See Article page 370.

Commentary: Reducing the need for recovery

Travis C. Geraci, MD, and Stephanie H. Chang, MD

Travis C. Geraci, MD, and Stephanie H. Chang, MD

CENTRAL MESSAGE

As the primary driver of outcome, the operative result is paramount in determining the burden of recovery. To enhance recovery, we should aim to reduce the need for it.

Enhanced Recovery After Surgery (ERAS) is based on the notion that optimization of perioperative practices will attenuate the stress of surgery, thereby resulting in improved outcomes. In thoracic surgery, studies have focused on the entirety of practice, assessing key elements such as smoking cessation, pre-habilitation, venous thromboembolism prophylaxis, anesthetic optimization, multimodality opioid-sparing analgesia, euvolemic fluid management, early chest tube removal, avoidance of nonessential adjuncts, and early mobilization. Given this vast scope, consensus interpretation of ERAS studies is confounded by variable definitions, methods, and outcomes measures. We are left with a sense that ERAS is generally beneficial but lack the rigor of nonbiased, randomized data to support these practices as definitively evidence-based.

In an effort to consolidate the results of diverse ERAS studies in thoracic surgery, Khoury and colleagues¹ conducted a systematic review and meta-analysis and concluded that ERAS reduces hospital length of stay, complications, and readmission rates. The authors are commended for their formidable effort in collating and analyzing a heterogeneous collection of studies. Equally, the analysis is supported by a strong effort to statistically reduce individual study bias, which is critical if the intention is to generate general practice guidelines.

In thoracic surgery, ERAS research is confounded by the inclusion of minimally invasive surgery as a

variable, rather than a constant. The authors concede that a minimally invasive approach could “potentially mask the effect of other ERAS elements on surgical outcomes.” This begs the question: when the operative course results in a patient without acute complications, limited tissue destruction and blood loss from efficient surgery, without an air-leak, and with manageable pain from minimal incisions, from what is there to recover? While optimizing the perioperative experience of patients is a laudable goal, these practices, considered alone or synergistically, are minor modifiers of the main event—the operation. As the primary driver of outcome, the operative result is paramount in determining the burden of recovery. To enhance recovery, we should aim to reduce the need for it.

While discharge does not equate recovery, it is perhaps its best surrogate. In our experience, the majority of patients can be discharged by postoperative day 1 after robotic anatomic pulmonary resection—essentially distilling the hospital stay to chest tube management and pain control.² Hospital discharge was influenced by patient baseline status, complications, and extent of resection. In 12% of cases, patients with an air-leak were discharged with a chest tube and managed as an outpatient. Beyond single-center data, future studies assessing the myriad perioperative factors that influence the recovery of patients would benefit from maintaining a minimally invasive approach as a constant. After doing so, the remaining effect of optimized perioperative interventions and protocols can be appropriately assessed. Whether there is much left to enhance remains the question.

From the Department of Cardiothoracic Surgery, New York University Langone Health, New York, NY.

Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication July 26, 2021; revisions received July 26, 2021; accepted for publication July 30, 2021; available ahead of print Aug 17, 2021.

Address for reprints: Stephanie H. Chang, MD, Division of Thoracic Surgery, Department of Cardiothoracic Surgery, New York University Langone Health, 530 First Ave, Suite 9V, New York, NY 10016 (E-mail: stephanie.chang@nyulangone.org).

JTCVS Open 2021;7:392-3

2666-2736

Copyright © 2021 The Author(s). Published by Elsevier Inc. on behalf of The American Association for Thoracic Surgery. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.jtc.2021.07.032>

References

1. Khoury AL, McGinle KL, Freeman NK, El-Zaatari H, Feltner C, Long JM. Enhanced recovery after thoracic surgery: systematic review and meta-analysis. *J Thorac Cardiovasc Surg Open*. 2021;7:370-91.
2. Geraci TC, Chang SH, Chen S, Ferrari-Light D, Cerfolio RJ. Discharging patients by postoperative day one after robotic anatomic pulmonary resection. *Ann Thorac Surg*. August 10, 2021 [Epub ahead of print].