Commentary: Cardiac surgery, nutrition, and recovery—First define the problem

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Central Message

High-value health care demands precise, quantified risk assessment of nutritional support and data-driven risk mitigation strategies that will improve quality, safety, and outcomes.

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If I had only one hour to save the world, I would spend fifty-five minutes defining the problem, and only five minutes finding the solution.

Enhanced Recovery After Cardiac Surgery (ERAS Cardiac) efforts emphasize the importance of a comprehensive, perioperative, standardized process to “reduce surgical stress, maintain physiological functional capacity, and facilitate postoperative recovery through evidence-based best practice.”¹ Enhanced recovery efforts suggest that cardiac surgeons have the opportunity to create protocols that may significantly affect our patients. As an example, planning a patient’s procedure should routinely involve an assessment of risk that includes measurements of frailty, anemia, hyperglycemia, and malnutrition.^{2,3} Frailty has been associated with an increase from 1.8- to 3-fold in operative mortality risk.^{4,5} Additional insight may be derived from intensive care unit risk models, as well as from assessment of delirium, assessment of mobility, novel biomarkers, and biosensor data.^{6,7}

Similarly, dynamic, personalized, risk-mitigation strategies must be used.⁸ The Society of Critical Care Medicine ICU Liberation Campaign has highlighted practices that individually and collectively can help reduce delirium, improve pain management, and reduce long-term adverse consequences for adult intensive care unit patients. Ironically, nutrition, a vital component of recovery after surgery, is not a component in this practice “bundle.”⁹ In this issue of the *Journal*, Stoppe and colleagues¹⁰ appropriately suggest that cardiac surgeons implement the lessons learned from surgical metabolism and nutrition leaders—Cuthbertson,¹¹ Dudrick and colleagues,¹² and others—and institute an investigative and improvement journey.

Unfortunately, change is slow and difficult, and it will not occur with their suggested “be calm” attitude. We therefore suggest a more emotional appeal to our colleagues to

develop data-driven insight through prioritized research and improvement of risk models. Digital health tools, more comprehensive data sets, and intelligent computing are central to transformational solutions to improve quality, safety, and value.^{13,14} The measurement of our success must include long-term follow-up of mortality, morbidity, rate of recovery, quality of life, and the related patient-reported outcome measures. Simply put, transforming health care will require an enhanced understanding of the challenges and problems rather than providing solutions that are based on the limited currently available evidence.

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