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Empowered anastomotic performance.

Signia™ circular stapler with Tri-Staple™ technology

The intelligent Signia™ circular stapler surpasses the Ethicon Echelon Circular™* powered stapler in multiple critical aspects of performance. Gain the advantages you need to create strong anastomoses – and improve patient outcomes.†,1-3

Greater leak reduction‡,4 – with 55% lower compressive forces§,5

Reducing anastomotic leaks in colorectal and bariatric procedures is associated with shorter hospital stays and lower costs.[6] The Signia™ circular stapler's Adaptive Compression™ technology monitors and adjusts the amount of pressure applied to tissue,[7,8] which may prevent tissue damage in anastomoses.◊,9

164%
greater perfusion†,1
into the staple line, which may facilitate better wound healing at the anastomotic site†,1-3

80%
less hematoma formation¶,10
with powered compression to reduce tissue damage¶,10

39%
less distal tip motion#,11
reduces the likelihood of trauma to the newly formed anastomosis△,11

88%
less waste∞,12
than the Echelon Circular™* powered stapler

† The Signia™ circular stapler allows 164% greater perfusion into the staple line than the Echelon Circular™* powered stapler, which may facilitate better wound healing at the anastomotic site. Compared to the Ethicon Circular™* powered stapler in an in vivo benchtop comparison (CDH31P: n = 13; SIGCIR31XT: n = 9, p = 0.043). Results may not correlate with clinical performance in humans.

‡ Preclinical results may not correlate with clinical performance in humans. Based on leak testing in an in vivo canine model comparing to Ethicon Circular™* powered stapler. (SIGCIR28MT: n = 18; CDH29P: n = 14; p = 0.028).

§ During Zone 2 preclinical results may not correlate with clinical performance in humans. Compared to Ethicon™* CDH29P. P < 0.001, n = 5.

◊ Bench test results may not necessarily be indicative of clinical performance.

¶ Preclinical results may not correlate with clinical performance in humans. Based on compression testing in an in vivo canine model comparing SIGCIR28XT (n=3) to CDH29P (n = 3), p = 0.007.

Based on simulated use by trained surgeons comparing CDH31P to SIGCIR31XT (n = 15, p < 0.001).

△ Bench test results may not correlate with clinical performance in humans. Based on simulated use by trained surgeons comparing TRIEEA31XT to SIGCIR31XT (n = 15, p < 0.001).

∞ Total waste based on device component weights and expected circulation ratio of each component on a per-procedure basis comparing CDH31P to the Signia™ circular stapler with a 31 mm Tri-Staple™ reload (n = 3, p < 0.001).

Functionality you won't find anywhere else.

Staple line integrity is crucial to creating anastomoses – and powered staplers that monitor and control tissue compression may prevent tissue damage to the anastomosis.[†,9] Colorectal anastomotic leaks may be reduced if an intraoperative air leak test is performed.[‡,13] That's why the Signia™ circular stapler is equipped with truly unique functionalities to support your staple lines:

- The **only** circular stapler with powered and intelligent clamping to control compression[§,8,14]
- The **only** circular stapler that allows staple line leak testing without removing the instrument from the lumen[§,◊,15]
- The **only** circular stapler that separates staple and cut functions,[§,8,14] confirming staple line formation before engaging the knife[8]

Join the circle of trust.

Contact your local sales rep or visit us at
Medtronic.com/signia-circular

Potential complications may include but are not limited to unspecified infection, hypersensitivity/allergic reaction, fistula, failure to anastomose, hemorrhage/blood loss/bleeding, peritonitis, sepsis, hemothorax, bowel burn, ischemia, stenosis, foreign body in patient, perforation, bowel perforation, environmental contamination, gastro-intestinal obstruction/occlusion, tissue breakdown.

† Bench test results may not necessarily be indicative of clinical performance.

‡ Based on results from a retrospective study analyzing outcomes from left-sided colon resections.

§ As of January 2024.

◊ For 28, 31, and 33 mm sizes only.

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3. Smallwood N, Mutch MG, Fleshman JW. The failed anastomosis. In: Steele SR, Maykel JA, Champagne BJ, Orangio GR, eds. *Complexities in Colorectal Surgery: Decision-Making and Management.* New York, NY: Springer Science and Business Media; 2014:277–304.
4. Based on internal test report #RE00550119 rev.0, Comparative in vivo leak testing. January 2025.
5. Based on internal test report #RE00350454, Compression testing for powered CDH 29mm product. Sept. 13, 2021.
6. Lee SW, Gregory D, Cool CL. Clinical and economic burden of colorectal and bariatric anastomotic leaks. *Surg Endosc.* 2020;34(10):4374–4381.
7. Based on report #RE00052285 rev W, Gen II Power Pack EEA™ stapler application SRS. Oct 2023.
8. Based on report #RE00052291 rev R, Gen II Power Pack EEA™ stapler application software design document. Nov 2023.
9. Kim JS, Park SH, Kim NS, et al. Compression automation of circular stapler for preventing compression injury on gastrointestinal anastomosis. *Int J Med Robot.* 2022;18(3):e2374.
10. Based on internal test report #RE00394488, Hematoma analysis of Signia™ Circular and Ethicon Echelon™* Powered circular firings. Oct 2023.
11. Based on internal test report #RE00394109 rev. 0, Distal tip motion and user feedback for circular staplers: EEA™ with Tri-Staple™, Signia™ circular with Tri-Staple™, and Ethicon™* Echelon™* circular powered stapler. October 2023.
12. Based on internal test report #RE00421208 rev. 0, PCG-055: Per procedure waste. January 4, 2023.
13. Allaix ME, Lena A, Degiuli M, et al. Intraoperative air leak test reduces the rate of postoperative anastomotic leak: analysis of 777 laparoscopic left-sided colon resections. *Surg Endosc.* 2019;33(5):1592–1599.
14. Based on the Echelon Circular™* powered stapler 510(k) summary, no. K163523. April 18, 2017.
15. Based on internal report #RE00124842 rev C, Signia™ circular stapling system (PEEA) summative usability. Sept 2019.

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