



FORMER OR NURSE SOAKS UP SUCCESS WITH SPONGE DETECTION INVENTION

BY JULIE E. WILLIAMSON

Considering the amount of time spent in the surgical suite and the myriad of challenges that can arise over the course of any given procedure, one could logically surmise that many OR nurses probably have come up with a good idea or two to overcome those obstacles, improve outcomes and drive efficiencies.

While most ideas and would-be inventions remain in the mind and, therefore, never come to fruition, one OR nurse managed to successfully make the leap - albeit, some 14 years or so after the idea first struck her.



Spotlight On...

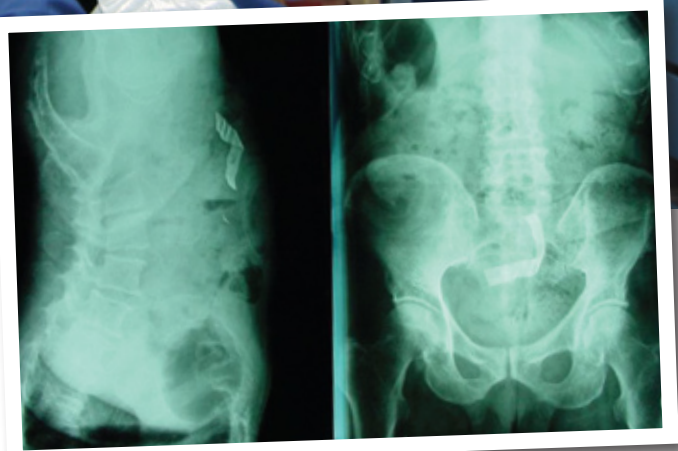


While Sharon Morris was working as a traveling nurse, it became apparent to her that there had to be a better way to count and track surgical sponges to ensure that none were accidentally left inside the patient post-surgery.

"I remember we were in the middle of a high blood loss case. It was very hectic and the sponges were piling up. And in the middle of all this, we had the tedious process of reaching into buckets and separating out the sponges by hand," Morris recalled.

Her solution? A radio frequency-based platform system that would allow staff to wave a wand over the patient to quickly and easily count and detect sponges, and eliminate the need for manual counts. It was an innovative idea, to be sure, and one that hadn't been developed by any vendor. Unfortunately, because of the high cost of radio frequency tags, it was an invention that proved to be ahead of its time.

Still, Morris never gave up on her idea. As years went by, patient safety initiatives became an even stronger priority for regulatory agencies and healthcare organizations alike, and attention-grabbing headlines and lawsuits stemming from undetected sponges were prevalent. At the same time,



RFID technology had become far more cost-effective. Armed with dedication and a promising and viable idea, Morris visited the U.S. Patent and Trademark Office in Washington and hired a lawyer to draw up the patent. In 2006, nearly three years after filing the application, Sharon and her husband, Dean, were granted the patent. From there, Sharon and Dean, a portfolio manager with a strong financial background, began raising money to formally fund the venture.

What began as a garage-built prototype – created with the help of an engineer friend – has now been successfully commercialized through the development of start-up company ClearCount Medical Solutions. In March 2008, the Pittsburgh, PA-based company announced the market availability of the one-of-a-kind, FDA-approved SmartSponge System. The system, distributed exclusively through

Cardinal Health, works this way: SmartSponge System sponges are permanently affixed with a passive RFID tag (smaller than a dime). The SmartBucket screen identifies any count discrepancies, while a quick scan with the SmartWand identifies any sponges that may be remaining in the patient (the system provides an average of 80,000 counts per procedure). Different sponge types and even towels can be tracked and counted at the same time. A SmartMat placed under the patient provides feedback and validation. Data can be exported directly to a hospital information system in standard HL7 format, and printer option makes it possible to document cases. Reduced handling of soiled sponges, which minimizes biohazard exposure, is another benefit.

The SmartSponge System officially debuted at the Association of periOperative Registered Nurses 55th Annual Congress in Anaheim, CA, March 30-April 3, 2008.

A CLEAR WINNER

Although the SmartSponge System is new to the marketplace, it's already making a positive impression. In January, the system received a finalist award under the Medical and Scientific category of the 2008 International Design Excellence Awards (IDEA), an international competition honoring design excellence in products, eco-design, interaction design, packaging, strategy, research and concepts. The competition, sponsored by the Industrial Designers Society of America (IDSA) and Businessweek, selected 20 finalists in the medical and scientific categories. Overall, 1,517 entries were submitted from 26 countries.

In February, the SmartSponge System made *Wired Magazine's* list of the "10 Best Uses for RFID Tags," and in March, the SmartSponge System Operating Procedures earned the first-ever Seal of Recognition awarded by AORN. The AORN Recognition Program, a process by which insertive and training content is reviewed by AORN to ensure accordance with the AORN Perioperative Standards and Recommended Practices, is designed to assist the perioperative community to select quality training activities that



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promote safety and optimal outcomes for patients undergoing surgery and other invasive procedures.

The praise certainly seems justified. ClearCount Medical Solutions is so confident in the SmartSponge System's effectiveness in counting and detecting retained sponges that it introduced the industry's first "Never Event Warranty" that will cover non-reimbursed surgery costs associated with a retained sponge. Never Events are defined as preventable injuries and infections that occur during hospital stays.

"We offer this warranty up to \$100,000," Morris said, adding that the SmartSponge System – and the warranty – is a significant plus for healthcare organizations, particularly in light of the fact that the Centers for

Medicare and Medicaid Services and a number of private insurers are no longer reimbursing for procedures required to remove retained sponges. Published studies reveal that a retained sponge occurs in one of every 1,000 to 1,500 intra-abdominal surgeries.

At press time, Morris said approximately 20 hospitals are in some stage of evaluation of the SmartSponge System, and one prestigious facility is looking to purchase 21 systems. That success, which is sure to grow as more hospitals and surgery centers strive to eliminate these so-called Never Events, is undoubtedly a source of pride for Morris.

Although this now retired nurse hasn't been in the OR for two years – these days, she's involved in product development for ClearCount and spends as much time as possible with Dean and their three young children, ages 5, 8 and 11 – she vividly recalls the difficulties that frequently rear their head during a procedure. She's overjoyed to have invented a system that can alleviate at least one all too common challenge in the OR.

So what advice does she have for other would-be nurse inventors?

"Ask yourself if it's a product you truly believe in and are willing to make sacrifices for. And don't give up. It can be a very frustrating and long process, but give it time. If it's something you believe in and are willing to see it through, it will all be worth it in the end." *CR Today*