an extended LOS; after ERP, the rate declined to 4.5 percent. "This result was accomplished without increasing readmission rates," Dr. Brethauer said. At centers that complied with 23 or more of the 26 ERP process measures, the rate of extended LOS was 2.3 percent vs. 5.4 percent at

those that complied with 19 or 20.

ERPs have been around for nearly two decades, first adopted in the United States by colorectal and orthopedic surgery and anesthesiology units in hospitals. The goal is to maintain a patient's normal physiological state as much as possible throughout the operation and recovery process, Dr. Brethauer explained. "This goal is accomplished by allowing patients to arrive for surgery in a physiologically 'fed' state after drinking a carbohydrate drink two hours prior to surgery, minimizing fluid overload during and after surgery, maintaining tight blood sugar control, implementing opioid-sparing multimodal pain management strategies, and minimizing emotional and physical stress that can accompany a major operation," Dr. Brethauer said. The protocol also eliminates the use of drains and urinary catheters, encourages early mobilization after operations, and the use of regional anesthetic blocks and non-opioids as first- and second-line pain management treatments.

"Patient education is critical to a successful enhanced recovery program," he said. "Setting expectations and describing the opioid-sparing pain management strategies to patients before their operations is important and helps patients understand their role in their recovery." In this study population, 87 percent of patients in ERP had no Foley catheter placed, 81 percent received oral liquids within eight hours of the operation, and 84 percent were up and moving within eight hours of their procedure.

As for pain management, 82 percent of patients received a regional block or lidocaine drip during surgery, 79 percent received either acetaminophen (Tylenol) in combination with another non-narcotic pain medication such as celecoxib (Celebrex) or gabapentin as their primary pain medication after surgery, and 25 percent received no opioid medications after they left the recovery room. "Routine use of patient-controlled analgesia with opioids was not allowed," Dr. Brethauer noted.

"All of these measures improve recovery by reducing nausea, postoperative ileus (bowel obstruction) and other opioid-related adverse events. Also, as fewer patients are exposed to opioids after bariatric operations, there will likely be fewer patients who become addicted and continue to use opioids beyond their recovery period.

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) launched this quality improvement project to implement a prescriptive ERP. The researchers invited 80 MBSAQIP centers identified as outliers for extended LOS in the MBSAQIP database and 36 enrolled after reviewing the protocol and the commitment required. "Implementation of the protocol required multiple stakeholders—anaesthesia, nursing, pharmacy, administration, surgical team—at each site to commit to the protocol," Dr. Brethauer said.

As a result of the study, MBSAQIP is encouraging all of its accredited centers to adopt enhanced recovery protocols into their surgical practice, Dr. Brethauer said. "Enhanced recovery can and should be implemented on a large scale in [bariatric surgery](#) with the goal of decreasing variations in care, eliminating practices that are not evidence-based, and improving clinical outcomes," he said. The published study includes the ENERGY protocol as an appendix. Furthermore, MBSAQIP is developing an implementation toolkit for its accredited centers to use in furthering ERP efforts.

The next national quality improvement project will focus specifically on opioid prescribing after bariatric surgery, Dr. Brethauer added. "This project will involve many more centers, and opioid-sparing strategies in the hospital and at discharge will be implemented and measured for one year in hopes of decreasing opioid exposure to our patients and minimizing the number of opioid prescriptions out in the community," he said.

More information: Stacy A. Brethauer et al, Employing Enhanced Recovery Goals in Bariatric Surgery (ENERGY): a national quality improvement project using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program, *Surgery for Obesity and Related Diseases* (2019). [DOI: 10.1016/j.soard.2019.08.024](https://doi.org/10.1016/j.soard.2019.08.024)

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