

President's Message

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Enhanced Recovery after Cardiac Surgery

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I recently had the privilege of speaking on a scientific panel at a major anesthesiology conference in New York, where we discussed the overall concepts of Enhanced Recovery after Surgery, commonly referred to as ERAS®. The ERAS® approach to patient care has been in existence since the early 2000s, and the benefits of ERAS® in colorectal and orthopedic surgery are now well recognized and established.

The ERAS® Society is an international organization dedicated to the generation, implementation, and evaluation of enhanced recovery programs across multiple surgical specialties.¹ ERAS® Cardiac Surgery is a relatively recent initiative, and was founded as its own society in 2017. Its mission is “to optimize perioperative care of cardiac surgical patients through collaborative discovery, analysis, expert consensus, and dissemination of best practices.”² The goal of ERAS® Cardiac Surgery is to promote greater patient and healthcare provider satisfaction, improve both short- and long-term outcomes, reduce complications, and more efficiently utilize healthcare resources.²



A typical adult cardiac anesthetic when I was a cardiac anesthesia resident and fellow in the early 1990s consisted of a pre-op injection of 10 mg morphine and 0.4 mg scopolamine, at least 2500 mcg (50cc) fentanyl, 10 mg midazolam or diazepam, 10 mg pancuronium, with no expectation to awaken the patient or wean mechanical ventilation until the next morning. If the patient did awaken or start to breathe in the intensive care unit (ICU), they were commonly re-sedated with long-acting medications by the nurse. As “managed care” began to loom on the horizon, along with economic pressures and the concern about limited resources, practices evolved into “fast-tracking” certain cardiac surgical patients. This meant that patients would be weaned from mechanical ventilation sooner and consume fewer resources through reduced ICU and hospital length of stay. Today’s environment is very similar, as hospitals face thin profit margins and limited resources. The industry shift to value-based payment methods, which not only provides a fixed reimbursement per Diagnosis Related Group (DRG), but also provides a financial incentive for better outcomes and fewer complications, while others incorporate a financial penalty if certain measures or expected outcomes are not met.

A review article appeared in the anesthesia literature earlier this year on enhanced recovery for cardiac surgery, which examined the literature and explored potential areas of interest.³ The authors identified potential strategies that mirrored the approach to ERAS[®] protocols for other surgical procedures, by grouping bundles of enhanced care as preoperative, intraoperative, and postoperative. The goals they identified in developing protocols were consistent with other ERAS[®] strategies, which were to standardize care, measure outcome targets, and regularly audit protocol compliance and multiple outcomes.³ Accumulation of data specifically for compliance to the protocols and outcomes related to that compliance is key. Protocols based on evidence-based medical evidence are just now beginning to be developed.

ERAS[®] Cardiac Surgery earlier this year put forth a consensus statement that reviewed the existing evidence in the medical literature and summarized practices according to the class of recommendation (COR) and level of evidence (LOE). Medical literature based upon a cardiac surgical population was preferred, but if evidence only existed in non-cardiac surgical settings, then the recommendations were extrapolated. The ERAS[®] Cardiac Surgery working group that authored the statement followed the process established from the STS/AATS updated guidelines for “Classification of Recommendations and Level of Evidence,” using the evidence grid originally published by the ACC/AHA.^{4,5}

A recently published clinical trial examined 226 patients undergoing elective valvular cardiac surgery that were prospectively randomized to either an ERAS pathway of care or routine care (control group).⁶ Their primary end point was readiness for hospital discharge, while their secondary outcomes were duration of ICU stay, length of postoperative vasoactive drug support, duration of mechanical ventilation, time to first bowel movement, removal of surgical drain, overall medical costs, and complication

rate. They demonstrated that patients managed within their ERAS protocol had a reduced length of ICU and hospital stay, fewer postoperative complications, and with a lower cost.

Cardiac anesthesiologists should be actively involved in processes that provide greater patient and healthcare provider satisfaction, improve both short- and long-term outcomes, reduce complications, and more efficiently utilize healthcare resources. As this is a developing concept to standardize care among cardiac surgical patients, active work is being done to examine the benefits of standardization in terms of improving outcomes. Plans are well underway for next year's SCA Annual Meeting, where we will highlight the work being done and review the latest developments on enhanced recovery after cardiac surgery. Make your plans now to join us in Chicago, May 17–21, 2019.

References

1. ERAS® Society, Stockholm, Sweden, www.erassociety.org
2. ERAS® Cardiac Surgery, www.erascardiac.org/
3. Noss C, Prusinkiewicz C, Nelson G, Patel PA, Augoustides JG, Gregory AJ. Enhanced recovery for cardiac surgery. *J Cardiothorac Vasc Anesth.* 2018;32(6):2760-2770.
4. Bakaeen FG, Svensson LG, Mitchell JD, Keshavjee S, Patterson GA, Weisel RD. The American Association for Thoracic Surgery/Society of Thoracic Surgeons position statement on developing clinical practice documents. *J Thorac Cardiovasc Surg.* 2017;153:999-1005.
5. Jacobs AK, Anderson JL, Halperin JL, et al. The evolution and future of ACC/AHA clinical practice guidelines: a 30-year journey: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines. *Circulation.* 2014;130(14):1208-1217.
6. Li M, Zhang J, Gan TJ, et al. Enhanced recovery after surgery pathway for patients undergoing cardiac surgery: a randomized clinical trial. *Eur J Cardiothorac Surg.* 2018;54(3):491-497.

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