

**Reviewer A**

I am very honored to review this manuscript describing safety and usability of an Endo Staple Line Reinforcement device for pulmonary resection. The reviewer congratulates the authors for their hard work. Reinforcement of the staple line is useful for pressure resistance and is especially critical in lungs with interstitial pneumonia and emphysematous changes. However, there are a few concerns I would like the authors to clarify.

1. Staple line reinforcement is not performed in all cases and is usually used in those with poor original lung conditions, e.g., emphysema or interstitial pneumonia. I would appreciate it if the authors could describe the lung condition of the cases.

**AUTHOR REPLY:** For this study, subject selection was based off of inclusion/exclusion criteria which did not include any restrictions on condition of patient's lungs. Patients were consecutively approached for inclusion if they were going to have a thoracic procedure in which the device may be utilized. Table 2 presents the indications for all subjects as well as their ASA scores and the procedures performed. Aggregate data is presented.

**CHANGES IN TEXT:** No changes in text as it is already contained in Table 2 as shown below.

**Table 2: Specifics relating to procedure, indication, and health scores**

Variable	Characteristic	Number (n=131)
Primary Indication for the Procedure Performed [1]	Malignancy	80 (61.1%)
	COPD	1 (0.8%)
	Primary non-malignant lung disease (non-COPD)	16 (12.2%)
	Persistent pneumothorax (including blebs)	5 (3.8%)
	Other	36 (27.5%)
Procedure Performed [1]	Lobectomy	45 (34.4%)
	Segmentectomy	19 (14.5%)
	Wedge resection	76 (58.0%)
	Lung volume reduction surgery	0 (0.0%)
	Other	29 (22.1%)
ASA Score [2]	ASA I	1 (0.8%)
	ASA II	13 (9.9%)
	ASA III	114 (87.0%)
	ASA IV	3 (2.3%)
Current Smoking Status	Current Smoker	32 (24.4%)
	Former Smoker	64 (48.9%)
	Never Smoked	35 (26.7%)

[1] Multiple responses were collected for primary indication and procedure performed.

[2] ASA - American Society of Anesthesiologists:

I - A normal healthy patient,

II - A patient with mild systemic disease,

- III- A patient with severe systemic disease,
- IV- A patient with severe systemic disease that is a constant threat to life,
- V- A moribund patient who is not expected to survive without the operation.

2. Postoperative pulmonary fistulas are usually more problematic with segmentectomies than with wedge resections or lobectomies. The reason why there were so few cases of prolonged air leak in this case may be because there were fewer cases of segmentectomies.

**AUTHORS REPLY:** We addressed the reviewers concern in the discussion where we cite an article that suggests that wedge resections have the highest percentage of PAL suggesting that segmentectomies may not be more problematic

To the point, we did have 14.5% segmentectomies in our study. As above though, patients were consecutively approached, and our study did not limit the number of subjects included for each procedure group.

Changes in the text: None. This was addressed in the manuscript.

### **Reviewer B**

This article presents something new - a novel material to buttress staple lines on pulmonary resections.

The article is well prepared.

My only question regards the reasons why 11 patients did not complete the study, especially 2 patients who died after surgery - were there any complications in these 11 patients.

**AUTHORS REPLY:** There were two subject deaths over the course of the study period and were not immediately after the surgery. Both were deemed *not* related to study procedure or device. The causes of the deaths were reported as: 1) cardiac arrest 2) failure to thrive and did not occur immediately post-op.

The subjects who did not complete the study were reported as: two deaths, one subject who voluntarily withdrew from the study, 7 others who were "lost to follow up", and one unspecified by study site. None were due to complications. Please see first paragraph of the "Results" section.

Changes in Text: Results section contains the information already and we did not modify text as the deaths were deemed not study related and did not occur immediately after surgery.

### **Reviewer C**

The article is interesting but some comments and questions are necessary.

1) the type of thoracoscopic approach uniportal biportal or multiportal

**AUTHORS REPLY:** This data was not collected from individual study sites, as the protocol stated that procedures were done per the surgeon's standard of care.

Changes to Text: None.

2) how the sites have been chosen? according to number of cases/year or following a different reason

**AUTHORS REPLY:** Study sites were chosen based upon pre-study qualification visits and a site feasibility questionnaire completed by each potential site.

Changes to Text: None. Authors feel that this information adds nothing to the manuscript.

3) 2 patients died. Why?

**AUTHORS REPLY:** Two subject deaths reported over the course of the study were deemed *not* related to study procedure or device. Those causes were reported as: 1) cardiac arrest 2) failure to thrive.

Changes to Text: None as above.

4) mean procedure was 1.7 hours ..... what does it mean? probably calculation in minutes will be easier to understand

**AUTHORS REPLY:** We have modified manuscript and reported surgery time in minutes as reviewer

requested

Change in the Text: line 125

5) Line 174 Nine pts (7%) required intervention for bleeding at the staple line. it should be clear written "intraoperatively". The question is Why? This seems to be an high incidence. Could the authors comment?

AUTHORS REPLY: There is sparse data available to suggest a rate of required staple line intervention. Of importance is not all of these interventions were necessarily required. Surgeon preference played a role in preferred interventions such as oversewing. This study allowed surgeons to perform the procedures based upon their own standard of care in order to obtain real world data.

Change to the Text: Line 142 and 143 have been modified to stress "intraoperative" as requested by the reviewer.

6) The authors should perform a prospective trial or a non inferiority trial to confirm this preliminary study

AUTHORS REPLY: Additional data collection activities are ongoing to garner additional data. This study was done to obtain real-world data. Future prospective or non-inferiority studies are also being/under considered/consideration.

Change to the Text: None.

### **Reviewer D**

Congratulations for this nice study;

It will be interesting to show the device and the buttress material.

AUTHORS REPLY: We have now included a figure of the device with the buttress material.

Change to the Text: Figure 1 is now included.