

InfoLogix Regenerates SurgiChip

Designed to prevent surgical errors, the system now includes a larger wireless handheld device allowing health-care workers to exchange information in real time at the point of care.

By Beth Bacheldor

March 5, 2008—Almost a year after purchasing SurgiChip, an RFID system designed to prevent surgical errors, mobile solutions provider InfoLogix is launching a new version of the system. The solution consists of a disposable label embedded with a passive 13.56 MHz RFID tag that complies with the ISO 15693 standard, an RFID label printer, a handheld RFID interrogator that can transmit data via a wireless local area network, and Web-based software that hospital staff members can use to view and analyze tag reads collected, as well as the patient data associated with those tags.

Hospitals can use SurgiChip to automate the documentation of surgery, thus ensuring that the proper procedure is performed on the right patient—a process typically handled with a simple felt-tip pen. "Currently, today, what they do for the surgery is they circle the area with a purple marker and the physician actually signs his name on the patient's body when the surgery is complete," says David Gulian, president and CEO of InfoLogix.

Not surprising, Gulian says, using the marker can lead to mistakes. In Pennsylvania, he notes, more than 170 "wrong site" surgical errors and 250 "close calls" were documented over a 30-month period. According to InfoLogix, a patient in New York who had surgery on the incorrect knee recently received a \$450,000 settlement from the hospital that committed the error. And in Rhode Island, another hospital was fined \$50,000 for a wrong-site surgery.

SurgiChip aims to eliminate such errors. The 2-inch by 2-inch RFID-enabled adhesive label is encoded and printed with a unique ID number, a patient's name and surgical procedure, and any other information deemed necessary. All of this information is encrypted (the advanced encryption algorithms secure the patient data at all times, InfoLogix says, making the system HIPAA-compliant) and can also be stored on a back-end database that the company maintains at its headquarters in Hatboro, Penn.

The label is applied to the site on the patient where the surgery is slated to occur. During a pre-operative workup, nurses and anesthesiologists can employ the RFID interrogator to encode information on the tag, thus documenting that they've seen the patient. Similarly, the surgeon can record the procedure's start and completion. "This closes the loop of verification," says Gulian. All the RFID data can be accessed via a Web-based application that connects, via the Internet, to servers at InfoLogix's headquarters.

In a pilot program launched in 2004, the Palm Beach Orthopedic Institution began using the system for its surgical procedures. In November 2004, the U.S. Food and Drug Administration (FDA) cleared the device for marketing based on a review of safety, effectiveness and software validation information submitted by SurgiChip.

InfoLogix acquired SurgiChip when it purchased the health-care mobility services and RFID business of [AMTSystems](#), a maker of RFID, bar-code and other automatic-identification technologies for a variety of sectors (see [InfoLogix Ramps Up Its RFID Offerings With Acquisition](#)). In the year since, Gulian says, InfoLogix has revamped and enhanced the SurgiChip system. Improvements include the addition of wireless capabilities to the handheld interrogators so data collection can be accomplished in real time.

"The change enabled real-time data exchange, allowing users to capture information at the point of care," Gulian says. Based on its extensive experience working with caregivers in hospital settings, he adds, InfoLogix moved away from PDA-style devices for the SurgiChip solution because "clinicians told us the form factor was too small." In addition to the changes in form factor and wireless capability, InfoLogix also reengineered the back-end software to give SurgiChip better processing power.

"SurgiChip was a key innovation that made AMTSystems an attractive acquisition target for InfoLogix," Gulian states. "AMTSystems did not have the resources to take this innovative product to market successfully—simply put, they just didn't have the necessary marketing budget, staff or name recognition."

According to Gulian, InfoLogix will now try to leverage its existing clients, more than 1,400 of which are health-care customers, as potential users of SurgiChip—users Gulian says "could potentially benefit from the SurgiChip solution." What's more, he adds, the mobile solutions provider has more in the way of marketing resources and technology expertise in wireless, and specifically in hospitals. "InfoLogix also offers support of RFID solutions for asset management, medication management, patient identification and more: a full spectrum of RFID from the entry in the hospital to the bedside—and, with SurgiChip, now to the point of procedure."

RELATED_ARTICLES The SurgiChip solution costs about \$50,000 with maintenance support, and the RFID-enabled labels are about 15 to 20 cents apiece. "But this is not a cost scenario—this is a value scenario," Gulian says. "One wrong surgery, and that might cost a hospital \$1 million." The Palm Beach Orthopedic Institution continues to use the SurgiChip solution, he notes, and up to six potential pilot sites are scheduled to launch in the next quarter.

InfoLogix isn't the only company offering an RFID-enabled system designed to prevent surgical errors. [Aionex](#) has been working with [Huntsville Hospital](#) in Alabama, which is using Aionex's RFID-enabled software to monitor caregivers as well as patients. Like the SurgiChip system, this solution includes RFID-enabled stickers embedded with passive 13.56 MHz RFID tags that are applied to patients before surgery (see [RFID Documents Surgery at Huntsville Hospital](#)).

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