

Researchers identify recommendations in new effort to improve surgical patients' recovery

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Collaborators in a new nationwide program for hospitals designed to improve the recovery of surgical patients have identified their first set of evidence-based recommendations: a care plan for colon and rectal surgical procedures. This review of the best available scientific evidence for optimal care before, during, and after colorectal operations is published online as an "article in press" on the *Journal of the American College of Surgeons* website in advance of print publication.

The authors present a 12-component [clinical pathway](#) (or standardized care plan) in the article, which builds on enhanced postoperative recovery principles. Many studies have already shown that [enhanced recovery](#) practices lower costs, improve safety, and speed recovery for surgical [patients](#) while increasing patient satisfaction.¹

The new clinical pathway is a comprehensive compilation of key elements of enhanced recovery as well as the current U.S. guidelines for prevention of several common postoperative complications. These complications include surgical site infection (SSI), venous thromboembolus (blood clot), and catheter-associated urinary tract infection (UTI), according to study coauthor Elizabeth Wick, MD, FACS, associate professor of surgery at the University of California San Francisco and a core faculty member at the Johns Hopkins Medicine Armstrong Institute for Patient Safety and Quality, Baltimore.

"Our work is unique because it's not just a guideline. It is an evidence-based review as part of a larger implementation program that will support and help hundreds of hospitals translate best evidence for perioperative care into clinical practice," said Dr. Wick, referring to the Agency for Healthcare Research and Quality (AHRQ) Safety Program for Improving Surgical Care and Recovery (ISCR), currently administered by the American College of Surgeons (ACS).

Funded and guided by the AHRQ, the ISCR is a collaboration with the ACS and the Johns Hopkins Medicine Armstrong Institute for Patient Safety and Quality. Program goals are to improve clinical outcomes (measurable results of care) and the patient experience, reduce complications and the length of hospital stay, and increase efficiency. To accomplish these goals, participating hospitals will receive education, tools, and coaching support as they roll out the same clinical pathway, as well as gain access to a registry that tracks compliance.

The ACS has already begun to recruit hospitals throughout the United States (including Puerto Rico) to participate in the free program and will continue recruitment efforts over the next five years. Its goal is 750 hospitals for the five phases of the program. The ISCR will be divided into five cohorts of surgical specialties, with later cohorts focusing on enhancing care in orthopaedic surgery, gynecologic surgery, emergency general surgery, and bariatric surgery.

Launched July 1, the colorectal surgery cohort will continue to enroll hospitals in the coming months, Dr. Wick stated. Colorectal surgery was chosen as the first cohort, she said, because most enhanced recovery principles are best developed for colorectal operations, and these operations, which include treatment of colon and rectal cancers and inflammatory bowel diseases, are common. She added that variability in hospitals' clinical outcomes and complication rates for colorectal procedures allows "room for improvement."

Evidence-Based Recommendations

To develop the colorectal clinical pathway, the study authors used a systematic approach to reviewing the scientific evidence supporting perioperative care for colorectal operations. For each proposed pathway component drawn from the scientific literature or suggested by subject experts, the researchers reviewed relevant English-language articles published before December 2016. Sources included original studies, systematic review articles, organizational guidelines, and expert opinions.

The investigators identified 12 components, or best practices, to include in the ISCR colorectal pathway encompassing the full scope of surgical care.² These components range from preoperative measures, such as patient education about the operation, to postoperative steps, including early removal of the urinary bladder catheter to prevent catheter-related UTIs.

Among the postoperative components, Dr. Wick emphasized the importance of hospitals promoting early oral nutrition and mobility "to get the patient better faster and home faster."

Several studies show that introduction of regular food within 24 hours of an operation shortened the hospital stay and reduced complications.³ A review study demonstrated a quicker return of bowel function and shorter hospitalization when patients got out of bed and walked within 12 to 24 hours postoperatively.⁴

Another pathway component is mechanical bowel preparation, or bowel emptying, plus oral antibiotic therapy before a nonemergency colorectal operation. Although the Europe-based Enhanced Recovery After Surgery Society recommends against the use of routine mechanical bowel preparation because of the risk of dehydration,⁵ Dr. Wick said

this potential risk is outweighed by a reduced chance of SSIs, as reported in the 2016 ACS and Surgical Infection Society guidelines.⁶

"We must consider the whole patient and prevent all potential problems related to an operation," she explained. "The data are clear that the combination of bowel preparation plus oral antibiotics to kill bacteria is the best way to prevent SSIs in these operations."

Benefits of a Clinical Registry

Hospitals participating in the ISCR can track their compliance using the new clinical pathway through a registry supplied by the ACS Division of Research and Optimal Patient Care. Participants also will enter their outcomes, such as length of stay and rate of readmission to the [hospital](#), into this database and will receive benchmarking comparisons with other participants' performance.

"The registry," Dr. Wick said, "will help hospitals focus their quality improvement efforts where needed and motivate the surgical team with their successes."

Coauthor Clifford Y. Ko, MD, MS, MSHS, FACS, Director of the ACS Division of Research and Optimal Patient Care, said he expects the program, which includes change management techniques, to have a major impact.

"A fairly large number of hospitals will learn how to implement this multidisciplinary care program, which will improve patient care," Dr. Ko said. "Even if any hospitals have already tried enhanced recovery protocols, they will get better at it."

He added that the lessons learned from this project will allow the ACS Division of Research and Optimal Patient Care to continue this work

after the funding ends.

"We will be able to help participating hospitals implement and sustain use of enhanced recovery protocols, and to expand the program to as many hospitals as possible and to other surgical areas besides the initial five," Dr. Ko said.

More information: Kristen A. Ban et al, Surgical Technical Evidence Review for Colorectal Surgery Conducted for the AHRQ Safety Program for Improving Surgical Care and Recovery, *Journal of the American College of Surgeons* (2017). [DOI: 10.1016/j.jamcollsurg.2017.06.017](https://doi.org/10.1016/j.jamcollsurg.2017.06.017)

Refs:

1 Horres, CH, Adam, MH, Zhifei, S, et al. Proceedings of the American Society for Enhanced Recovery/Evidence Based Peri-Operative Medicine 2016 Annual Congress of Enhanced Recovery and Perioperative Medicine. *Perioper Med. (London)* 2016;5(suppl 1):21.

2 The full list of 12 components, plus the preferred surgical technique (laparoscopy) when possible, appears in Table 1 of the article.

3 Including Zhuang CL, Ye XZ, Zhang CJ, et al. Early versus traditional postoperative oral feeding in patients undergoing elective colorectal surgery: a meta-analysis of randomized clinical trials. *Dig Surg.* 2013;30(3):225-232.

4 Castelino T, Fiore JF, Jr, Niculiseanu P, et al. The effect of early mobilization protocols on postoperative outcomes following abdominal and thoracic surgery: a systematic review. *Surgery.* 2016;159(4):991-1003.

5 Gustafsson UO, Scott MJ, Schwenk W, et al. Guidelines for perioperative care in elective colonic surgery: Enhanced Recovery After Surgery (ERAS®) Society recommendations. *World J Surg.* 2013;37(2):259-284.

6 Ban KA, Minei JP, Laronga C, et al. American College of Surgeons and Surgical Infection Society: Surgical Site Infection Guidelines, 2016 Update. *J Am Coll Surg.* 2016;224(1):59-74.

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