



# Sustainability strategies of Medtronic surgical devices

Mallory Pille

**Correspondence:** Mallory Pille, Medtronic, 60 Middletown Ave. North Haven, CT 06473, Pille, Mallory mallory.a.pille@medtronic.com

## Background

Medical devices used in surgery have the potential to impact the environment. While it is essential for medical devices to be accessible, of quality design and manufacture, and cost effective, they must also aim to have the lowest environmental impact. Industry partners have a role in advising on end-of-life pathways and designing devices that lessen their impact on the environment.

## Methods

This abstract summarizes initiatives underway by a major device manufacturer (Medtronic, Minneapolis, MN, USA) aimed at reducing the environmental impact of its devices from design pathways to commercial programs.

## Results

Surgical staplers and energy devices are critical in many commonly performed surgeries. Medtronic's Signia™ powered stapler has a reusable battery that can be used for 300 procedures, versus single use batteries that can be present in other single use devices. Medtronic's Tri-Staple™ reinforced reload contains a pre-loaded buttress material which can save time and packaging compared to separately packaged buttress products. The Sonicision™ 7 cordless ultrasonic dissection device features a reusable generator and battery pack, increasing agility during use, versus wired devices with large, bulky generators. The LigaSure™ vessel sealing device collection program aims to ensure appropriate end-of-life pathway for the device.

## Conclusion

This abstract describes the strategies that Medtronic is employing to reduce the environmental impact of its devices while meeting customers' needs and quality expectations. Further evidence for carbon and cost impacts are needed to support long-term industry strategies.

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