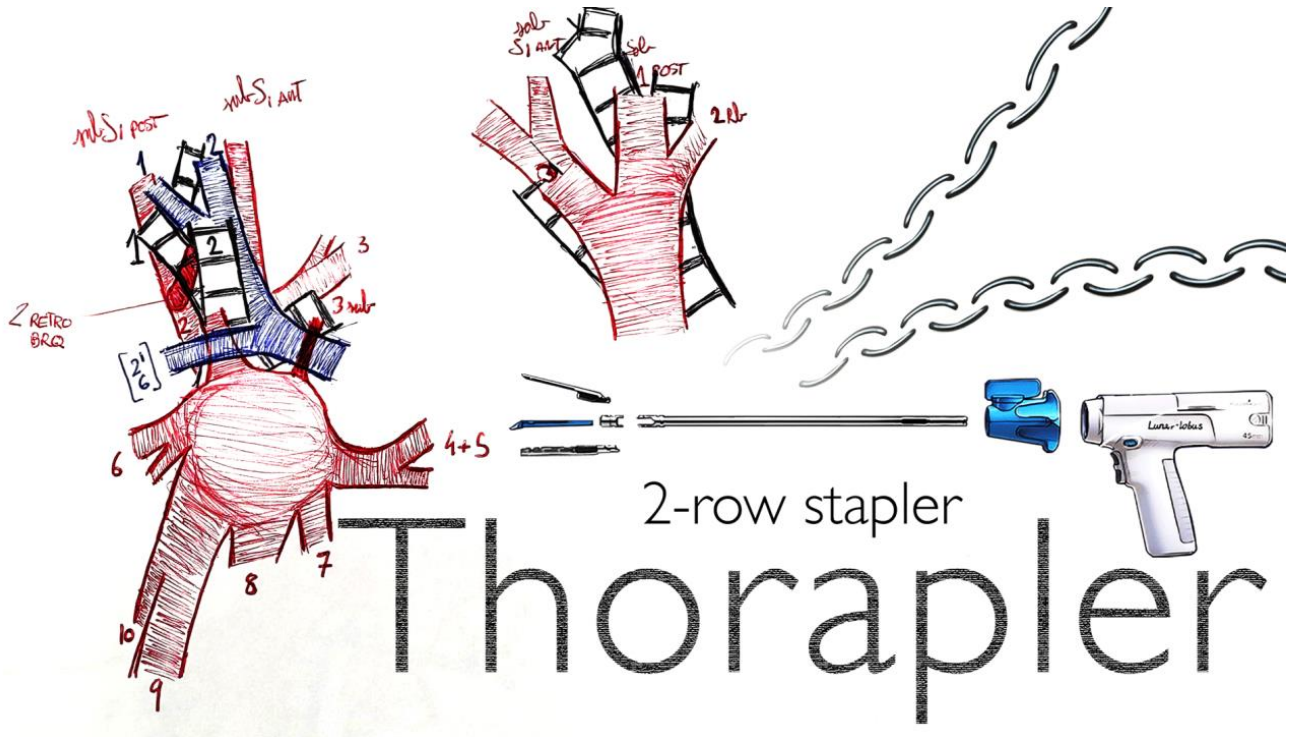




## Thorapler-Assisted RATS S2 + SubS1(posterior) Sublobar Resection

December 2, 2025



Anatomical subsegmentectomy is increasingly applied for centrally located small-sized lung tumors, but complex venous variations and fragile lung parenchyma in COPD patients remain challenging.

We report a case of RATS sublobar resection S2+SubS1 (post) of the right upper lobe using the Thorapler two-row stapling system, highlighting its technical performance in managing a complex intersegmental plane adjacent to posterior SubV1 variation.

---

## Case Presentation

74-year-old patient, COPD, with CHF due to dilated cardiomyopathy with moderate PHT. Presents with a 1.5cm central tumour in segment 2 of the right upper lobe. Anatomically, the CT scan revealed a posterior SubV1 vein with an opening into the central vein distal to V2. Given his limited cardiopulmonary reserve, RATS anatomical S2 + SubS1(post) subsegmentectomy was selected.

## Surgical Technique & Performance Highlights

### Division of the S2 + SubS1(posterior) Intersegmental Plane

The intersegmental plane between SubS1(posterior) and S2 is anatomically complex, with an irregular multi-curved configuration. In COPD patients with fragile parenchyma, traditional three-row staplers or rigid cartridges often struggle to accommodate this anatomy, leading to uneven compression, suboptimal staple formation, and increased technical difficulty during division.

The **Thorapler two-row stapling system** provided several key advantages:

#### 1) Two-Row Design for Stable, Uniform Compression and Stapling

Its **precision two-line formation** generates softer and more even compression—ideal for fragile COPD parenchyma—allowing:

- Prevention of over-compression and alveolar rupture
- Reduced tearing and staple penetration
- A smooth and stable cut line

# Lung parenchyma division

Lung parenchyma division

CLICK



to watch the full procedure video

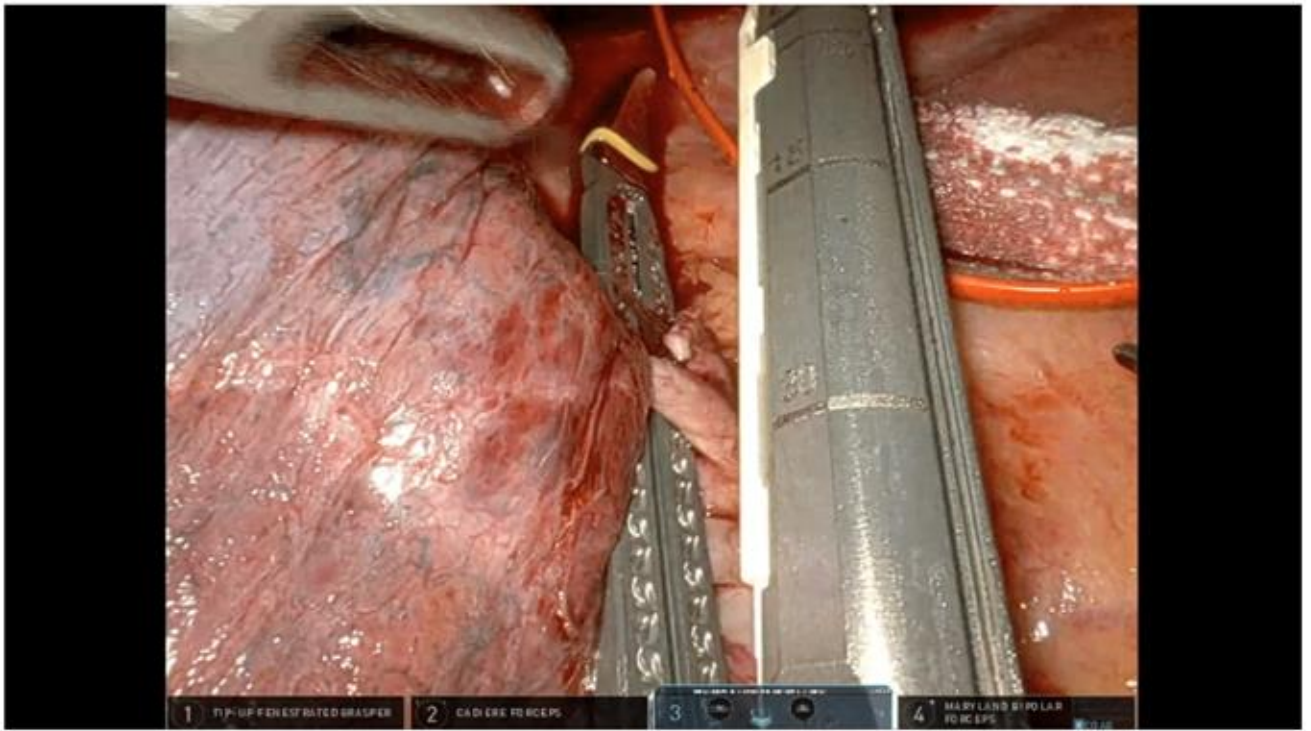
---

## 2) Better Adaptation to Variable Tissue Thickness

The S2/SubS1(posterior) plane transitions from thicker tissue near the hilum to thinner peripherally. Thorapler's consistent compression mechanics ensured:

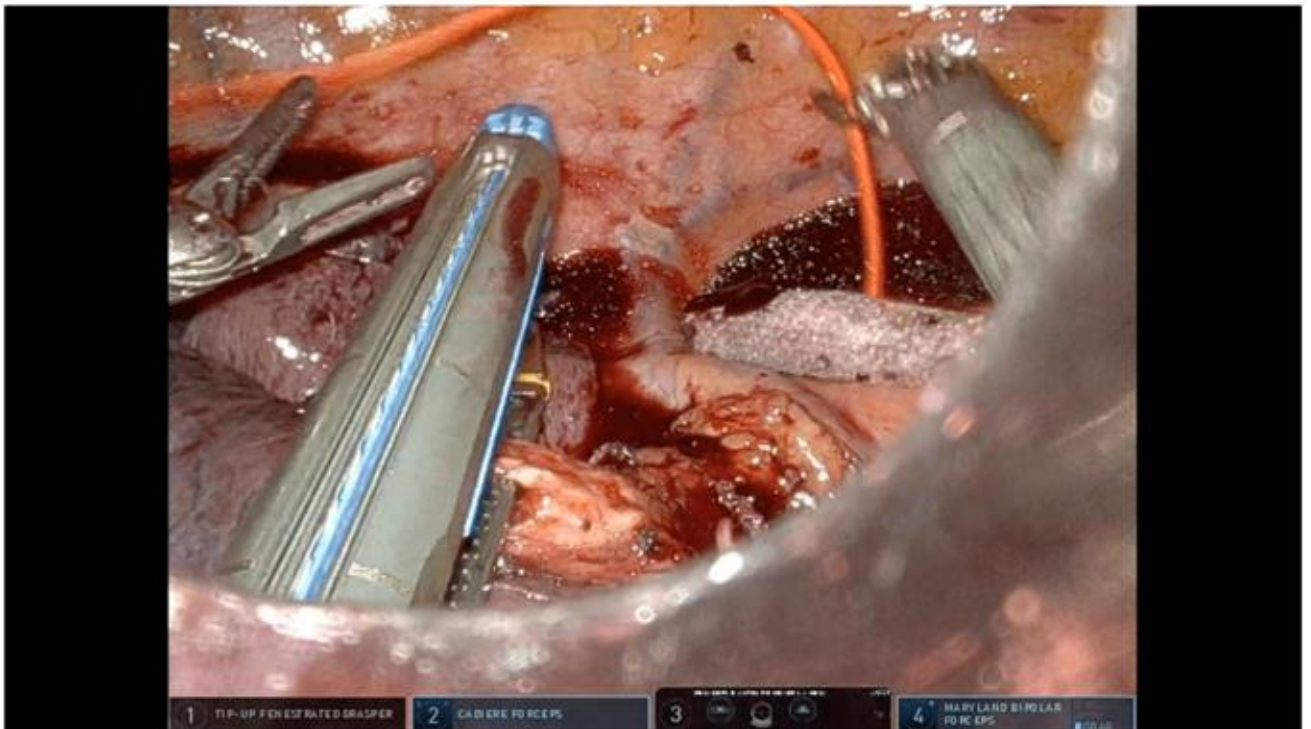
- Reliable staple formation in thick areas
- Protection of thin peripheral parenchyma
- Even closure without focal defects

This consistency is more difficult to obtain with traditional three-row staplers.



SubA1 post Thorapler with white reload

[CLICK](#)  to watch the full procedure video



SubB1 post Thorapler with blue reload

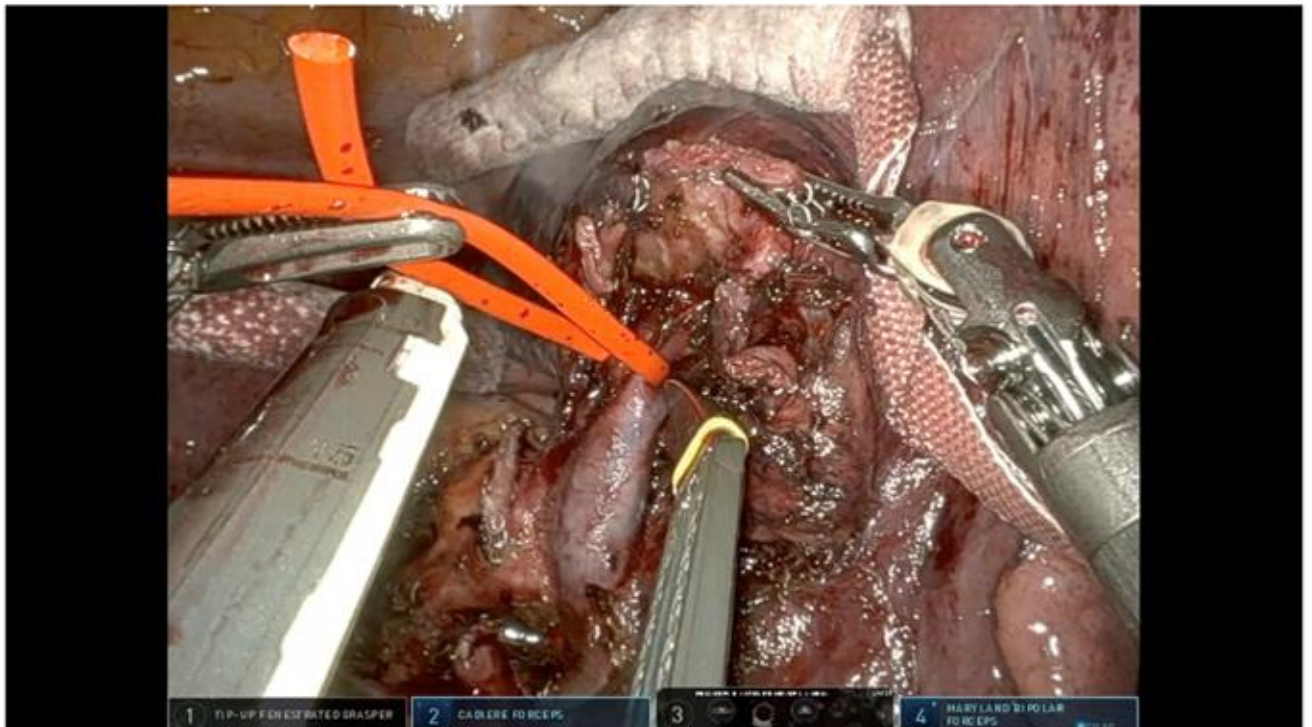
[CLICK](#)  to watch the full procedure video

---

### 3) 8mm Ultra-Slim Shaft and Superior Deep-Field Access

The posterior SubV1 vein lies deep in a confined space. Thorapler's design enabled:

- Easy insertion into narrow operative fields
- Smooth cartridge operation without disturbing adjacent veins
- Precise alignment to the oblique, curved intersegmental plane



V2 Thorapler with white reload and curved tip

**CLICK**  to watch the full procedure video

---

## Conclusion: Clinical Value of the Thorapler Two-Row System in Complex Subsegmentectomy

This case represents a classic high-complexity scenario: **advanced age + COPD + heart failure + pulmonary hypertension + venous variations + central lesion + anatomical subsegmentectomy.**

In such high-risk and high-precision surgeries, the Thorapler system delivered several key advantages:

- ✓ **Reduced air-leak risk in fragile COPD parenchyma**, achieved through gentler two-row tissue compression.
- ✓ **Enhanced precision on multi-curved intersegmental planes**, suitable for complex boundaries such as S1/S2/S3 and S2/SubS1.
- ✓ **Fewer firings with improved surgical controllability**, helping shorten operative time and reduce cardiopulmonary stress in high-risk patients.
- ✓ **Streamlined workflow for surgeons and scrub nurses**, enabled by a lighter, more predictable stapling experience that supports procedural standardization.

# WE THINK NEXT



NEWSLETTER

**Fulbright Insights**

Medical Trends & Tech with a Fulbright Focus

[Subscribe on LinkedIn](#)