

Surgical Innovation

Same-Day Discharge After Minimally Invasive Colectomy

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What Is the Innovation?

Enhanced recovery pathways (ERP) for colorectal surgery have become standard of care for perioperative management but can be further improved.¹ Same-day discharge (SDD) programs represent the evolution of current ERP practices to allow for discharge on the day of surgery after minimally invasive surgery (MIS) colectomy. Pathways for SDD focus on minimizing or improving the aspects of care that keep a patient hospitalized, that is, (1) discharge before recovery of gastrointestinal function, (2) improvements in multimodal analgesia, and (3) effective postdischarge remote follow-up.² These elements act synergistically within a comprehensive program that is built on standard ERP practices to further minimize surgical stress and improve immediate postoperative recovery to the point of allowing for SDD in select patients undergoing MIS colectomy (Box).

What Are the Key Advantages Over Existing Approaches?

The obvious advantage of SDD is a reduction in length of stay from days to hours. Importantly, these patients do not return to the emergency department or get readmitted at a higher frequency than patients managed with a standard inpatient ERP.² This in turn is likely to improve resource utilization and decrease costs. Same-day discharge may also benefit hospital efficiency by improving patient

throughput and bed occupancy levels, especially in health care systems or situations where inpatient resources are more constrained. This potential benefit was evident during the COVID-19 pandemic when many elective surgical procedures were significantly delayed because of the unavailability of inpatient resources. In our setting, it is not an exaggeration to suggest that many patients would not have had their operations on time without an SDD program in place. Currently, patients using SDD are still undergoing their surgery in a hospital setting, but as the program gains more experience and data, future patients who are candidates for SDD may undergo surgery in ambulatory surgery centers. There are no data on the effect of SDD on patient recovery, although patient satisfaction with SDD is high.²

How Will This Affect Clinical Care?

Same-day discharge pathways represent the next generation of ERPs for patients undergoing MIS colectomy. They are associated with decreased length of stay, high satisfaction, and potentially lower costs and more efficient resource utilization. Many of the SDD principles and interventions are widely beneficial to other patients and specialties. For example, a Pfannenstiel specimen extraction incision is associated with less pain, lower opioid consumption, and fewer

Box. Elements of a Same-Day Discharge Program for Minimally Invasive Colectomy**Measures Added to the Standard Enhanced Recovery Pathway****Preoperative:**

Patient education about at-home recovery and setting expectations

Intraoperative:

Regional anesthesia (eg, transversus abdominus plane block)

Minimally invasive surgery (eg, laparoscopic or robotic)

Off-midline specimen extraction (eg, Pfannenstiel)

Postoperative:

Opioid-sparing analgesia regimen at home (eg, NSAIDs)

Discharge criteria that are not based on return of flatus

Tolerance of clear liquid diet with absence of nausea and vomiting

Adequate pain control

Adequate mobilization

Normal vital signs

Absence of complications

Effective remote postdischarge follow-up (mobile phone app or telephone)

Accessible communication between patient and health care professional

Patient Selection Criteria for SDD**Inclusion criteria:**

Adult patients (age ≥ 18 y)

Elective minimally invasive colectomy for neoplasm or benign indications (including stoma closure)

Planned Pfannenstiel extraction incision

No contraindications to regional anesthesia or NSAIDs

Capacity for remote postdischarge follow-up

Residence within proximity of the treating hospital

Adequate support system at home (defined as live-in support for at least the first 72 h)

Exclusion criteria:

Locally advanced malignancy requiring multivisceral resection

Long-term opioid use

Significant comorbidities (including insulin-dependent diabetes, chronic renal failure preventing NSAID use, and cardiac or respiratory comorbidities that require in-hospital postoperative monitoring)

Creation of a new stoma

Language barrier

Cognitive impairment

No support system at home

Intraoperative complications that would prevent SDD

Patient refusal

Abbreviations: NSAIDs, nonsteroidal anti-inflammatory drugs; SDD, same-day discharge.

wound complications compared with a midline extraction. They are an important aspect of an SDD pathway, but the experience and expertise can also be applied to abdominal procedures. Other procedures with short, planned hospitalizations have SDD potential (such as hysterectomy and bariatric procedures), and the demonstration of the success of SDD for MIS colectomy may encourage other surgeons to apply the same for their patients. Data are emerging on SDD in these patient populations.³

Is There Evidence Supporting the Benefits of the Innovation?

The initial report on SDD laparoscopic colectomy included 157 patients from 2 French institutions with 93% being discharged on the day of surgery.⁴ All patients had daily home visits for the first 10 days, including blood tests. These patients had a 21% incidence of emergency department visits and 6% for readmissions. While encouraging, these results were not widely applicable because of the impracticality of the daily home visits and outpatient blood tests.

In a study from a Canadian center that compared SDD with standard ERP in patients undergoing MIS colectomy, both groups used a mobile health phone application (that included a patient-physician communication feature) for remote postdischarge follow-up.² In this early study, 37 of 48 SDD patients (77%) were able to be discharged on postoperative day 0 without any unplanned visits within the first 72 hours. Overall 30-day complications, emergency department visits, and readmissions were similar between the SDD and standard ERP groups. Patient satisfaction with the SDD program was also high, with few patients (<10%) reporting that they would have preferred to stay in the hospital. A follow-up study demonstrated that remote follow-up could be performed either through mobile phone app or by regular telephone calls without affecting outcomes.⁵ This suggests that accessible communication channels between patients and health care professionals are more important for SDD than the specific platform used.⁶

What Are the Barriers to Implementing This Innovation More Broadly?

Resistance from surgeons and clinicians is likely to be the most important barrier to SDD implementation: "Why fix something that isn't broken?" Surgeons may feel that outcomes within a standard ERP are good enough or that SDD is too risky. Changing physician behavior is difficult, especially when new interventions run contrary to long-standing dogmas and practices. Interestingly, these concerns mirror those when ERPs were first introduced. There is no single solution to overcome this barrier, but it can be slowly overcome with the increasing body of evidence supporting SDD and by improving multidisciplinary communication and collaboration. Furthermore, another barrier is ERP uptake itself, as ERPs may not yet be in place in many practice settings. There may also be reimbursement issues, but this will largely depend on the specific health care system and practice environment.

Surgeons may also be concerned about patient attitudes toward SDD. Many patients have baseline expectations that major bowel resection requires days spent in the hospital. This may be overcome with counseling and education in the preoperative period, including setting realistic expectations and discussing outcomes. One way to address this potential barrier is establishing a reliable method of postdischarge follow-up and communication, for example, via mobile health technology or daily postoperative phone calls. Both may be equally effective⁵ but can require additional resources. With proper education and postdischarge follow-up, patients can be highly satisfied with SDD.

In What Time Frame Will This Innovation Likely Be Applied Routinely?

SDD pathways represent the evolution of ERPs. However, certain important elements of SDD may require additional expertise, as well as a well-established ERP. While the evidence for use of SDD is still emerging, much of the groundwork is already available given the high uptake of colorectal ERPs,⁷ suggesting that a significant proportion of patients can soon benefit from SDD.

ARTICLE INFORMATION

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