Sometimes it is not as much about how as it is about why

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Disclosures: Author has nothing to disclose with regard to commercial support.

Received for publication Jan 27, 2017; accepted for publication Feb 1, 2017; available ahead of print Feb 22, 2017.

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J Thorac Cardiovasc Surg 2017;153:1180-1

0022-5223/\$36.00

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<http://dx.doi.org/10.1016/j.jtcvs.2017.02.001>

In this edition of the *Journal*, Demos and coauthors¹ from Stanford University present a series of 18 adult patients who underwent unilateral thoracoscopic diaphragm plication. Their report concludes that the simplified technique of a single-suture plication resulted in an effective thoracoscopic diaphragm plication that produced significant improvements in pulmonary spirometry and dyspnea. Furthermore, Demos and coauthors¹ demonstrated that these improvements were sustained for a relatively long period of follow-up.

Although Demos and coauthors¹ are to be congratulated for these results, 2 other observations from this study deserve mention. The first is that, unlike many such reports related to diaphragm plication in the adult, Demos and coauthors¹ used both objective (pulmonary spirometry) and validated subjective (a dyspnea scale) measures of each patient's response to diaphragm plication. The need for both types of evaluation is too often overlooked in a condition that, as Demos and coauthors¹ point out, is relatively rare. They also used a standard approach to the indications for diaphragm plication. Both concepts are obviously important in supporting the conclusion that their technique is valid.

The second observation follows directly from the previous one. Although plication has been recognized as an appropriate treatment for unilateral paralysis or eventration of the diaphragm in children for many years, it is rarely performed in the adult. Despite the fact that unilateral diaphragm paralysis is relatively frequently diagnosed, few adult patients are referred for plication. This could be attributed either to a lack of familiarity with the possibility of surgical treatment by referring providers or to the absence of a surgeon willing to perform the procedure. The skepticism regarding diaphragm plication has also been exacerbated by the lack of standardized indications for surgery and the lack of objective or validated subjective data for improvement in many previous reports.

During the last decade, however, our group and others, with similar objective measures of respiratory function, have reported that surgical plication can significantly improve patients' symptoms and physiologic responses to unilateral diaphragm paralysis.²⁻⁴ Diaphragm plication has now been shown to be effective whether the plication

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Central Message

This is a well-designed, well-executed investigation of modified diaphragm plication. The larger challenge for thoracic surgeons is willingness to evaluate and treat patients with diaphragm paralysis.

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is performed through a thoracotomy, by thoracoscopy, robotically, or laparoscopically; the treatment effect is consistent (Table 6 in the article of Demos and coauthors¹). As in this report of Demos and coauthors¹, the improvement has been shown to be sustained for extended follow-up periods.

So although Demos and coauthors¹ are to be congratulated on a well-designed and well-executed investigation of a modified technique, the larger challenge for the community of thoracic surgeons is to become familiar with the indications and techniques of diaphragm plication. We as surgeons should be willing to engage these patients and their pulmonary physicians. Physicians with significant experience in the procedure should also report their experiences in an attempt to narrow the indications, contraindications, and timing of the procedure. Many of us will be pleasantly surprised by the difference that we can make in these patients' quality of life and respiratory function.

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