

did surgeons underreport leaks? The lack of standardized definitions and grading is a significant limitation of the database, particularly given the broad base of surgeons who are included.

Despite the limitations, the analysis of the National Surgical Quality Improvement Program data yields several interesting points. In the era of increased specialization, it remains remarkable to us that one half of esophagectomies are still performed by general surgeons. Data on surgical volumes are not included in the database, but it would be interesting to see that distribution and its relationship to anastomotic leaks. It also struck us that 33% of patients with a leak underwent “reoperation.” It isn’t clear from the database whether that means simple drainage of the cervical incision, extensive decortication, repair or resection of the conduit, or something else. However, the rate strikes us as high and is certainly not what is

seen in our practice. Finally, a critical point that does not come across in the graphical abstract is the dramatic consequence of a leak. In fact, after any anastomotic leak, mortality increased 6-fold, from 1.4% to 8.4%. It is this message, rather than the frequency of anastomotic leaks at one location or another, that should be firmly grasped and acted upon. The establishment and rapid implementation of failure-to-rescue protocols must be an essential component of all thoracic surgical programs, since they have been proven time and again to improve patients’ outcomes.

### Reference

1. Chidi A, Etchill E, Ha JS, Bush E, Yang S, Battafarano R, et al. Effect of thoracic versus cervical anastomosis on anastomotic leak among patients undergoing esophagectomy after neoadjuvant chemoradiation. *J Thorac Cardiovasc Surg.* 2020;160:1088-95.

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## Commentary: Does the location of the anastomosis affect leak rate after esophagectomy?

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The treatment of esophageal cancer has undergone significant change over the past 30 years. The use of neoadjuvant induction therapy has become standard in patients with locally advanced disease, and refinements in both the chemotherapy and radiation therapy modalities have improved the safety and tolerability of induction therapy. Significant changes in surgical technique have also occurred with increasing adoption of endomechanical stapled versus hand-sewn anastomotic techniques as well



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### CENTRAL MESSAGE

The location of the anastomosis is not the major driver of leak rate after esophagectomy.

as development of minimally invasive approaches. Despite of these advances, anastomotic leak remains among the most dreaded complications for esophageal surgeons and an ongoing source of major morbidity and mortality for patients undergoing esophagectomy.

The conventional wisdom when I was a trainee was that a cervical anastomosis had a higher rate of anastomotic leak compared with an intrathoracic anastomosis, but that higher

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leak rate was offset by less serious consequences in terms of management of the leak. Chidi and colleagues<sup>1</sup> performed an analysis of the newly available National Surgical Quality Improvement Program Esophagectomy Data File to critically assess whether that conventional wisdom is supported by the data in a contemporary group of patients undergoing esophagectomy in the United States.

The conclusions of this analysis are that although patients who develop an anastomotic leak are at much higher risk of death than those without leak, there is no difference in the anastomotic leak rate based on cervical or intrathoracic anastomotic location. There was also no difference in the severity or morbidity of the leak based on location of the anastomosis. However, a finding that should be highlighted is that the subset of patients with cervical anastomoses who underwent McKeown esophagectomy had significantly higher leak rates compared with those who underwent transhiatal esophagectomy. This was a highly significant difference on both univariate and multivariate analyses

and suggests that the location of the anastomosis is among a myriad of complex variables that significantly influence the risk of developing an anastomotic leak. The authors hypothesize that other factors surgeons take into account when selecting the surgical approach on any individual operation such as tumor location and extent of radiation fields likely also play an important role. As is the case whenever convention wisdom or surgical mythology is debunked, the results of this analysis are liberating. At the end of the day, surgeons should employ the surgical approach they believe is best suited to provide the optimal results given the patient's individual circumstances rather than be guided by dogmatic beliefs of the superiority of 1 surgical approach versus another.

#### Reference

1. Chidi A, Etchill E, Ha JS, Bush E, Yang S, Battafarano R, et al. Effect of thoracic versus cervical anastomosis on anastomotic leak among patients undergoing esophagectomy after neoadjuvant chemoradiation. *J Thorac Cardiovasc Surg.* 2020;160:1088-95.