3. Urschel HC Jr, Razzuk MA. "Collis-Belsey" fundoplication for uncomplicated hiatal hernia and gastroesophageal reflux. *Ann Thorac Surg.* 1979;27:564-6.
4. Pearson FG, Henderson RD. Long-term follow-up of peptic strictures managed by dilatation, modified Collis gastropasty, and Belsey hiatus hernia repair. *Surgery.* 1976;80:396-404.
5. Orringer MB, Sloan H. Collis-Belsey reconstruction of the esophagogastric junction. Indications, physiology, and technical considerations. *J Thorac Cardiovasc Surg.* 1976;71:295-303.
6. Zehetner J, Demeester SR, Ayazi S, Kilday P, Augustin F, Hagen JA, et al. Laparoscopic versus open repair of paraesophageal hernia: the second decade. *J Am Coll Surg.* 2011;212:813-20.
7. Luketich JD, Nason KS, Christie NA, Pennathur A, Jobe BA, Landreneau RJ, et al. Outcomes after a decade of laparoscopic giant paraesophageal hernia repair. *J Thorac Cardiovasc Surg.* 2010;139:395-404. 404.e1.
8. Lugaresi M, Mattioli S, Aramini B, D'Ovidio F, Di Simone MP, Perrone O, et al. The frequency of true short oesophagus in type II-IV hiatal hernia. *Eur J Cardiothorac Surg.* 2013;43:e30-6.
9. Banki F, Kaushik C, Roife D, Mitchell KG, Miller CC III. Laparoscopic repair of large hiatal hernia without the need for esophageal lengthening with low morbidity and rare symptomatic recurrence. *Semin Thorac Cardiovasc Surg.* May 29, 2017 [Epub ahead of print].
10. Luketich JD, Raja S, Fernando HC, Campbell W, Christie NA, Buenaventura PO, et al. Laparoscopic repair of giant paraesophageal hernia: 100 consecutive cases. *Ann Surg.* 2000;232:608-18.
11. Victoria Chang M, Garwood G, Roife D, Kaushik C, Miller CC, Banki F. Laparoscopic type IV hiatal hernia repair with toupet fundoplication: clinical outcomes and lessons learned. Poster Presentation, Western Surgical Association, 125th Annual Meeting, Scottsdale, Arizona, November 4-7, 2017.
12. Dallemagne B, Kohnen L, Perretta S, Weerts J, Markiewicz S, Jehaes C. Laparoscopic repair of paraesophageal hernia. Long-term follow-up reveals good clinical outcome despite high radiological recurrence rate. *Ann Surg.* 2011;253:291-6.
13. Oelschlager BK, Pellegrini CA, Hunter JG, Brunt ML, Soper NJ, Sheppard BC, et al. Biologic prosthesis to prevent recurrence after laparoscopic paraesophageal hernia repair: long-term follow-up from a multicenter, prospective, randomized trial. *J Am Coll Surg.* 2011;213:461-8.
14. Lugaresi M, Mattioli B, Daddi N, Di Simone MP, Perrone O, Mattioli S, et al. Surgery for type III-IV hiatal hernia: anatomical recurrence and global results after elective treatment of short oesophagus with open and minimally invasive surgery. *Eur J Cardiothorac Surg.* 2016;49:1137-43.

<https://doi.org/10.1016/j.jtcvs.2017.10.092>

**PARAESOPHAGEAL
HERNIAS: "YOU SAY
POTATO, I SAY POTATO"**
Reply to the Editor:

We greatly appreciate the commentary and questions raised by Dr Mattioli in regard to our recently published study on the 1-year follow-up of giant paraesophageal hernia repairs.¹ The first issue is with our use of the term "giant paraesophageal hernia." We defined the condition in our study as "gastric herniation of 30% or more through the diaphragmatic hiatus on preoperative imaging." This definition has been widely used over the past decade, most notably by Dr James Luketich and colleagues² as published in the *Journal*. In addition, a search of the PubMed database using the term "giant paraesophageal hernia" shows 10 publications using this term from 2017.³ The hernias that we described, which are predominantly type III and IV hiatal hernias, are commonly referred to as "paraesophageal hernias" because the stomach herniates beside some of the esophagus. Many of our patients had very large hernias

Author has nothing to disclose with regard to commercial support.

denoted by the term "giant." Of note, the classic type II hernia with a gastroesophageal junction below the diaphragm and fundus herniating along the esophagus is rare and is not the definition being used in the literature when referring to paraesophageal hernias. We appreciate your reference to Landreneau and colleagues⁴ classification and hope our answer is satisfactory. We agree that the current definition has evolved and were careful to define the condition in our study.

Your second point has to do with the definition of recurrence and the risks of operating on large hiatal hernias. We are aware of your outstanding published results and your careful long-term follow-up for a median of 96 months. We used an experienced study coordinator to help with the 1-year follow-up. She (JVP) had to persuade many of our patients, particularly those are feeling well, to return for a 1-year follow-up or to undergo any further diagnostic imaging. Our group was also troubled by the commonly used definition of a recurrence after laparoscopic hernia repair, defined as a gastroesophageal junction greater than 2 cm above the hiatus. We all know that the gastroesophageal junction should be below the hiatus, and we wanted to highlight this point in our study. We also wanted our results to be interpreted fairly compared with other contemporary series, so we reported both recurrence rates (any recurrence and small recurrences not always reported in other series). We appreciate your comments and hope that future studies of giant paraesophageal hernias, or large type III and IV hernias, use a more accurate definition of recurrence.

*Benjamin D. Kozower, MD, MPH
Division of Cardiothoracic Surgery
Washington University School of Medicine
St Louis, Mo*

References

1. Stringham JR, Phillips JV, McMurry TL, Lambert DL, Jones DR, Isbell JM, et al. Prospective study of giant paraesophageal hernia repair with 1-year follow-up. *J Thorac Cardiovasc Surg.* 2017;154:743-9.
2. Luketich JD, Nason KS, Christie NA, Pennathur A, Jobe BA, Landreneau RJ, et al. Outcomes after a decade of laparoscopic giant paraesophageal hernia repair. *J Thorac Cardiovasc Surg.* 2010;139:395-404.
3. Giant Paraesophageal Hernia. PubMed Database. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/?term=giant+paraesophageal+hernia>. Accessed October 21, 2017.
4. Landreneau RJ, Johnson JA, Marshall JB, Hazelrigg SR, Boley TM, Curtis JJ. Clinical spectrum of paraesophageal herniation. *Dig Dis Sci.* 1992;37:537-44.

<https://doi.org/10.1016/j.jtcvs.2017.10.094>