



# Safe Label System SLS 500i from Codonics

**S**hriners Hospitals for Children, located throughout North America, are highly individualized facilities varying in size and purpose. Some facilities specialize in orthopedic surgery, with a focus on limb reconstruction, spinal cord injuries, and cleft lip-palette repair, while others concentrate on all facets of burn care, including plastic and reconstructive surgery. Each facility has two to four operating rooms (ORs) and a post-anesthesia care unit, but, until recently, bar code scanning of anesthesia syringes and standard labeling practices in the ORs were lacking. While some labels contained complete information (ie, drug, strength, volume, date, and user name), others included only a drug name or no information at all, and many labels were handwritten. These incompletely or improperly labeled products placed the facilities at high risk for medication errors and adverse events.

The pharmacy team at Shriners Headquarters in Tampa, Florida, reviewed the medication safety practices within the hospital ORs using a risk-benefit analysis. The team recognized that labeling practices needed to be consistent, standardized, and simplified across all facilities so that staff would have a complete and readable label in all situations. The examination revealed disparate practices and the lack of equipment and procedures within the ORs to properly label and scan medications, which was a serious risk point. The team initially explored having pharmacy prepare and dispense all medications for the OR suites, but this approach was impossible to implement in a pediatric environment because of the complexities of variable weight dosing. In addition, pharmacy staffing levels at the time could not accommodate such a practice.

As a result, the team explored the value of a syringe bar coding system, such as Codonics' Safe Label System (SLS) 500i, and other options. After careful evaluation, it became clear that the Codonics system would provide a cost-effective solution to improve safety and efficiency in OR labeling and bar coding throughout the health system.

## Characteristics of the System

The SLS is a complete bar coding system for the OR or anywhere syringes are prepared. With the SLS, every syringe in the OR receives a TJC-compliant label that includes drug name, diluent, dilution, preparer, preparation and expiration date and time,

concentration, room for a message, and a configurable 2D bar code, enabling electronic documentation of the medication in the patient's electronic health or anesthesia record. The system virtually eliminates risk from illegible handwritten labels or swapped syringes.

**The SLS 500i system** is network-capable using either Ethernet or wireless connections to access the facility's formulary and medication library via a central server database.



Photo courtesy of Codonics, Inc.

The SLS 500i uses a compact, high-speed color printer and mounts easily on the ORs' anesthesia workstations and on other anesthesia carts as well. Each device contains a roll of 1,000 labels and easy-to-load print cartridges. The system is network-capable using either Ethernet or wireless connections to access the facility's formulary and medication library via a central server database.

Each of the Shriners hospitals has an independent medication library, which allows the anesthesia department to use preferred medications and unique features of the system (eg, the option to color-code labels to enhance recognition of certain medications). For example, the anesthesiologist can assign fentanyl a red label and bupivacaine a green label to help prevent confusion. The system also provides audio alerts when medications are scanned to provide backup to the visual information appearing on-screen.

## Support and Training

Largely because of support from the vendor and our chief of anesthesia who was a project champion, implementation and deployment of the system was simple and efficient, and staff acceptance was rapid and widespread. When implementing any new technology, having a project champion is helpful to obtaining buy-in from both administration and staff. The chief of anesthesia services was an early advocate of improving safety and efficiency throughout the medication process. He worked actively with the various anesthesia teams throughout the hospitals to educate and advocate for the immediate adoption of the SLS throughout the organization.

Although the SLS is easy to use, providing adequate and appropriate training for staff is always important for overcoming the challenges of implementing an automated process for the first time and for mitigating staff apprehension and resistance to change. Hands-on experience, in particular, was essential to gaining system-wide acceptance of the equipment, and here the vendor played a key role. Codonics' representatives spent 2 to 4 days at each hospital providing technical setup coordination, individual training, and post-implementation support. Procurement of the devices by this large, diversified, and highly specialized multi-hospital health system has greatly improved the legibility of our labels and the consistency of information displayed therein. In fact, the number of error reports and near miss captures submitted by anesthesiologists has dropped precipitously. Success is evident in that the 20th hospital in the health system is scheduled to come online in July 2015. ■



Butch Parks, RPh, MS, is corporate director of pharmacy, Shriners Hospitals for Children, a 22-hospital pediatric specialty care health system spanning North America. Butch has 29 years of pediatric and adult health care experience with a focus on informatics and research.

## WHERE TO FIND IT

**Codonics, Inc**  
Visit [www.pppmag.com/info](http://www.pppmag.com/info)  
and click RSN 129