HARMONIC® Shears provide sealing confidence on pulmonary vessels

Using HARMONIC® Shears to seal smaller pulmonary vessels and branches during VATS lobectomy and segmentectomy procedures is as effective as conventional methods and can improve the procedure through:

- Narrow profile
  - Requires less vessel dissection in tight places
- Multifunctionality
  - In vessel sealing, adhesiolysis, mobilization and nodal dissection

Energy-based ligation of pulmonary vessels: A six-year experience with ultrasonic shears in video-assisted thoracoscopic lobectomy and segmentectomy.


- Retrospective study of lung cancer patients undergoing lung lobectomy or segmentectomy over a six-year period (n=283).
- HARMONIC Technology vs. conventional methods for ligation of pulmonary vessels less than or equal to 5mm.
- Fewer complications in the HARMONIC Technology group (p=0.05).
- No significant difference between the two study groups for rates of intraoperative transfusion, prolonged air leak, empyema, or return to the operating room was found.
- No postoperative complications directly attributable to HARMONIC Technology vessel ligation.

HARMONIC® Shears enable vessel sealing and access in tight spaces, providing an important multifunctional tool in thoracic procedures.1,2,3
Sealing reliability in your thoracic procedures

Pulmonary artery sealing with HARMONIC® Shears

Independent clinical investigations

Pulmonary artery sealing with ultrasonic energy in open lobectomy: A phase I clinical trial

Background
- Prospective study of patients scheduled for elective open (thoracotomy) pulmonary lobectomy.
- All PA branches ≤ 7mm (measured intraoperatively) were divided with HARMONIC® ACE+ 7 Shears (ACE7).
- Intra- and postoperative bleeding were strictly recorded.

Results
- 14 PAs sealed with ACE7 (mean vessel of 5mm (range, 2-7mm) across 10 patients.
- No intra- or postoperative bleeding related to ACE7 in PA sealing and no postoperative mortality.

Conclusions
- PA sealing for vessels with diameter ≤7mm was safely achieved with ACE7.
- The use of ultrasonic energy vessel-sealing devices in VATS lobectomy may have the advantage of making small, short, pulmonary artery branch sealing safer than with vascular endostaplers.

Phase 1 trial evaluating safety of pulmonary artery sealing with ultrasonic energy in VATS lobectomy

Background
- Prospective study of patients planned to undergo VATS lobectomy.
- Branches of 7 mm or less were sealed and cut with HARMONIC® ACE+ 7 Shears (ACE7).
- Intraoperative, in-hospital, and 30-day postoperative bleeding were prospectively recorded.

Results
- 58 PA branches were divided in 20 patients: ACE7 (31), endostaplers (24), clips (2), suture (1).
- Mean vessel diameter sealed with ACE7 was 4mm. 2 patients converted to open (1 w/ PA injury during dissection, 1 w/ PA tumor invasion).
- No intra- or postoperative bleeding related to PA branch sealing with ACE7 and no postoperative deaths occurred.

Conclusions
- PA branch sealing for vessels with diameter ≤7mm was safely achieved with ACE7.
- Large-scale, prospective, multi-institutional studies are necessary before widespread clinical application of energy for PA branch sealing in VATS lobectomy.

HARMONIC® Shears enable precision in thoracic surgery. To learn more, contact your sales representative or visit ethicon.com/Thoracic.

1 The HARMONIC ACE® Shears + Adaptive Tissue Technology are indicated for soft tissue incisions when bleeding control and minimal thermal injury are desired. The instruments can be used as an adjunct to or substitute for electrosurgery, lasers and steel scalpels in general, plastic, pediatric, gynecologic, urologic, thoracic, exposure to orthopedic structures (such as spine and joint space), and other open and endoscopic procedures.
2 The HARMONIC ACE+7 5mm Diameter Shears with Advanced Hemostasis are indicated for soft tissue incisions when bleeding control and minimal thermal injury are desired. The instruments can be used as an adjunct to or substitute for electrosurgery, lasers and steel scalpels in general, plastic, pediatric, gynecologic, urologic, thoracic, exposure to orthopedic structures (such as spine and joint space), and other open and endoscopic procedures.
3 The HARMONIC HD 1000i Shears instrument is indicated for soft tissue incisions when bleeding control and minimal thermal injury are desired. The instruments can be used as an adjunct to or substitute for electrosurgery, lasers and steel scalpels in general, plastic, pediatric, gynecologic, urologic, thoracic, exposure to orthopedic structures (such as spine and joint space), and other open and endoscopic procedures.
4 As compared to HARMONIC® devices without Adaptive Tissue Technology (C1949)