Traditionally, certain measures such as perioperative fasting, mechanical bowel preparation, use of nasogastric tubes, drains, graduated diet, and prolonged bed rest were deemed essential for healing and recovery after surgery. Developments in the field of anesthesia such as regional anesthetic techniques and use of minimally invasive surgical techniques in the 1990s led to questions regarding need for these traditional principles of perioperative care. Triggered by the question, “Why is this patient in the hospital today?” Professor Henrik Kehlet initiated the pioneering work that later developed as enhanced recovery after surgery (ERAS) protocols. ERAS is an evidence-based multimodal approach that aims at hastening the patients’ recovery by attenuating the stress response by a continuum of preoperative, intraoperative, and postoperative interventions, which leads to accelerated recovery. It has also been unfortunately referred to as “Fast Track Surgery,” a name which may be misunderstood as a process of increasing the patient transit through the health-care system for economic reasons, whereas in point of fact it aims at improving both the speed and quality of the patients’ recovery.

ERAS translates into an early discharge from the hospital leading to optimum use of resources and real-life cost savings for the patient. The approach aims at providing a “painless, stress-free and safe” surgery to patients and requires a committed multidisciplinary team for its successful implementation. ERAS is not about just about reducing the length of stay in the hospital, but the overall result of the pathway leads to reduction in the postoperative morbidity rates such as pulmonary complications, urinary tract infections, incidence of postoperative nausea and vomiting, and surgical site infections.

Kehlet first described fast-track protocols for use in colonic surgery. ERAS protocols have demonstrated a reduction in hospital stay and rate of complications with acceptable readmission rates in colonic surgery. Later, the ERAS guidelines were extended to other gastrointestinal procedures such as pancreaticoduodenectomy, elective rectal/pelvic procedures, radical cystectomy, gastrectomy, and liver surgery. Modified guidelines are available for other specialties such as gynecology, orthopedics, and breast and reconstructive surgery as well.

Increasing evidence demonstrating the success of the ERAS protocols has extended its use to more challenging situations such as critically ill patients and emergent surgery; however, there is a dearth of studies focusing particularly on such patients owing to ethical issues. However, many of the key elements of ERAS are increasingly gaining recognition in critically ill patients in Intensive Care Unit (ICU) settings and have been tested individually. An international, multicenter randomized trial analyzed the efficacy of early, goal-directed mobilization protocols in surgical ICU patients convalescing from major trauma or surgery. The study showed that rigorous implementation of these protocols led to an improved mobility of patients in the ICU resulting in a reduced overall ICU period and increase in functional independence when discharged. This concept when universally accepted will be a major boost to expanding the horizons of ERAS programs.

The process of use of ERAS in emergency abdominal surgery is gradual and slow even though the guidelines for ERAS protocol (2009) stated that “every effort should be made to implement as many components as possible in the context of an emergency setting.” The implementation in this situation has been largely constrained due to the perceived difficulties in applying many of the preoperative and some of the intraoperative components. Some studies have shown encouraging results, especially with a decrease in the mortality rates ranging from 37% to 42% in patients undergoing emergency surgery for peptic ulcer or overall an emergency laparotomy, thus emphasizing that the potential benefits of an ERAS protocol in emergent settings. The role of ERAS in an emergency setting was evaluated in a randomized controlled trial on 47 patients undergoing laparoscopic repair of a perforated duodenal ulcer. Although limited by a small sample size, this study demonstrated that optimally implementing the intraoperative and postoperative elements such as avoidance of nasogastric decompression and drains, nonopioid analgesia, early withdrawal of urinary catheter, and early resumption of oral feeds, led to an early recovery of bowel functions resulting in an early discharge. Encouraged by their results, we carried out a larger randomized study at our center on 100 patients with perforated duodenal ulcer. Unlike the earlier study, more elements of the ERAS pathway were included in this study in the preoperative, intraoperative, and postoperative periods. Preoperative elements such as patient education, nonopioid multimodal analgesia, and truncated use of NGT and drains were carried out. Patients were administered unrestricted volumes of protein-rich liquid diet from the appearance of bowel sounds, which was advanced to normal diet within the next 24 h and patients were mobilized from the day of surgery. We could achieve a significant reduction in the duration of hospitalization by almost 40% with significantly lower complication rates.

A committed multidisciplinary team and a compliant patient are needed to implement interventions holistically so as to have an impact. It is essential for the surgeon who usually is the team
leader, to identify the existing practices and perceived barriers and take leadership for coordinated action by anesthetist, nurse, dietician, and other caregivers to improve the overall outcome. The surgeon should be able to lead arguments which satisfy those with “hitherto unquestioned dogmas.” Such dogmas lead to deviation from the fast track protocol. A continuous audit to assess the efficacy of the pathway in an institution helps in taking it further. ERAS Annual World Congress and ERAS interactive audit system play an essential role in collecting data from all over the world for improving on existent guidelines.\[6\]

The data on the use of ERAS pathways from India is limited to a few observational studies utilizing only a few ERAS care elements in the elective setting apart from the trial from our center in emergency. In one of the earliest studies from India reporting the use of ERAS protocol, a significant early tolerance to feeds and mobilization could be achieved in patients undergoing open elective bowel anastomosis.\[12\]

Similar benefits of early discharge were reported for patients undergoing colostomy closure, colorectal surgery, and gastrectomy.\[11,13-15\] In times to come, surgeons in our country will appreciate the dictum “Same old thinking leads to same old results,” and overcome the fear of deviation from conventional practices for elective and emergency abdominal surgery. The promising trend in the studies reported from India will lead to a successful and wider implementation of ERAS pathways in India as in the West. This will in turn translate into real-life cost savings and improvement in quality, both for the patient and the health-care system, which is of utmost importance in developing nations.

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**Conflicts of interest**

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**References**

1. Kate V, Mohsina S, Sureshkumar S, Kundra P. Enhanced recovery after surgery pathway for gastrointestinal surgery. In: Abraham SJ, Kumar A, editors. Contemporary Surgery. Vol. 1. Bangalore: Micro Labs Limited; 2016. p. 185-212.

2. Basse L, Hjort Jakobsen D, Billesbølle P, Werner M, Kehlet H. A clinical pathway to accelerate recovery after colonic resection. Ann Surg 2000;232:51-7.