

# Complications in thoracic surgery have serious consequences. **How can you try to minimize the risk?**



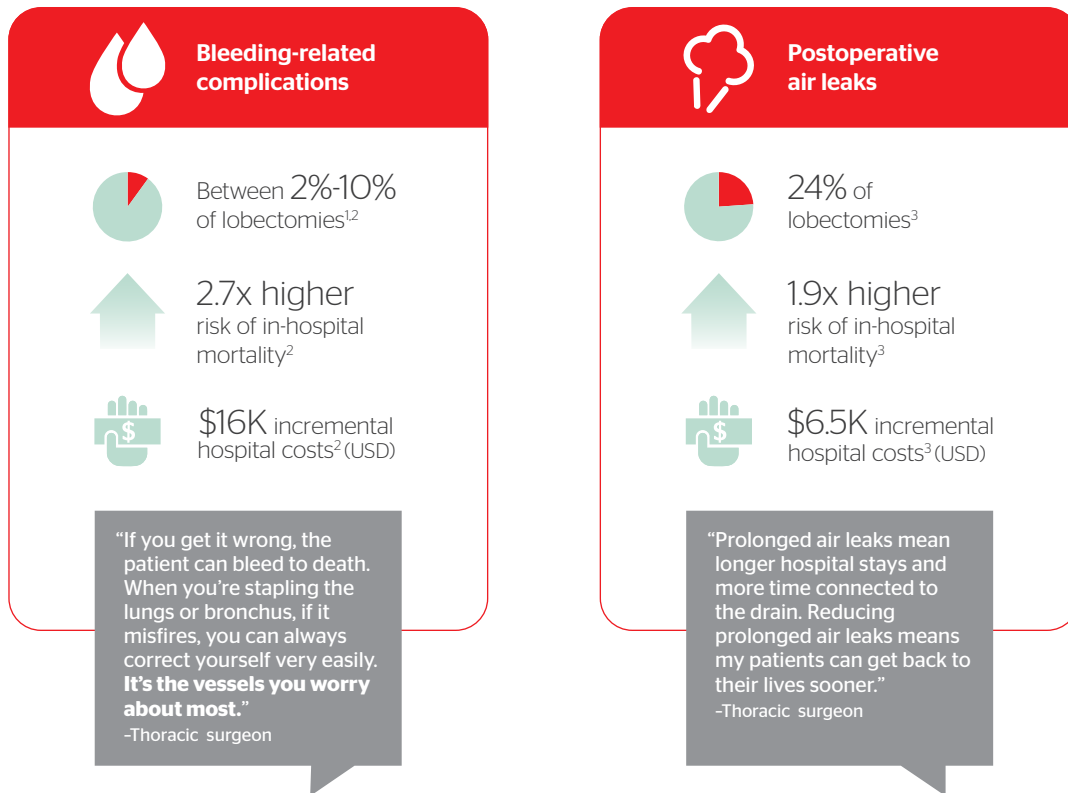
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In thoracic surgery, complications are unacceptable—clinically and economically.

### Clinical and financial burden



An increasingly complex environment creates a higher risk of complications.

### Many factors are creating a more complex environment



- Patient factors** leading to increasingly challenging tissue:
- Aging population
  - Comorbid conditions
  - Neoadjuvant therapies



- Procedural factors**
- Smaller nodules and GGOs
  - Emerging techniques (e.g., robotics, segmentectomy, uniportal)



- Systemic factors**
- Cost pressures
  - Time pressures
  - Staying relevant in a competitive market

As a thoracic surgeon, you thrive on challenges. But you need a device designed to help you handle challenges and deliver better outcomes without increasing cost.

<sup>1</sup>Kent M, et al. Open, video-assisted thoracic surgery, and robotic lobectomy: review of a national database. *Ann Thorac Surg*. 2014;97:236-444. <sup>2</sup>Based on Ethicon (2016) internal analysis of data from 26,955 lobectomy procedures captured in Premier Perspective database for the period of 2008-2014. <sup>3</sup>Yoo A, et al. Burden of air leak complications in thoracic surgery estimated using a national hospital billing database. *ClinicoEconomics Outcomes Res*.2017;9:373-383.

# You need devices **specifically designed to handle challenging lung tissue.**

## ECHELON > a better way to staple

### Tissue management

- Compression
- Stability
- Gentle on tissue



### Control

- Access
- Usability
- Simplicity

## ECHELON FLEX™ Powered Vascular Stapler



Enables improved access and more precise placement on fragile vessels

### Superior Maneuverability 26% narrower curved, blunt tip anvil

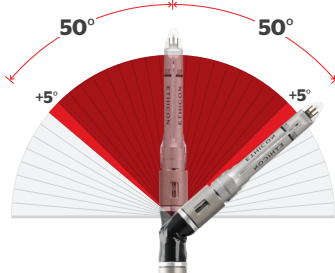


Endo GIA™ Curved Tip Reload  
with Tri-Staple™ Technology



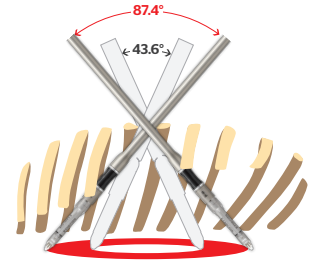
ECHELON FLEX™ Powered Vascular Stapler

### More Flexibility During Placement Provides 11% greater manual articulation in each direction\*



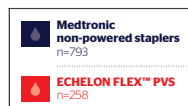
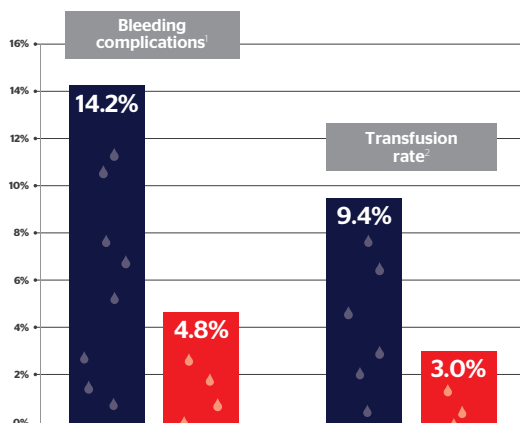
\*The ECHELON FLEX™ Powered Vascular Stapler with Advanced Placement Tip is designed to provide an additional 10° of total articulation, providing a span of 100° (50° in each direction), compared to the Endo GIA™ Curved Tip Reload with Tri-Staple™ Technology that provides 45° of articulation in each direction. Based on articulation data from IFUs of each device.

### Increased Freedom of Movement Thinnest shaft diameter provides 43.8° larger area of maneuverability



Compared to the Endo GIA™ Curved Tip Reload with Tri-Staple™ Technology. Approach angles assessed in a virtual CAD environment in the 5th intercostal space.

## Associated with reduced hemostasis complications



### Data source:

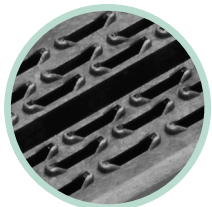
Premier Healthcare Database

- Over 6 million cases annually in wide range of surgical areas
- >700 contributing hospitals
- Represents 20% of HIPAA-compliant U.S. inpatient discharges
- Used in 375+ peer-reviewed publications

<sup>1</sup> Ethicon retrospective analysis of clinical outcomes between Echelon Powered vs. Medtronic non-powered endoscopic surgical staplers among patients undergoing video-assisted thoracoscopic surgery lobectomy. Review of 1,051 cases between 2012 and 2015 from the Premier Perspective® Hospital Database (4.8% vs 14.2%; p=0.0098).  
<sup>2</sup> Ethicon retrospective analysis of clinical outcomes between Echelon Powered vs. Medtronic non-powered endoscopic surgical staplers among patients undergoing video-assisted thoracoscopic surgery lobectomy. Review of 1,051 cases between 2012 and 2015 from the Premier Perspective® Hospital Database (3.0% vs 9.4%; p=0.023).

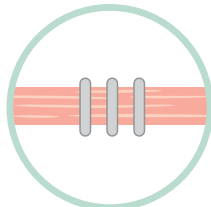
# ECHELON FLEX™ GST System<sup>1</sup>

Designed specifically to handle challenging tissue



### Gripping Surface Technology

- Utilises proprietary pocket extensions to hold tissue in place as well as support and guide staple legs toward anvil pocket during firing.



### Uniform staple height

- Exceptional staple line integrity across the broadest range of tissue thicknesses.<sup>2</sup>
- More reload choices to meet specific tissue needs.



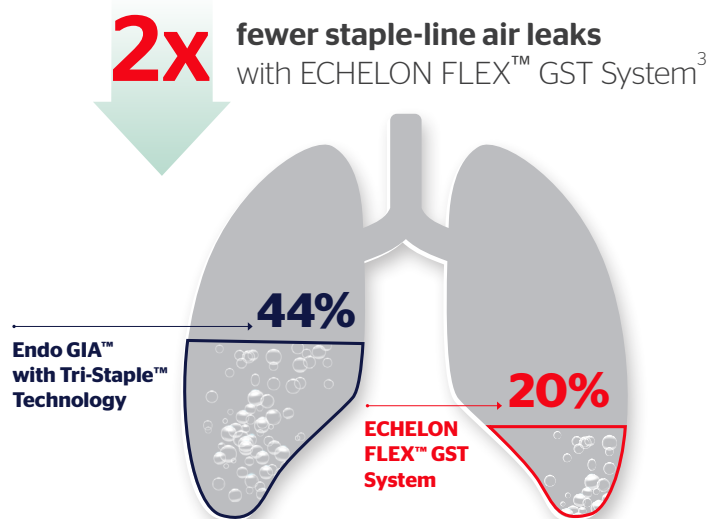
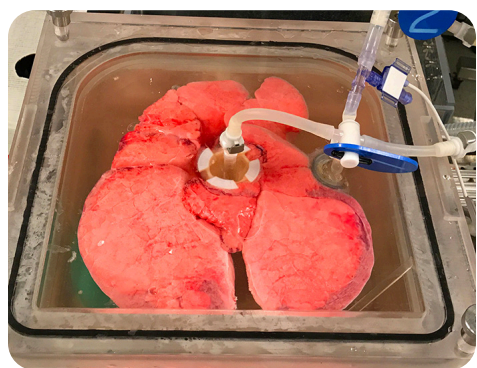
### Multi-stage compression

- Designed to reduce the forces exerted on tissue during firing.

## Tests indicate 2x fewer staple line air leaks<sup>3</sup>

This first-of-its-kind Physiologic Lung Model was designed to simulate both ventilated and physiologic breathing in order to collect and measure air leaks by incidence and volume.

Test results indicated 2x fewer staple line air leaks with ECHELON FLEX™ GST System.<sup>3</sup>



<sup>1</sup> System components include ECHELON FLEX™ Powered Plus Stapler and ECHELON™ ENDOPATH Reloads with Gripping Surface Technology <sup>2</sup> The ECHELON FLEX™ GST System was designed and tested to meet rigorous design requirements for staple line integrity. The GST System accommodates a tissue thickness range of 1.0mm to 4.0mm (measured at 8g/mm<sup>2</sup>, tissue comfortably compressed to closed staple height during firing per IFU) while the Medtronic Tri-Staple™ portfolio is intended for a tissue thickness range of 0.75mm to 3.0mm (per IFU & materials downloaded from Medtronic website on Nov 16, 2016). <sup>3</sup> Staple line air leaks in porcine lungs using a physiologically based ex-vivo lung chamber model. ECHELON FLEX™ GST System vs Endo GIA™ with Tri-Staple™ Technology. 20% vs 44%, GST 45 Blue (n=25) & Green (n=30) reloads vs Tri-Staple™ 45 Purple (n=25) & Black (n=30). Based on similar design features between ECHELON GST45 & GST60, no significant difference in performance is expected.

# ECHELON FLEX™ Powered Staplers were associated with reduced hemostasis-related complications<sup>1</sup> and shorter length of stay<sup>2</sup> without increasing costs.<sup>3</sup>

Results are based on large-scale, real-world evidence of VATS lobectomy procedures using two ECHELON FLEX™ Powered Staplers versus one Medtronic manual stapler. **ECHELON FLEX is the only surgical stapling brand backed by this large-scale, real-world evidence.**<sup>4</sup>



**ECHELON FLEX™ Powered Vascular Stapler** enables more precise placement on fragile vessels.<sup>5</sup>



**ECHELON FLEX™ GST System** enables you to transect as you intend, even on challenging tissue.<sup>6</sup>



**Next steps:** Schedule time to try ECHELON FLEX™ Powered Vascular Stapler and ECHELON FLEX™ GST System for yourself

## ECHELON > a better way to staple

<sup>1</sup> Ethicon retrospective analysis of clinical outcomes between Echelon Powered vs. Medtronic non-powered endoscopic surgical staplers among patients undergoing video-assisted thoracoscopic surgery lobectomy. Review of 1,501 cases between 2012 and 2015 from the Premier Perspective® Hospital Database (4.8% vs. 14.2%; p=0.0098). <sup>2</sup> Ethicon retrospective analysis of economic and clinical outcomes between Echelon Powered vs. Medtronic non-powered endoscopic surgical staplers among patients undergoing video-assisted thoracoscopic surgery lobectomy. Review of 3,006 cases between 2012 and 2015 from the Premier Perspective® Hospital Database. Length of stay: 4.9 vs 5.7 days; p=0.0374. Total hospital cost: \$23,785 vs. \$26,180; p=0.0078. Supply cost: \$5,021 vs. \$5,989; p=0.0161. Room & board cost: \$6,792 vs. \$7,984; p=0.0385. Transfusion: 4.7% vs. 9.3%; p=0.018. Hemostasis-related complications: 8.2% vs. 13.9%; p=0.0218. <sup>3</sup> Ethicon retrospective analysis of outcomes between Echelon Powered vs. Medtronic non-powered endoscopic surgical staplers among patients undergoing video-assisted thoracoscopic surgery lobectomy. Review of 1,051 cases between 2012 and 2015 from the Premier Perspective® Hospital Database. Hemostasis-related complications: 4.8% vs. 14.2%; p=0.010. Transfusion: 3.0% vs. 9.4%; p=0.023. Total hospital costs: \$23,219 vs. \$25,207; p=0.242. <sup>4</sup> Based on literature search performed May 2019. Large-scale is defined as sample size greater than 3500 cases. <sup>5</sup> Compared to the Endo GIA™ Curved Tip Reload with Tri-Staple™ technology, PVE35A, EGIA30CTAVM, and PSE45A articulation data from IFUs of each device. <sup>6</sup> Challenging tissue—thick, fragile and varying thickness and density.