Radio Frequency Technology Effective In All Surgical Patients

RF Surgical Systems, Inc. announces the published data on the power of radio frequency technology to identify retained surgical items in all patient types. The prospective study, published in the February 1 edition of *American Journal of Surgery*, found that the sensitivity and specificity of radio-frequency (RF) technology is 100 percent in patients of varying body size, including morbidly obese patients.

The study, “Sensitivity of Detection of Radiofrequency Surgical Sponges: a Prospective, Cross-Over Study,” included data from 210 subjects at an academic medical center and a U.S. Department of Veterans Affairs medical center. Results found that RF technology is superior to the reported accuracy of intraoperative radiography and has greater sensitivity than manual surgical counting. Key findings from the study include the following:

- A total of 840 readings were completed, with 404 of the readings taken from morbidly obese subjects. Of the 840 readings, there were no incorrect readings.
- Sensitivity of the detection of radio-frequency tagged sponges was 100 percent.
- Specificity of the detection of radio-frequency tagged sponges was 100 percent.

“Surgical count discrepancies can occur as often as one out of eight surgical cases, and sponges are more difficult to find in morbidly obese patients,” said Victoria M. Steelman, PhD, RN., member of the Board of Directors of Association of periOperative Registered Nurses (AORN) and lead author of the study. “

As adjunctive technology to prevent retained surgical items is increasingly being used in the OR, it is important to ensure the specificity and sensitivity of the technology on all patients, including more challenging cases of those with higher BMI. Radio-frequency detection technology is a valuable check-and-balance for ensuring the prevention of RSI during bariatric procedures.”

Retained surgical items are especially a concern during bariatric procedures, as patients with higher body mass index (BMI) are at greater risk1. While manual counting by operating room personnel is the standard-of-care in preventing RSIs, adjunctive technology options, like RF technology, are needed to further improve patient safety. Last year, a new recommendation from the AORN advises that OR staff evaluate adjunct detection technologies to supplement surgical count procedures.

The RF Surgical System accommodates high body mass index patients and offers the only dual detection mode in the market. OR staff can use both the Blair-Port Wand to scan for tagged items as well as the RF Assure mat to automatically identify objects.

“We are pleased to see additional evaluation of the RF Surgical Detection system, particularly for bariatric procedures, a patient population at greater risk for a retained surgical item,” said Dr. Jeffrey Port, co-founder, RF Surgical Systems. “Dr. Steelman’s study is an important addition to the growing body of clinical evidence showing radio-frequency detection to be effective in preventing this dangerous medical error.”

1 Gwande AA, Studdert DM, Orav EJ, Brennan TA, Zinner MJ. Risk factors for retained instruments and sponges after surgery. N Engl J Med. 2003;348 (3):229-235.

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