ISSN: 2753-7919
British Journal of Healthcare and Medical Research; Vol. 13 No. 02 (2026) (170-174)
https://doi.org/10.14738/bjhr.1302.20173

A Standardized Postoperative Care Pathway Eliminates Emergency Department Utilization After Hemorrhoidectomy

Ali Mahmood, MD, FACS, FASCRS[1], Michael Yaakovian, MD, FACS[2], Aman Barkat Ali, MD, FACS[3], Aiva Mariam Mahmood[4], & Emaan Anya Mahmood[5]

1. Underwood Digestive Disease Center, Houston Methodist Sugar Land Hospital, Department of Surgery, Clinical Assistant Professor, Weill – Cornell College of Medicine, 16605 Southwest Freeway, Suite 430 Sugar Land, TX 77479, USA
2. Houston Methodist Sugar Land Hospital, Institute of Academic Medicine, Division Chief, Department of Surgery, 16605 Southwest Freeway, Suite 450, Sugar Land, TX 77479, USA
3. Houston Methodist Sugar Land Hospital, Division of Bariatric Surgery, Department of Surgery, Houston Methodist Hospital, 16651 Southwest Freeway, Suite 450, Sugar Land, TX 77479, USA
4. Houston Methodist Sugar Land Hospital, Department of Surgery, 16605 Southwest Freeway, Suite 430, Sugar Land, TX 77479, USA
5. Houston Methodist Sugar Land Hospital, Department of Surgery, 16605 Southwest Freeway, Suite 430, Sugar Land, TX, 77479, USA

Abstract: Background: Excisional hemorrhoidectomy is associated with significant postoperative morbidity, including pain, bleeding, urinary retention, and patient anxiety, frequently resulting in unplanned emergency department (ED) visits. We describe a standardized perioperative and postoperative care pathway designed to minimize complications and eliminate ED utilization. **Methods:** A retrospective review was conducted of consecutive patients undergoing excisional hemorrhoidectomy at a large regional hospital–affiliated practice. The protocol emphasized meticulous intraoperative hemostasis, structured patient education, early postoperative communication, and risk stratification for urinary retention. Primary outcome was ED utilization within 30 days. Secondary outcomes included postoperative bleeding, urinary retention, and wound-related concerns. **Results:** Approximately 100 patients were included. There were zero ED visits within 30 days postoperatively. No patients experienced major postoperative hemorrhage requiring intervention. Urinary retention was anticipated and managed in the outpatient setting without ED referral. All patients demonstrated appropriate wound healing. **Conclusion:** A structured, education-driven postoperative care pathway can eliminate ED utilization following hemorrhoidectomy while maintaining excellent clinical outcomes. This model is reproducible and scalable across healthcare systems.

INTRODUCTION

Hemorrhoidectomy remains the definitive treatment for advanced hemorrhoidal disease but is associated with substantial postoperative morbidity. Pain, bleeding, urinary retention, and concern regarding wound healing frequently lead to patient distress and unplanned healthcare utilization. Reported emergency department (ED) visit rates following anorectal surgery range from 5% to 15%, often driven by pain or misinterpretation of expected postoperative findings.[1–3]

With increasing emphasis on value-based care, reducing avoidable ED utilization has become a key quality metric. While technical modifications of hemorrhoidectomy have been studied extensively, less attention has been paid to structured perioperative systems designed to improve patient experience and reduce unnecessary acute care utilization.

We present a standardized postoperative care pathway emphasizing hemostasis, patient education, and proactive follow-up. We hypothesize that this approach can eliminate ED visits and improve overall outcomes after hemorrhoidectomy.

METHODS

Study Design and Setting

A retrospective review was performed of consecutive patients undergoing excisional hemorrhoidectomy at a community hospital–affiliated surgical practice. Approximately 100 patients were included.

Operative Technique

Hemostasis was prioritized in all cases:

- Larger hemorrhoidal pedicles and associated skin flaps were excised using ultrasonic energy (harmonic scalpel).
- Smaller vascular pedicles were ligated with 3-0 polyglactin (Vicryl) sutures.
- The operative field was inspected to ensure complete hemostasis prior to completion.
- In selected cases with broader dissection, temporary packing was placed to provide tamponade and removed on postoperative day (POD) 1.

Postoperative Care Pathway

Bleeding Surveillance

Patients received a POD1 phone call from a trained medical assistant (MA) to assess bleeding and confirm removal of packing when applicable.

Pain Management and Education

Patients were prescribed hydrocodone/acetaminophen. Extensive education was provided:

- Patients and families were explicitly informed that significant postoperative pain is expected.
- Counseling occurred at multiple points: surgeon visit, scheduling, and MA review.
- Emphasis was placed on emphasizing expected pain.

Urinary Retention Prevention

High-risk patients (older males, history of benign prostatic hyperplasia or retention) were identified preoperatively.

- All male patients were required to void prior to discharge.

- Education regarding opioid-associated urinary retention was provided.
- Urinary complaints were triaged directly to clinic, with coordinated urology follow-up to avoid ED visits.

Wound Care and Drainage Education

Patients were counseled that postoperative drainage (serous, yellow, or brown) is expected and not indicative of infection.

Follow-up Protocol

- MA outreach on POD1 and POD5
- All patient concerns triaged and reviewed with the attending surgeon
- Routine postoperative visit at 2 weeks

Outcomes

Primary outcome: ED visits within 30 days. Secondary outcomes: postoperative bleeding, urinary retention, and wound healing.

RESULTS

Approximately 100 patients underwent hemorrhoidectomy during the study period, from January 2023 to December 2025.

- ED visits (30 days): 0%
- Major postoperative bleeding: 0%
- Urinary retention: Managed outpatient; no ED visits
- Wound healing: 100% appropriate healing without complication

These outcomes compare favorably with published rates of ED utilization and postoperative complications.

DISCUSSION

Hemorrhoidectomy is associated with predictable postoperative challenges; however, variability in perioperative management often contributes to unnecessary ED utilization. This study demonstrates that a structured care pathway can effectively eliminate such utilization.

Hemostasis and Surgical Technique

Postoperative bleeding is a major concern following hemorrhoidectomy. Ultrasonic energy devices have been shown to reduce intraoperative blood loss and postoperative pain

compared with conventional excision techniques.[4,5] The combination of energy-based dissection and selective suture ligation in this series likely contributed to the absence of significant hemorrhage.

Patient Education as a Primary Intervention

Pain is the most common driver of ED visits after anorectal surgery.[2] Importantly, patient expectation strongly influences pain perception and healthcare-seeking behavior.[6] By normalizing severe postoperative pain and reinforcing this expectation across multiple interactions, this protocol reduced anxiety and prevented unnecessary ED presentations.

Proactive Management of Urinary Retention

Urinary retention is a common complication, particularly in older male patients and those receiving opioid analgesia.[7]

Early identification of at-risk patients, combined with pre-discharge voiding and rapid outpatient management pathways, effectively prevented ED utilization. Should the urinary retention be identified when the patient is at home, the colorectal surgeon / office facilitates an appointment with urology immediately. This encourages early intervention and avoidance of the emergency room.

Normalization of Postoperative Drainage

Postoperative wound drainage, particularly when it is a yellow/brown discharge, is frequently misinterpreted as infection. Preoperative counseling reframing this as a normal healing process reduces patient anxiety and avoids unnecessary evaluation.

Structured Follow-up and Team-Based Care

Early and proactive communication through trained medical assistants provided a critical safety net. This model allows for rapid response to patient concerns while maintaining continuity of care and reducing escalation to emergency services.

Implications for Practice

This protocol is highly scalable, requiring no specialized technology. Its success is driven by:

- Standardized patient education
- Early interventions in the post anesthesia care unit (PACU) prior to discharge
- Anticipatory complication management
- Structured follow-up

These principles can be readily implemented across diverse healthcare systems.

LIMITATIONS

This study is limited by its retrospective design, single-practice setting, and modest sample size. The absence of a control group limits comparative analysis. Future prospective, multi-center studies are warranted.

CONCLUSION

A standardized, education-driven postoperative pathway following hemorrhoidectomy can eliminate ED utilization while maintaining excellent clinical outcomes.

This reproducible model highlights the importance of patient education, proactive complication management, and structured follow-up in optimizing surgical care and reducing unnecessary healthcare utilization.

REFERENCES (AMA STYLE, PUBMED-INDEXED)

1. American Society of Colon and Rectal Surgeons. Davis BR, Lee-Kong SA, Migaly J, Feingold DL, Steele SR. The American Society of Colon and Rectal Surgeons clinical practice guidelines for the management of hemorrhoids. *Dis Colon Rectum*. 2018;61(3):284-292.
2. Paquette IM, Varma MG, Kaiser AM, Steele SR, Rafferty JF. The burden of postoperative complications following anorectal surgery. *Dis Colon Rectum*. 2013;56(12):1383-1390.
3. Chiu AS, Jean RA, Resio BJ, et al. Emergency department utilization following outpatient surgery. *J Surg Res*. 2018;229:216-223.
4. Giordano P, Gravante G, Sorge R, Ovens L, Nastro P. Long-term outcomes of stapled hemorrhoidopexy vs conventional hemorrhoidectomy: a meta-analysis. *Arch Surg*. 2009;144(3):266-272.
5. Brown SR, Tiernan JP, Biggs K, et al. Harmonic scalpel vs conventional excisional hemorrhoidectomy: randomized controlled trial. *Dis Colon Rectum*. 2001;44(6):845-849.
6. Pain Medicine. Kehlet H, Jensen TS, Woolf CJ. Persistent postsurgical pain: risk factors and prevention. *Lancet*. 2006;367(9522):1618-1625.
7. Toyonaga T, Matsushima M, Tanaka Y, et al. Postoperative urinary retention after surgery for benign anorectal disease: potential risk factors and strategy for prevention. *Int J Colorectal Dis*. 2006;21(7):676-682.