

and refinement as needed, may help surgical teams get a better grasp of functional status for patients being considered for esophagectomy.

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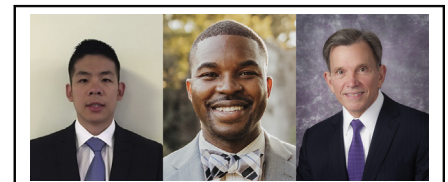
See Article page 822.



Commentary: Surgical risk assessment in 2020: Is a handshake and a walking test really the best we've got?

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Minimally invasive approaches to many disease processes, including esophageal cancer, can help lower the risk of morbidity and mortality.¹ Accurate preoperative assessment is a key component in stratifying patients who present to clinic for possible esophagectomy. These tools allow both medical oncologists and general thoracic surgeons the ability to predict the outcomes of various treatment plans,



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CENTRAL MESSAGE

There is a need for better preoperative assessment in patients undergoing esophagectomy. The Esophagectomy Vitality Index is a novel system that assesses physical status and fitness in these patients.

including multimodal therapy and esophagectomy, and identify nonsurgical candidates. An accurate predictive assessment might also help us decide when a period of physical rehabilitation and medical “tune-up” might be considered when the initial risk assessment appears concerning. While the literature has presented many methods for assessing surgical candidacy,²⁻⁶ there continues to be a need to improve our preoperative assessment tools, since esophagectomy continues to be associated with major morbidity and mortality even in the era of minimally invasive esophagectomy.⁷

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Tang and colleagues⁸ present their novel Esophagectomy Vitality Index to assess the surgical candidacy of patients with esophageal cancer. Several characteristics of this novel index help differentiate the Esophagectomy Vitality Index from other physiological indices. The simplistic-yet-powerful design of the index in question should be highlighted. This novel vitality index consists of 4 items that test a patient's performance parameters and preoperative functional status. These 4 items are performed during the clinic visit (grip strength, 30-second chair sit-stands, 6-minute walk) or obtained through computed tomography imaging (psoas muscle area), lending to the accessibility of performing this index.⁸

The Esophagectomy Vitality Index involves identifying a patient's physical status and fitness just before surgery and therefore may offer the best real-time data. However, while the authors provide standardization in each component, there may be too much variability associated with each test. For example, lower-extremity length may introduce variability in difficulty with the 30-second chair sit-stand test. Similarly, hand size could cause differences in grip strength measures even on a calibrated dynamometer. In addition, there may be anatomic variations in muscle insertion and origin independent of height. Other important details could be further assessed in normal volunteers, such as the reproducibility of these functional variables. In addition, the variability of multiple attempts at a 30-second sit-stand by different observers was not entirely clear, and the potential for a period of physical therapy and rehabilitation with a follow-up index should the initial index score be concerning. All of these are opportunities to strengthen this index and prove that it is reproducible.

Despite these issues, the addition of the Esophagectomy Vitality Index will help us move away from the "eyeball"

test. The existing knowledge of quantifying "surgical fitness" will further improve the predictive capability of this index score. Indeed, the work presented by Tang and colleagues serves as a platform for improving how surgeons define and quantify "surgical fitness" as an objective measurement for surgical candidacy. We applaud Tang and his colleagues for this contribution to the literature and look forward to witnessing future validation and implementation in prospective, possibly randomized trials, and how this might impact on future esophagectomy practices.

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