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Radio frequency detection technology in the OR

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When it's time to double-check the final count of sponges, lap pads and gauzes at two Tenet Healthcare facilities in South Florida, operating room nurses can rely on radio frequency (RF) detection technology for timely, accurate information. Designed to reduce the incidence of retained foreign bodies in postoperative patients, RF detection systems include a self-calibrating console, hand-held plastic wand and RF micro-tags imbedded in surgical supplies. The system quickly searches through tissue, fluids and bone to determine if any RF-tagged supplies have been left inside the patient.

In Search of Safety

"We became very interested in radio frequency detection technology when we were looking at ways to improve patient safety in the OR," explained Zofia Gianelli, BSN, RN, director of surgical services at West Boca Medical Center, Boca Raton, FL. "We did some trials by hiding sponges with radio frequency tags in various locations and using the circular plastic wand to locate them. We were able to find the missing sponges every time by listening to the beep and watching the light on the equipment. It's a very inexpensive, non-invasive technology to adopt, yet it makes an important contribution to patient safety."

OR staff members still follow AORN-recommended procedures to count surgical sponges, towels and gauzes manually before using the RF detection equipment for a final check, but are already finding new applications for the product. "We [recently] had a meeting, and our staff suggested using the technology before closing body cavities on large patients," Gianelli said. "I told them, 'Yes, of course, anything that makes procedures safer and less invasive.' You can pass this wand in its sterile disposable cover over a draped area or other portion of the sterile field without contaminating anything."



BACK UP: Radio frequency detection technology is helping facilities improve patient safety in the OR.
courtesy RF Surgical Systems.

Well-Accepted

Tammy Baergen, BS, RN, CNOR, director of nursing services at Good Samaritan Medical Center, West Palm Beach, FL, found her staff eager to embrace the new technology. "We all understand the human-error factor behind sentinel events like retained foreign bodies following surgical procedures, and welcome any additional safety checkpoints that reduce that risk," she noted. "When we had the chance to adopt radio frequency detection technology in the OR, we were happy to do so."

Baergen and her team instituted some changes to incorporate the technology into their nursing practice. "We had to revise our existing count policy, which is based on a corporate policy for prevention of retained objects, to include the use of the RF technology," she said. "After that, we educated our staff on the rationale for the technology and what it can accomplish."

Hands-on training sessions allowed perioperative nurses and technicians to gain a measure of comfort and proficiency with the products and equipment used in RF detection. "Staff had the chance to handle the wand, to learn how to drape it onto the sterile field, feel the sponges and know they are the same quality as our pre-existing sponges," Baergen said.

Supply chain personnel worked closely with the OR staff to stock RF-tagged sponges and pads. "Traditional products have a blue tag, but RF technology uses a green tag," Baergen explained. "[RF-tagged] lap pads have a long green tag like a shoestring, while sponges contain a woven green thread. We remove the products with the blue tag from the room prior to the patient entering. You can tell at a glance you are using an RF-tagged product."

The RF technology has also improved infection prevention practices in the OR at Good Samaritan. "We had a case in which a specimen had been handed off, and a sponge was inadvertently left with the specimen," Baergen said. "We can use the wand to identify where the sponges are, rather than asking staff to handle medical waste in the specimen bucket, dirty linens or trash."

Here to Stay

Gianelli is convinced the new technology will quickly spread to other OR environments. "It's important to note that most retained foreign bodies are found in patients after the final count is

correct, so this technology serves as one more safety precaution," she noted. "We have a very dedicated staff that is committed to following AORN guidelines for surgical safety, but there's always the possibility of human error. Our surgeons, technicians and nurses are very excited to have this aid that can reduce the potential for a retained foreign body."

Sandy Keefe is a frequent contributor to ADVANCE.