Ethicon Energy Solutions.
Healing first.
Why Ethicon Energy? **Healing first.**

Ethicon Energy starts with the end in mind to help patients heal faster and go back to living their lives.

We are inspired by our history of advancing surgery and improving outcomes during the past 20+ years. Our Ethicon Energy solutions are grounded in the Science of Tissue Management and globally informed clinical insights.

We train, we educate and we learn with our healthcare partners. And we always put healing first.

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**How we deliver value**

Our ambition is to help our customers make surgery safer, to improve effectiveness and to help the recovery go faster. We focus on optimizing the use of energy to do less tissue damage, advancing OR safety to minimize risks and partnering with our stakeholders to create a healthier health system.

We focus on four key areas to continuously deliver value:

- **Healing first.**
- **Less invasive energy**
- **Right energy product for the right job**
- **Enhance OR safety and efficiency**
- **Sustainability and value programs**
Ethicon is dedicated to optimizing energy delivery to do less tissue damage\(^1\) improve surgical outcomes\(^2\) and help procedures go according to plan.

**Minimizing tissue damage and thermal injury**
- Device development focused on minimizing the impact on tissue to help reduce complications, improve outcomes and quicken recovery.
- Reducing the impact on tissue minimizes the inflammatory response\(^3\), which can result in quicker tissue healing\(^4\).

**Focusing on the Science of Tissue Management**
- Product development starts and ends with the Science of Tissue Management. It’s a rigorous approach to understand the science of device-tissue interaction, pushing research boundaries and developing new technology advancements.
- Deepening our understanding of tissue effects has increased our ability to deliver surgical solutions that benefit healthcare systems, surgeons and their patients.

**Validating devices through peer-reviewed clinical studies**
- Ethicon Energy Solutions are validated through 1,000+ peer-reviewed clinical studies\(^5\) that illustrate a meaningful impact on patients, surgeons and hospitals.
- Ethicon Energy devices have been evaluated in more peer-reviewed clinical articles than any other energy company\(^6\).

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\(^1\) Based on preclinical studies demonstrating decreased activation times and thermal damage vs. HARMONIC ACE\(^\circ\) without Adaptive Tissue Technology (C1199).
\(^2\) Each listed benefit may not be applicable to every advanced energy device, patient and/or procedure (C1568).
\(^5\) As per a literature search conducted in MEDLINE\(^*\) and EMBASE\(^*\) between 01/01/1990 and 10/01/2012 that identified publications which specifically discussed a given product within an article (C1378).
\(^6\) As per a literature search conducted in MEDLINE\(^*\) and EMBASE\(^*\) between 01/01/1990 and 10/01/2012 that identified publications which specifically discussed a given product within an article. Ethicon Energy includes HARMONIC\(^*\) and ENSEAL\(^*\) technologies. The literature search included all major energy companies (n=18) (C2405).
Right energy product for the right job

The most comprehensive portfolio of Intelligent Energy Solutions

Ethicon delivers the most comprehensive energy product portfolio, so surgeons have the right HARMONIC®, ENSEAL®, or MEGADYNE™ tools for the energy jobs that are core to their surgical procedures and results.

Harmonic®

Designed to deliver less impact on tissue for greater impact on healing

HARMONIC® is the undisputed ultrasonic leader: 20 years in market, more than 22 million procedures and 1,000+ publications.

HARMONIC® HD 1000i Shears

Unmatched precision, unparalleled strength and optimized efficiency

- Consistent and reliable hemostasis
- Enables surgical efficiency through improved dissection, hemostasis and multifunctionality
- Reduces instrument exchanges

HARMONIC® ACE®+7 Shears with Advanced Hemostasis

HARMONIC FOCUS®+ Shears

8 Internal global sales data as of June 2016 (C2197).
9 As per a literature search conducted in MEDLINE® and Embase™ between 01/01/1990 and 10/01/2012 that identified publications which specifically discussed a given product within an article (C1378).
10 In a pre-clinical study, 100% (56/56) of porcine blood vessels remained hemostatic over a 30-day survival period (C2073).
11 Based on a pre-clinical study (C2092).
12 In a design validation study with surgeons (n=33) operating in simulated procedures in an animate porcine laboratory model (C2029).
13 Based on a pre-clinical study (C2094).
Preclinical test of distal tip bleeding (ENSEAL® vs. Impact-LF4318) in thick porcine mesentery base (p=0.001) (C2617).

Preclinical testing on porcine carotids (ENSEAL® vs Impact-LF4318) that measured mean max lateral thermal damage via histology (p=0.005) (C2618).

In a preclinical porcine model at 60W vs. uncoated stainless steel blades at 60W (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) (C2355).

April 2018, per internal research conducted by Ethicon. Pad site burn is defined as a burn that occurs between the pad and patient and does not include alternate site or chemical burns. For a complete list of warning and precautions please refer to the Instructions for Use (C2681).

Compared to traditional “sticky” patient return electrode (C2381).

**Enseal®**

Advancing beyond sealing to enhance surgical efficiency

ENSEAL® Tissue Sealers deliver efficient, secure sealing to drive the best possible patient outcomes.

**ENSEAL® X1 Large Jaw Tissue Sealer**

- Better hemostasis with significantly less bleeding at the distal tip\(^\text{14}\)
- Better tissue management with 41% less lateral thermal spread\(^\text{15}\)
- Enhanced design with less hand movement\(^\text{16}\) and 360° shaft rotation to improve access to targeted tissue\(^\text{17}\)

**ENSEAL® X1 Straight Jaw Tissue Sealer**

**ENSEAL® X1 Curved Jaw Tissue Sealer**

**ENSEAL® X1 Articulating Tissue Sealer**

**Megadyne™**

Helping advance safe and reliable core energy products

MEGADYNE™ delivers an expansive suite of innovative Core Energy Solutions.

**MEGADYNE™ E-Z CLEAN™ Electrosurgical Electrodes**

- E-Z CLEAN electrodes, with PTFE coating, are easily cleaned with a damp sponge
- Produces 68% less smoke\(^\text{18}\)

**MEGADYNE™ MEGA SOFT™ Reusable Patient Return Electrodes**

- More than 75 million procedures with zero pad-site burns\(^\text{19}\)
- Reduced cost and waste: Reusable up to 24 months\(^\text{20}\)
- Easy set-up: No skin prep\(^\text{21}\)

**MEGADYNE™ ACE BLADE™ 700 Soft Tissue Dissector**

**MEGADYNE™ MEGA SOFT™ Reusable Patient Return Electrodes**

**MEGADYNE™ Mega Vac PLUS Smoke Evacuator**

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\(^\text{14}\) Preclinical test of distal tip bleeding (ENSEAL® vs. Impact-LF4318) in thick porcine mesentery base (p=0.001).\(^\text{15}\) Preclinical testing on porcine carotids (ENSEAL® vs Impact-LF4318) that measured mean max lateral thermal damage via histology (p=0.005).\(^\text{16}\) In a preclinical porcine model at 60W vs. uncoated stainless steel blades at 60W (p=0.001).\(^\text{17}\) 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).\(^\text{18}\) April 2018, per internal research conducted by Ethicon. Pad site burn is defined as a burn that occurs between the pad and patient and does not include alternate site or chemical burns. For a complete list of warning and precautions please refer to the Instructions for Use.\(^\text{19}\) Compared to traditional “sticky” patient return electrode.
Energy education programs for OR staff

Energy education courses, training and other learning opportunities help the OR staff maintain licenses or certifications while staying up to date on OR safety standards, latest technologies and surgical techniques.

- Ethicon Energy CE modules are available to enhance OR safety. Modules are lecture-based and delivered by local credentialed educators.
- AORN education partnership advances our commitment to the future of OR staff, directors and nurse executives.

Extensive procedure and device education

- The Johnson & Johnson Institute (www.jnjinstitute.com) hosts more than 125,000 healthcare professionals (HCPS) each year, helping them stay current on the latest medical technologies and techniques or maintain a license or certification requirement.
- C-SATS is an online service via interactive video review designed to help skill improvement and advance patient outcomes.

Unmatched customer support

Every day of the year, 24/7, a dedicated team of RNs and Biomedics is ready to answer your questions and connect you to rich resources. Technical and product assistance information is available at 1-877-ETHICON (1-877-384-4266) or go to: http://www.ethicon.com/healthcare-professionals/support/faq

Enhance OR safety and efficiency

The training and education OR staff need for optimal product use and to help improve OR safety
Sustainability and value programs

Streamline product usage and spend more predictably

Sustainability partner
- The Ethicon Energy Buyback Program can be utilized to offset medical waste disposal costs.
- Sustainably designed devices including the MEGADYNE™ MEGA SOFT™ Reusable Patient Return Electrode, which reduces cost and waste.\(^{[22]}\)
- Ethicon Certified Performance Devices are the only OEM-reprocessed devices that meet OEM proprietary specifications to help deliver reliable and consistent performance.\(^{[23]}\)

Capital solutions
- Customized capital and service offerings for a more seamless user experience designed to help improve OR efficiency.
- Financing options for customers with capital budget constraints.
- Volume-based discounts for multi-unit purchases.
- Capital trade-in programs to help customers convert and standardize their capital fleet.

CareAdvantage approach
A holistic approach from Johnson & Johnson Medical Devices Companies to help health systems realize better care:
- **Care Pathway**: Developing and implementing care pathways across multiple therapeutic areas.
- **Consumerism and patient engagement**: Understanding how to improve engagement of patients and healthcare consumers.
- **Operational efficiency**: Reducing waste and complexity in the perioperative and supply chain areas.

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\(^{[22]}\) Compared to traditional “sticky” patient return electrode (C2381, C2341). \(^{[23]}\) (C2737).
The most comprehensive portfolio of Intelligent Energy Solutions

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Blades | Lap shears | Open shears | Sustainability | Articulating shears | Lap shears | Open shears | Active electrodes | Universal return electrode | Standard bipolar | Ergonomic pencils | Capital |

ETHICON

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Medtronic

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OLYMPUS

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INTUITIVE SURGICAL

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ConMed

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