

Combining Safety and Trainee Education in Surgical Oncology: We All Win

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This timely article by Castleberry et al. brings focus to safety concerns in performing large and complex operations in cancer patients. The authors reviewed de-identified data from the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) Participant User Files (PUFs) to study the overall 30-day postoperative mortality and morbidity rates and failure-to-rescue rate in patients undergoing oncologic operations for colorectal, hepatopancreaticobiliary, and gastroesophageal primary cancers. The primary purpose of the study was to assess the impact of surgical trainee involvement on risk-adjusted 30-day morbidity and mortality in patients undergoing these procedures.

The risk-adjusted results showed a 6.2 % (27.2 vs. 21 %) higher morbidity with trainee involvement but a 0.2 % (1.9 vs. 2.1 %) lower 30-day mortality rate and a 1.7 % (5.9 vs. 7.6 %) lower failure-to-rescue rate with trainee involvement. These absolute differences are small but were statistically significant due to the large study population of 77,862 patients. It is interesting that these differences were consistent across all types of oncologic procedures performed. There are many limitations of this data: only NSQIP participating hospitals were included, only 30-day mortality was recorded (there is not an insignificant number of patients undergoing hepatopancreaticobiliary and gastroesophageal procedures who may have delayed mortality between

postoperative days 30–90). The reason for trainee involvement or no involvement was not recorded. The total number of trainees in a given operation was not recorded, and only the most senior PGY trainee who was present was recorded.

Overall, this study suggests that trainee involvement does not worsen (and may even improve) perioperative mortality in patients undergoing complex oncologic procedures but may lead to a modest increase in postoperative morbidity. Another recent study on trainee involvement in open versus laparoscopic partial colectomy, also using ACS-NSQIP data, had similar results.¹ These are encouraging studies as we go forward in our surgical teaching and training. We now place patient safety very appropriately as one of our top quality standards in patient care and the transparent involvement of trainees in the care of these patients in our teaching hospitals will be essential going forward. The “cost” of surgical resident and fellow training cannot be at the expense of poorer patient outcomes. It will be very interesting to see if future studies from these NSQIP hospitals (or other teaching hospitals) will be able to analyze longitudinal data and report any differences in cancer recurrence and cancer-specific survival with trainee involvement.

The dynamics of how we teach in the operating room are rapidly expanding and changing. The high cost of medical care, the focus on reducing medical errors, and the ACGME-mandated resident work hour restrictions have brought out some of the best and most creative new approaches to teaching and learning from surgical educators. Surgical simulators allow all levels of residents to complete virtually and repetitively many of the essential steps in complex procedures before ever performing the actual surgeries. Instead of only one trainee performing and staying for an entire operation, many programs now encourage junior residents to observe and perform parts of operations (i.e., placing videoendoscopic ports or performing a laparotomy

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incision, and perhaps returning at the end of the case to close multilayer wounds). A rotation may include PGY-specific skill-acquisition modules that can be fully and safely choreographed into simple or complex operations while still maintaining excellent patient care.

The operating room environment is rapidly transforming with surgical leadership away from an authoritarian, surgeon-centered experience to a systems-based, team-centered, process-led environment with egalitarian, respectful communication centered on comprehensive, metric-based surgical safety checklists and time-outs/huddles in every operation.²

Surgical leaders are creating and executing learning healthcare systems and are now reporting rigorous quality measures and results of surgical complications and short-term outcomes.³⁻⁶ I believe that these proactive programs represent the finest, responsible leadership that our profession has ever delivered.

The expansion of multidisciplinary clinics, especially when one includes the complex and poor prognosis cancers in this article, is helping to train a young surgeon to think first as a cancer doctor and then to assess and communicate the role of surgery in the diagnostic, curative, or palliative care of these patients. When addressing resident education in the era of patient safety, it is equally important to teach our surgical trainees whether, or if, to operate, not just how to safely perform an operation. I am confident that residents and fellows will incorporate the current commitment to safety, quality, and patient-centered care that our surgical educators now deliver. As we bring patient safety and

resident involvement forward in our informed consent discussions with our patients, we should be able to look them in the eye and state that our surgical resident(s) will participate in their surgery to the same extent that we would allow the same resident(s) to operate on us or our loved ones, and mean it.

DISCLOSURE None.

REFERENCES

1. Iannuzzi JC, Rickles AS, Deeb A-P, Sharma A, Fleming FI, Monson JRT. Outcomes associated with resident involvement in partial colectomy. *Dis Colon Rectum*. 2013;56:212-8.
2. Haynes AB, Weiser TG, Berry WR, Lipsitz SR, Breizat AH, Dellinger EP, Herbosa T, Joseph S, Kibatala PL, Lapitan MC, Merry AF, Moorthy K, Reznick RK, Taylor B, Gawande AA; Safe Surgery Saves Lives Study Group. A surgical safety checklist to reduce morbidity and mortality in a global population. *N Engl J Med*. 2009;360(5):491-9.
3. SCOAP Collaborative, Writing Group for the SCOAP Collaborative, Kwon S, Florence M, Grigas P, Horton M, Horvath K, Johnson M. Creating a learning healthcare system in surgery: Washington State's Surgical Care and Outcomes Assessment Program (SCOAP) at 5 years. *Surgery*. 2012;151(2):146-52.
4. Birkmeyer JD, Shahian DM, Dimick JB, et al. Blueprint for a new American College of Surgeons: National Surgical Quality Improvement Program. *J Am Coll Surg*. 2008;207:777-82.
5. Kneuert PJ, Pitt HA, Bilimoria KY, Smiley JP, Cohen ME, Ko CY. Risk of morbidity and mortality following hepato-pancreatobiliary surgery. *J Gastrointest Surg*. 2012;16(9):1727-35.
6. MedQIC. SCIP Project information. Available at: <http://www.qualitynet.org> (2010). Accessed 10 Nov 2010.