

A photograph of two surgeons in an operating room. They are wearing blue scrubs, masks, and hairnets. The surgeon in the foreground is using a white laparoscopic grasper. The background shows the sterile environment of the operating room with blue drapes and surgical equipment.

ENHANCING SURGICAL PERFORMANCE, EFFICIENTLY.

We introduced nonstick coating technologies to help our healthcare partners advance patient care

Medtronic
Further. Together

LESS STICKING. LESS ESCHAR BUILDUP. FEWER CLEANINGS.

Made possible with our
nonstick coating technologies

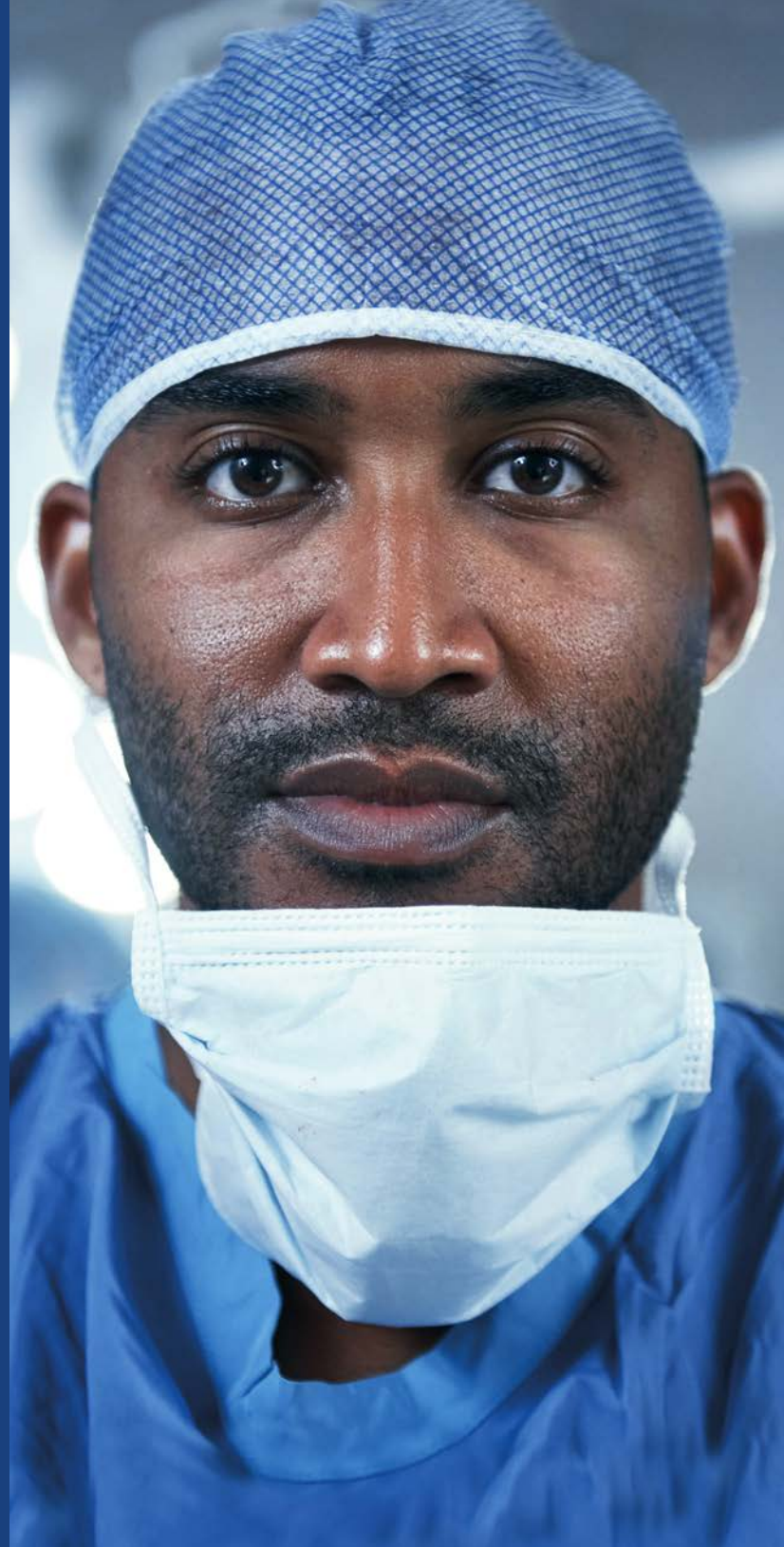
When our customers offer feedback, we don't just listen. We innovate.

It was in that collaborative spirit — and our commitment to always do what's best for patients — that we introduced nonstick coating technologies to select energy-based devices.

Compared to their noncoated counterparts, devices with nonstick coating:

- Reduce sticking^{1-4,†}
- Decrease eschar buildup^{5-8,‡,§}
- Require fewer cleanings^{5-8,Ω,††}

The benefits add up. That's why we added nonstick coatings to both open and laparoscopic LigaSure™ vessel-sealing devices as well as CleanCoat™ laparoscopic electrodes.



† Instances of tissue sticking to jaws measured over 110 seals per device.^{3,4}

‡ Electrodes were activated on tissue 10 times without cleaning, and mass was recorded before and after each.⁵

§ Eschar buildup assessed using optical imaging analysis after 20, 40, and 60 seal and divide cycles.⁶⁻⁸

Ω Electrodes were activated on tissue multiple times, wiped with a saline soaked pad between activations, and the mass was recorded at each stage.⁵

†† Cleaning effectiveness assessed after each of two cleaning cycles.⁶⁻⁸

RELIABLE PERFORMANCE. GREATER EFFICIENCY.

Three different nonstick technologies,
all with the same goal: **advancing patient care**

LigaSure™ devices

Nano-coating is a highly controlled, thin-film coating with uniform thickness. It covers the entire jaws of a LigaSure™ device without impacting the intelligent vessel-sealing algorithms of Valleylab™ energy platforms.

CleanCoat™ electrodes

Polytetrafluoroethylene (PTFE) provides the benefits of nonstick coating without compromising performance. It also adheres optimally to the small, unique tip geometries of CleanCoat™ laparoscopic electrodes.

Edge™ electrodes

Elastomeric silicon, the original Valleylab™ energy nonstick coating, allows the electrode to bend up to 90 degrees without compromising the coating's integrity. It's thick on the flat surface of the electrode and very thin along the edges.



LigaSure™ blunt tip device



LigaSure™ Maryland jaw device



LigaSure Impact™ device

SAVE TIME. REDUCE RISK.†

The benefits of
CleanCoat™ electrodes:

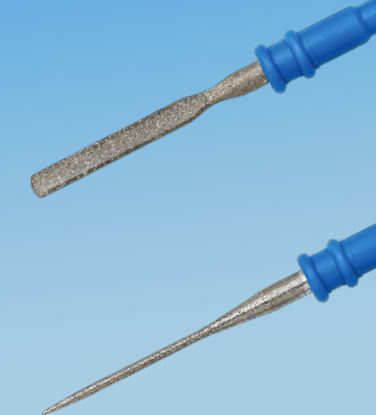
- Time savings⁵
- Enhanced performance⁹
- Reduced risk of surgical fires¹⁰

†As compared to stainless steel electrodes

CleanCoat™ electrodes



Edge™ electrodes



EXPERIENCE THE BENEFITS

To try our nonstick coated technologies in your next case, contact your local sales representative or call 800-772-8772.

For more information, visit
[medtronic.com/covidien](https://www.medtronic.com/covidien)

1. Based on internal test report #RE00028861, Sticking force comparison of coated electrodes vs. stainless steel electrode tips. December 2015.
2. Based on internal test report #RE00034755, LF4418 design verification report: benchtop testing using the ForceTriad™ energy platform on porcine abdominal aorta, mesentery, and renal arteries, measuring average (lbs) tissue sticking force. Feb. 24, 2016 to March 25, 2016.
3. Based on internal test report #RE00062678, Benchtop tissue sticking comparison of the Ethicon™ G2, Voyant™ 5 mm Fusion, LigaSure™ LF1644, and LigaSure™ LF1837 devices conducted on porcine uterine tissue using the ForceTriad™ energy platform. Oct. 5, 2016.
4. Based on internal test report #RE00073194, Tissue sticking comparison of the Ethicon G2™, Voyant™ 5 mm Fusion, LigaSure™ LF1737, and LigaSure™ LF1937 devices conducted on porcine tissue using the ForceTriad™ energy platform. Jan. 18, 2017.
5. Based on internal test report #RE00028862, Coated electrodes were tested vs. comparable stainless electrodes. December 2015.
6. Based on internal test report #RE00057355, Lig-40 report product claim LF4418: benchtop testing using porcine uterine tissue. July 29, 2016.
7. Based on internal test report #RE00063136, Lig-42 report product claim LF18XX: benchtop testing conducted using porcine uterine tissue, a wet gauze cleaning fixture, and optical imaging analysis. Sept. 9, 2016.
8. Based on internal test report #RE00071599, LF19XX MJC marketing claims report conducted on porcine tissue. Feb. 7, 2017 to Feb. 22, 2017.
9. Based on internal report #1009567, Principles of electrosurgery. 2008.
10. Ignition of debris on active electrosurgical electrodes. *Health Devices*. 1998;27(9-10):367-370.

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5920 Longbow Drive
Boulder, CO 80301

800.722.8772

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