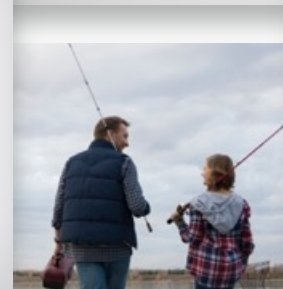


Ethicon Energy Solutions. Healing first.



Ethicon Energy Solutions. Healing first.

ETHICON

PART OF THE *Johnson & Johnson* FAMILY OF COMPANIES

Shaping
the future
of surgery

At Ethicon we understand that surgeons, nurses, and administrators are aiming to deliver...

POSITIVE SURGICAL OUTCOMES

while...

IMPROVING EFFICENCY, OR SAFETY, AND REDUCING COSTS.



Surgical burdens increase complications which can **increase cost by up to five times**¹

Our focus for Ethicon Energy Solutions is on addressing surgical burdens including:

- ✓ Bleeding
- ✓ Length and cost of operative time
- ✓ Safety for patients and OR team

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1. In a study evaluating 1,200 consecutive patients undergoing major surgery, patients without complications had mean in-hospital costs per case of \$27,946 while patients with grade IV complications had mean in-hospital costs per case of \$159,345. Vonlanthen R, et al. The impact of complications on costs of major surgical procedures: a cost analysis of 1200 patients. *Ann Surg.*, 2011;254(6).

ETHICON ENERGY SOLUTIONS

Healing comes first for health care providers

That's why Ethicon Energy is dedicated to delivering energy solutions for surgeons to help patients heal faster and protect the OR team from risks.

Less invasive energy



Optimize energy delivery to do less tissue damage,¹ advance outcomes,² so that surgeries go according to plan.

Right energy product for the right job



Deliver the most comprehensive product portfolio so surgeons have the right tools for the right energy job in a particular procedure.³

Enhance OR safety and efficiency



Partner with OR staff to provide the products, training and education to advance OR safety for patients and surgical staff.

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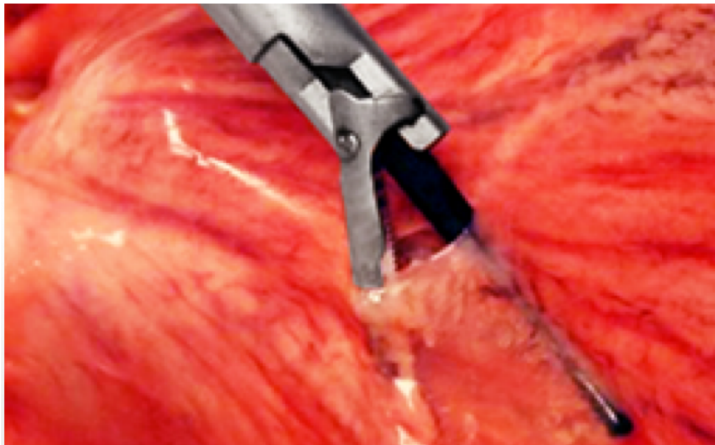
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1. Based on preclinical studies demonstrating decreased activation times and thermal damage vs. HARMONIC ACE® without Adaptive Tissue Technology. 2. Based on the large body of clinical evidence comparing advanced energy devices to conventional methods across multiple specialties and procedures. Each listed benefit may not be applicable to every advanced energy device, patient and/or procedure. 3. Upon review of product catalogs and websites (Advanced Energy, Core Energy, Surgical Smoke Evacuation) for the respective manufacturers: Medtronic, Olympus, Intuitive Surgical, Conmed. Ethicon (2017).

ETHICON ENERGY SOLUTIONS

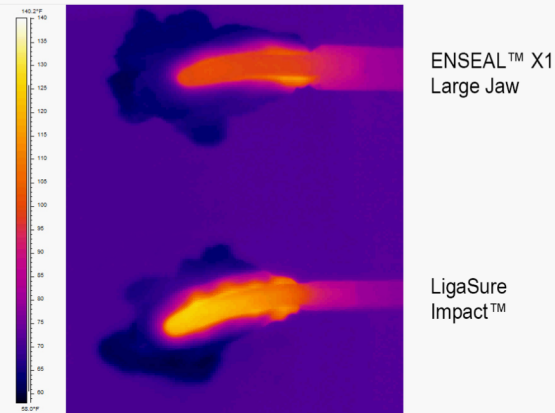
Less invasive energy

Ethicon devices are designed to minimize effect on tissue by delivering **unmatched precision,¹ less thermal spread,² and with scalpel-like cutting experience.³**

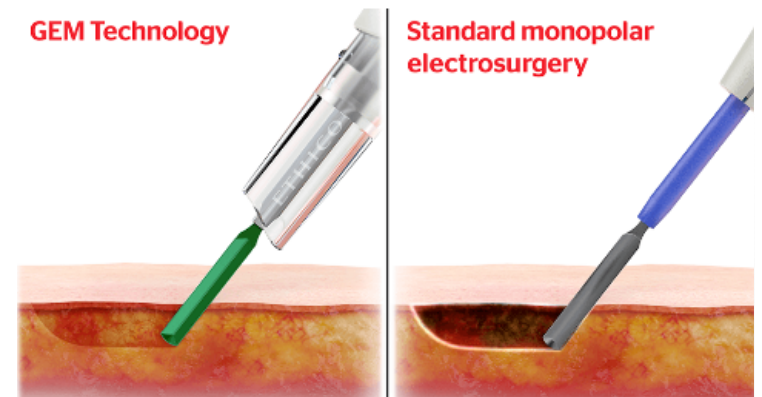


HARMONIC® HD1000i may **increase surgical precision** with a jaw that is 29% more tapered than the LigaSure™ Maryland.⁴

Thermal Spread Comparison*



ENSEAL® X1 Large Jaw had 41% less **lateral thermal spread** than LigaSure™ Impact.²



MEGADYNE ACE BLADE™ 700 Dissector has **84% less tissue temperature increase** versus stainless steel monopolar electrocautery.⁵

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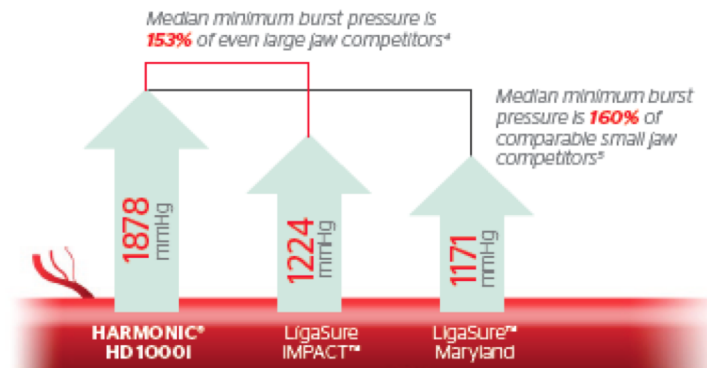
1. Based on benchtop metrology and porcine comparative studies vs. legacy HARMONIC® and LigaSure™ Maryland devices. 2. Preclinical testing on porcine carotids (ENSEAL® vs. Impact-LF4318) that measured mean max lateral thermal damage via histology showed ENSEAL at 41% less thermal spread than Ligasure (p=0.005). 3. GEM Technology used in ACE Mode achieves a scalpel-like cutting effect with significantly less thermal damage vs. standard monopolar electrocautery 4. Taper defined as using distal jaw width divided by proximal jaw width. (median jaw taper 0.36 vs. 0.51) (p=0.0061). 5. In a preclinical porcine model vs. uncoated stainless steel blades at 60W analyzed via infrared thermometer (p<0.001). Kisch T, et al. Electrocautery devices with feedback mode and Teflon-coated blades create less surgical smoke for a quality improvement in the operating theater. *Medicine*, 2015;94(27).

ETHICON ENERGY SOLUTIONS

Right energy product for the right job

Ethicon's products are designed to meet varying surgical needs, open or laparoscopic, such as fine thoracic laparoscopic dissection, difficult-to-reach deep pelvis mobilization and access for rectal surgeries, or significant sealing needs in HPB and gynecology procedures.

Burst Pressure Comparison



HARMONIC[®] HD1000i median burst pressure was 60% greater than LigaSure[™] Maryland median burst pressure when sealing 5-7 mm vessels in Advanced Hemostasis mode.¹



ENSEAL[®] G2 Articulating Tissue Sealers provide access to tissue in deep or tight spaces for greater control of the angle of approach to vessels.²



ENSEAL[®] X1 Large Jaw had **59% less bleeding** at the distal tip compared to LigaSure[™] Impact³

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1. In a benchtop study with 5-7mm porcine carotid arteries that compared median burst pressure, HARMONIC[®] HD 1000i (1878 mmHg) vs. LigaSure[™] Maryland (1171 mmHg) ($p < 0.0001$). 2. Compared to a non-articulating device. 3. Preclinical test of distal tip bleeding in thick porcine mesentery base; ENSEAL[®] vs. Impact-LF4318 ($p = 0.001$).

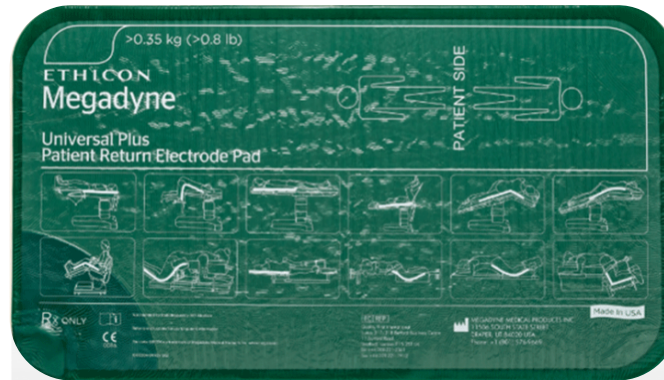
ETHICON ENERGY SOLUTIONS

Enhance OR safety and efficiency

Ethicon provides enhanced protection with electrosurgery products designed to help reduce the risks of surgical smoke, sharps injuries, and patient burns.



MEGADYNE ACE BLADE™ 700 Soft Tissue Dissector produced **99.6% less surgical smoke** compared to stainless steel monopolar electrosurgery.¹



MEGADYNE™ MEGA SOFT™ Reusable Patient Return Electrodes help prevent pad site burns by **limiting heat build up** and have been used in over 100 million procedures.



Ethicon provides **educational programs** that help advance OR safety including electrosurgery basics, surgical fire safety, smoke safety, Science of Energy, and more.

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1. In a preclinical porcine model vs. uncoated stainless steel blades at 60W analyzed via spectrophotometer and HPLC UV (p<0.001). Kisch T, et al. Electrocautery Devices with Feedback Mode and Teflon-Coated Blades Create Less Surgical Smoke for a Quality Improvement in the Operating Theater. *Medicine*, 2015;94(27).

Conversion to Ethicon Energy

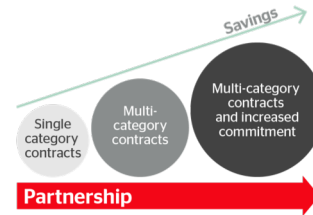
With the most comprehensive portfolio¹, Ethicon can help your organization to convert to Ethicon Energy Solutions.



Clinical Support

Partnership helps power hospital initiative:

- Strong, ongoing clinical support
- Demonstrated ability to guide hospital and health system conversion



Customized Contracts

Multiple contracting options to help meet your organizational goals:

- Positions on major GPOs
- Independent contracting options
- Increased savings with increased partnership



Capital Solutions

Custom capital purchase options, including:

- Financing, bulk-buy discounts, capital trade-in programs, no-charge placement programs with volume commitments

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1. Upon review of product catalogs and websites (Advanced Energy, Core Energy, Surgical Smoke Evacuation) for the respective manufacturers: Medtronic, Olympus, Intuitive Surgical, Conmed. Ethicon (2017).



Thank You

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For complete product details, refer to the relevant package inserts, with particular attention paid to the indications, contraindications, warnings and precautions, and steps for use of the device.

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