A rose by any other name: Marginal gains of enhanced recovery after surgery in video-assisted thoracic surgery perioperative care

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*What's in a name? That which we call a rose
By any other name would smell as sweet.*

—William Shakespeare

Romeo and Juliet, Act II, scene 2, lines 45-46

Enhanced recovery after surgery (ERAS) represents a success story in peri-operative care.¹ ERAS programs as organizational practices have become ingrained in many hospitals. In this issue of the *Journal*, Brunelli and colleagues² present a timely study on whether addition of ERAS is beneficial in the modern era of video-assisted thoracic surgery (VATS). With a pre/post design with a washout period of 1 month, Brunelli and colleagues² compared outcomes of VATS lobectomy in a high-volume general thoracic unit in the period before and after the institution of a formal ERAS program. The ERAS literature in thoracic surgery is limited and focused on patients undergoing thoracotomy, demonstrating shorter length of stay as the only significant advantage.^{2,3} It is unclear whether this advantage would apply to VATS.³

Brunelli and colleagues² found no differences in incidence of cardiopulmonary complications, mortality, length of stay, or readmission rate between ERAS and pre-ERAS time periods. They correctly posit that the failure to detect a difference may be because pre-ERAS practices were similar to ERAS practices. This possibility underscores a major caveat to any study comparing pre-ERAS and post-ERAS outcomes in such a patient population: the interventions and cointerventions are often too similar between groups. This lends itself to a “null effect” force that systematically biases such studies against ERAS and that is further compounded by 2 other major factors: (1) short washout period and (2) unclear degree of protocol adherence. If there is an abrupt switchover from non-ERAS to ERAS without a reasonable transition or washout period, this has the effect of reducing the chances of detecting any real additive effect or value of ERAS because ERAS may not have not fully

Central Message

A formal ERAS protocol did not appear to add value to an established VATS program, perhaps because pre-ERAS practices were too similar to ERAS practices, because of failure of ERAS adherence, or both.

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been established. It is unclear how long a transition or washout period is required to get adequate ERAS penetrance and adherence. Most would probably argue, however, that it takes longer than the 1 month reported in this study. Related to this issue is that of assessment of ERAS adherence. The primary message of the study is that ERAS was not associated with improved outcomes and was more costly, with the consequent inference being that the cost may not be justified. Without a detailed and objective assessment of adherence to the ERAS protocols, it is difficult to infer whether the results reflect a failure of ERAS or rather a failure of ERAS implementation. Brunelli and colleagues² note that “adherence to ERAS was monitored by a dedicated” ERAS nurse. Readers need to decide whether the monitoring reported by Brunelli and colleagues² meets the “detailed and objective assessment” criterion, and this may be difficult without any reporting of adherence metrics. Unfortunately, the short washout period and the limited reporting of ERAS adherence may be compounding the potential bias. The shorter the washout period, the more important it becomes to demonstrate objectively that ERAS protocol adherence is high.

Some caveats highlighted by Brunelli and colleagues² warrant reiteration. Patient quality of life and satisfaction were not assessed, and these might actually be better with

ERAS. An improvement in these alone would likely justify the cost. Brunelli and colleagues² also posit that ERAS may have discernible benefits relative to usual care in lower-volume units that do not already have perioperative care practices similar to those in the study. Having trained and worked in multiple settings across Canada, the perioperative practices I have encountered have been quite similar to the pre-ERAS practices of Brunelli and colleagues.² Furthermore, these practices have never been explicitly adopted or labeled as formal ERAS protocols. Having wrestled with the methodologic

issues, this begs the philosophical question of whether we believe ERAS by any other name could still function as well.

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