

New Harvard Medical School study identifies RFID technology to have the potential to substantially improve patient safety by reducing RSI errors

Cherry Hill, NJ. March 22nd 2017 – The [ORLocate® System](#) by Haldor Advanced Technologies (“Haldor”), a developer of radio frequency identification (RFID) enabled medical products and technologies, has been identified as the only RFID based system currently available in the market for the counting and tracking of both surgical instruments and sponges.

The objective of the study was to identify the impact of RFID technology on reducing RSI errors and improving patient safety and it was conducted by leading researchers from some of the predominant healthcare and patient safety organizations in the U.S., including: the Division of General Internal Medicine and Primary Care & the Center for Patient Safety, both at Brigham and Women's Hospital; and Harvard Medical School; and the Bouvé College of Health Sciences, School of Nursing at the Northeastern University.

The [study was published](#) on February 22nd, 2017 in the renowned Journal of Patient Safety and among their findings, the researchers state that the use of RFID resulted in rapid detection of RSI through body tissue with high accuracy rates and reduced risk of counting errors and improved workflow. Furthermore, when comparing barcode and RF technologies to RFID technology, the study found that barcode scanners cannot serve as a solution for detecting RSI inside the patient because they are unable to read through skin, and that RF technology is similar to that within a metal detector device in that it can only detect the presence of an RF chip, but does not provide specific identification of tagged items, nor can it detect multiple items at the same time, contrary to RFID technology that provides both.

Additional primary benefit identified in the Study of using RFID technology for tracking RSIs were:

- Higher accuracy of detection, eliminating false positives and false negatives
- Read accuracy that ranged from 98% to 100% of RFID marked surgical items
- RFID technology minimizes human error through an automated process of tracking RSIs as well as reducing time and effort used during counting protocols
- The costs associated with RFID technology have substantially decreased over the past few years, and it is now competitive with other existing systems
- By utilizing RFID to identify specific surgical items, the risk of misidentification of surgical items would be significantly decreased
- RFID provides the ability to count and track surgical items within a few seconds, including providing pertinent information about individual surgical instruments and reducing the incidence of RSI
- RFID is more reliable in some situations (e.g., tracking small applications or nonmetal based items), safer (eliminate unnecessary patient exposure to irradiation), and procedurally faster technology. This illustrates that the positive effect of the new technology may have on patient safety issues

“Haldor’s ORLocate® RFID counting and tracking system was developed first and foremost with a patient safety purpose and vision that would enable streamlining the counting and detection processes, helping to bring confidence to the OR setting (staff and patient), and reducing time and effort of clinical staff,” said Ilan Kadosh-Tamari, CEO of Haldor. “We are continuously developing and enhancing our proprietary RFID suite of products for our clients and the healthcare market; therefore, we are humbled and proud of this tremendous endorsement from leading patient safety researchers and institutes who, through this study, have said the same about RFID technology and how it has the potential to substantially improve patient safety by reducing RSI errors”, added Kadosh-Tamari.

The study also discusses the new Food and Drug Administration regulations governing Unique Device Identifications (UDI), aiming to implement new device identifying technology such as RFID tracking systems to improve patient safety. By 2020, all reusable surgical instruments will be required to carry a permanent unique device identifier. Beyond individually tracking each tagged surgical instrument, RFID UDI tags on reusable surgical instruments may also allow for the capture of item-specific information from the sterilization machinery to help ensure proper reprocessing for specific surgical instruments per manufacturer instructions. Transitioning from barcode or etching technologies to RFID technology may contribute to the proper implementation of UDI, helping reduce and eliminate RSIs and improve patient safety. In comparison with current x-ray location procedures, RFID is more reliable in some situations (e.g., tracking small applications or nonmetal based items), safer (eliminate unnecessary patient exposure to radiation), and is a procedurally faster technology. This illustrates the positive effect that new technology may have on patient safety issues.

“Retained surgical instruments (RSI) are one of the most serious preventable complications in operating room settings, potentially leading to profound adverse effects for patients and significant financial consequences for hospitals,” Dr. Ronen Rozenblum, a professor at Harvard Medical School, said in a statement. “Based on the limited existing literature, RFID technology, such as Haldor’s ORLocate RFID system and its ability to both count and detect surgical instruments and sponges seem to have the potential to substantially improve patient safety by reducing RSI errors,” added Rozenblum.



About Haldor Advanced Technologies

Haldor Advanced Technologies is a privately held company that specializes in developing solutions for the healthcare industry. The company's flagship product, ORLocate[®], is an automated RFID based system that is designed to help hospitals improve patient safety and improve operational efficiency in both the operating room and the sterile processing department. ORLocate[®] suite of products is the only commercially available solution that monitors and tracks surgical instruments and consumables, including sponges, on an individual basis before, during, and at the conclusion of a surgical procedure. ORLocate[®] products offer an advanced solution for inventory tracking and asset and life-cycle management of surgical instruments and sponges.

Haldor's research & development and manufacturing facility is located in Israel and it operates in North America through wholly owned US and Canadian subsidiaries. Haldor entered into an exclusive global distribution agreement with [Hill-Rom](#) (NYSE: HRC), a leading global medical technology company. Also, Haldor operates in Australia through [Device Technologies Pty.](#)

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