

Scanning for Sponges

Hospital's technology looks for items inside patients after surgery

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CHAPEL HILL – **UNC Hospitals** will use radio frequencies in an effort to keep medical sponges from being left in patients after surgery.

The hospital system affiliated with the University of North Carolina at Chapel Hill contracted with Bellevue, Wash.-based **RF Surgical Systems Inc.** to upfit all 39 operating rooms with radio frequency mats and wands to better detect if sponges used during surgery were left behind in a patient.

The technology will cut down on surgery time and increase safety, says **Stella M. Nelson**, project manager for the Surgical Services Division at UNC Hospitals, but most importantly, it will help ensure no devices are sown inside a patient after surgery.

The technology is fairly simple. A small sensor is embedded in each medical sponge, which is made of a thick gauze to soak up blood and body fluids during surgery. As a sponge becomes saturated, nurses and surgeons find it difficult to locate in the body. “When they get wet, they can be very, very small,” Nelson says. “They take on the look of their surroundings, and it gets hard to find them.”

That’s where the radio frequency devices come in.

A nurse can wave the wand over the patient, similar to a treasure hunter waving a metal detector over the sand, to determine where the sponge is located.

Under the terms of the contract, RF Surgical Systems installed the equipment for free, and UNC Hospitals will buy special sponges from the company. RF-tagged disposable surgical lap sponge, gauze and operating room towels cost \$12 to \$15 per surgery on average, says RF Surgical CFO **David Goesling**. The total added cost will amount to \$350,000 per year, Nelson says.

Traditionally, nurses have started with a “count” method, by simply counting the sponges before and after surgery. If one is missing, the nurses must try to locate it, possibly in the trash or on the floor, but also possibly hiding in a patient. If a nurse thinks the sponge was left in a patient, an

X-ray is called, sometimes prolonging the anesthesia time by 30 minutes, subjecting the patient to radiation and keeping the body open for that much longer. Nurses will still use the traditional “count” method as a first check, but the radio frequency equipment will cut down on added time and eliminate the X-ray.

In fact, the time saved in initial surgery, and any time and damage saved from leaving a sponge inside a patient could amount to a savings of more than \$350,000, Nelson says.

“This adjunctive technology has helped us bring the highest quality of care to our patients by preventing unnecessary X-rays and repeat surgeries and potentially lowering anesthesia time,” says Dr. **Christopher Clarence Rupp**, a surgeon at UNC Hospitals.

To be sure, losing medical equipment in a patient is rare – as few as one in 15,000 surgeries, estimates Nelson. Still, “even one is too many,” she says, and the new equipment offers the other benefits of finding lost equipment as well.

The N.C. Hospital Association has partnered with the World Health Organization to encourage all hospitals to adopt a surgery checklist to increase safety. “This new bar code technology sounds helpful to protect patient safety and should be used in conjunction with the hospital checklist,” says **Stephanie Strickland** with the NCHA.

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Stella Nelson, RN, says UNC Hospitals’ new technology is a safety net for patients.