

Safety & ROI

If pre-printed labels, roll labels or handwritten labels were all that was required to meet compliancy, ensure safety and eliminate medication errors *and* if drug identification, medication preparation and consistently following best practices was simple...medication errors would be a problem of the past. *Medication safety is as big a problem today as it's ever been.*

In the operating room, there is one drug administration medication error for every 133 anesthetics delivered and one in 250 of those errors is fatal.¹ The ASA closed-claims database for drug medication errors reports that the **median settlement for these types of claims is about \$230,000² but there is evidence that some claims are awarded a much higher amount, in excess of \$650,000.³**

Prioritizing Patient Safety

Today, healthcare leaders including anesthesiologists and pharmacists are focusing on patient safety and quality care in new and optimistic ways as technology continues to evolve. Quality care is better, less expensive, more efficient, and consistent. It is the right care, at the right time, every time. It should mean that far fewer patients are harmed or injured.⁴ Codonics® Safe Label System® (SLS) adds safety and compliance during medication preparation and administration to help remove the element of human error and reduce preventable medication errors.

SLS is **used in more than 11,000 operating rooms** and installed **in over 800 of the world's leading hospitals**. Every year SLS is used in more than **39M procedures and nearly 155 million drug preparations**, preventing more than **1.1 million medication errors**.¹

Safe Label System is the ONLY safety system for medication labeling.

Differentiated from other "labeling systems", SLS exclusively offers:

- FDA Class II medication safety device.
- SLS confirms drug-in-hand based on the NDC scan of the vial/ampoule, including a real-time visual and audible 'triple' safety check.
- SLS helps eliminate the top three medication errors in the OR including: vial/ampoule swaps, mislabeling and syringe swaps.
- At preparation, hospital-approved drugs, diluents, rules for use and total dose/total volume/concentration information is carried to the syringe label which completely eliminates handwriting, complies with The Joint Commission (TJC) National Patient Safety Goals (NPSG) and meets the intent of ISO 26825, ASTM 4774 Standards and ASA Guidelines for full-color labels.
- Every SLS-prepared, labeled syringe contains a 1D/2D barcode with the exact NDC from the vial/ampoule to provide electronic documentation at administration into any AIMS/EHR that enables barcode scanning (e.g. Epic) to significantly improve charge capture and 340B accountability, delivering BCMA throughout the entire hospital.
- SLS integrates with Pharmacolog's WasteLog® drug diversion assay device for instant verification of returned narcotics, providing an end-to-end diversion control system with the most efficient workflow.
- Highly awarded for patient safety and innovation by MDEA, Frost & Sullivan, Health Care Heroes and many others, **Safe Label System is a standard of care.**



Worldwide Acceptance

Safe Label System exclusively meets the Anesthesia Patient Safety Foundation's (APSF) requirements to ensure patient safety. In January 2010, the APSF called for a new paradigm, requiring **Standardization, Technology, Pharmacy/Pre-filled/Premixed and Culture "STPC"** to ensure patient safety in the operating room or anywhere medications are prepared.

APSF Anesthesia Patient Safety Foundation

The APSF Technology recommendation states:

"Every anesthetizing location should have a mechanism to identify medications before drawing up or administering them (barcode reader) and a mechanism to provide feedback, decision support and documentation (automated information system)."

ISMP Targeted Medication Safety Best Practices for Hospitals 2022-2023

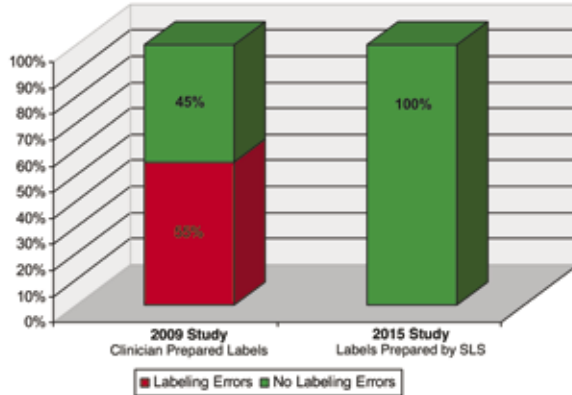
New Best Practice 18: "Maximize the use of barcode verification prior to medication and vaccine administration by expanding use beyond inpatient care areas."

Safe Label System addresses errors made at the point-of-care to help deliver maximum safety benefits to patients in accordance with ISMP's NEW Best Practices. Despite repeated warnings in ISMP publications, specific medication safety issues continue to cause fatal and harmful error in patients. ISMP is now calling for implementation of barcode medication administration as a well-proven error prevention strategy in all clinical areas, including those with short or limited patient stay, including ED, perioperative areas, infusion clinics, dialysis centers, radiology, labor and delivery, catheterization laboratory and outpatient areas.

Ensure TJC Compliance

Safe Label System has been recognized by The Joint Commission as a 'best practice' during audits at several leading hospitals. With SLS as part of the workflow, hospitals can be assured of 100% compliance, 100% of the time. SLS consistently achieves full compliance with TJC, ASTM, ISO, ASA, ISMP, APSF and USP recommendations/standards/guidance.

Massachusetts General Hospital



55% to ZERO

When clinicians prepared syringes manually in the OR, 55% contained a labeling error. When SLS was used in the same OR, there were zero labeling errors and 100% compliance.⁵

Colorado Children's Hospitals

Labeling compliance pre-SLS and post-SLS

Pre-SLS

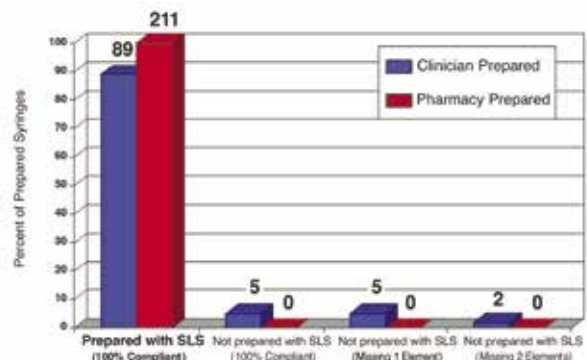
- 696 Syringes Audited
- 92.0% Labeled
- 86.6% Drug Name
- 58.3% Concentration
- 50.4% Date of Prep
- 60.6% Time of Prep
- 92.0% Initials

Post-SLS

- 433 Syringes Audited
- 433 Labeled
- 433 Drug Name
- 433 Concentration
- 433 Date of Prep
- 433 Time of Prep
- 433 Initials

Result: 100% TJC compliant

University of Washington



Post SLS installation compliance.

Percent of prepared syringes in each group displayed by compliance and the number of label elements missing.⁶

Over \$380,000 annual savings with Codonics SLS

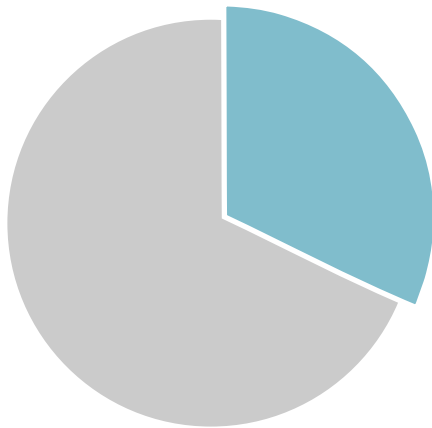
Proven Results: As published in Sage Journals (November 6, 2020)

Children's Hospital Colorado (CHC), who does approximately 30,000 procedures a year, recently published a study⁷ after acknowledging a need to improve operational management via patient safety and inventory control wherever possible. Targeting the operating room, CHC hypothesized that implementation of Codonics Safe Label System (SLS) integrated with an automated dispensing cabinet (ADC) would increase compliance with labeling guidelines and improve periodic automatic replacement (PAR) inventory control by decreasing medication discrepancies while maintaining user acceptability.

After a four-month trial, CHC not only improved safety and compliance, the safe labeling solution was also highly accepted by all members of the anesthesia care team, and they quickly realized a return on investment (ROI). Standardizing on Safe Label System coupled with common scan integration (which decrements the inventory when removed from the cart at administration) on the ADCs across 53 operating room theaters, they experienced the following:

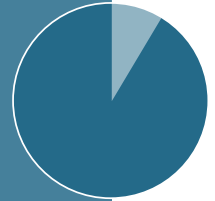
- 37% improvement in missed charge capture
- Estimated savings of \$384,000 in the first year (about \$7,200 year per OR)
- Significantly improved user satisfaction
- 100% TJC compliance

37% improvement
in **missed** charge capture



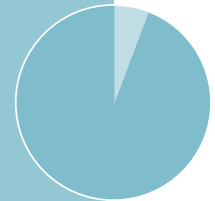
Pre-SLS

| | | |
|----------------|------|-----|
| Missed Capture | 538 | 9% |
| Total Charges | 5527 | 91% |

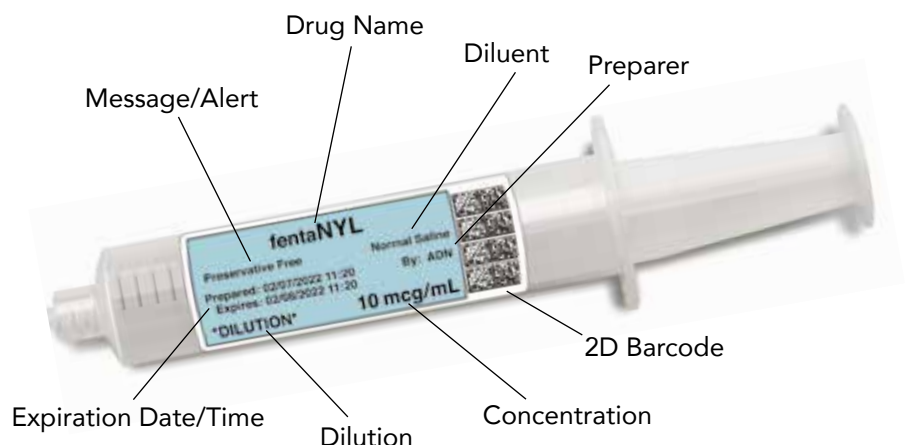


Post-SLS

| | | |
|----------------|------|-----|
| Missed Capture | 287 | 6% |
| Total Charges | 4672 | 94% |



Full-color labels that comply with The Joint Commission



Improve Charge Capture and 340B Accountability

In the perioperative area, it is often challenging to accurately record medication administrations due to the fast-pace and lack of written orders. Safe Label System integrates with Epic – or any AIMS/EHR that enables barcode scanning – to significantly improve safety and electronic documentation at the time of administration.

When SLS is used in conjunction with SLS-WAVE, a ‘hands-free’ scanner typically mounted on the anesthesia gas machine, documentation is easy for the clinician and automated for pharmacy. A fast wave of an SLS-prepared syringe past the scanner provides an immediate safety check prior to administration. The system automatically documents the medication about to be administered in Epic and passes the NDC from the parenteral vial through to pharmacy for billing. To ensure safety, the medication information is populated on the monitor and the clinician simply completes the record by adding the dose, providing 100% accurate documentation for charge capture and the exact NDC for 340B accountability.

A leading hospital recently evaluated Safe Label System and SLS-WAVE integrated with Epic Anesthesia. Looking at just three of their “big hitting” medications that used multiple vial sizes across 70 operating rooms, they were able to calculate a savings of \$228,000/year.

“Using our WAC spend calculation, we looked at inappropriate accumulation of NDCs due to unknown vial size usage from our EHR documentation to calculate our ROI. Codonics system enables us to track the NDC of every medication administration by automatically documenting into our Epic Anesthesia module so we capture everything accurately.”
-- Director of Pharmacy

Join the Safety Movement

Safe Label System is an investment in your hospital, your clinicians and your patients. Caring healthcare professionals coupled with innovative technology that incorporates best practices can help to significantly reduce medication errors.

With your help, we can get to zero.

Call Codonics today at **800.444.1198** or visit **www.codonics.com** for more information.

References: ¹Merry AF, Peck DJ. Anesthetists, Errors in Drug Administration and the Law. N Z Med J. 1995; 24:185-187. ^{2,3}Sandnes DL, Stephens LS, Posner KL, Domino KB: Liability Associated with Medication Errors in Anesthesia: Closed Claims Analysis. Anesthesiology 109:A770, 2008. ⁴Andel, Charles & Davidow, Stephen & Hollander, Mark & A Moreno, David. (2012). The economics of health care quality and medical errors. Journal of health care finance. 39. 39-50. ⁵Nanji, Karen C., M.D. M.P.H., et al. Evaluation of Perioperative Medication Errors and Adverse Drug Events, Perioperative Medicine. January 2006. ⁶Jelacic, Srđan MD; Bowdle, Andrew MD, et al. A System for Anesthesia Drug Administration Using Barcode Technology: The Codonics Safe Label System and Smart Anesthesia Manager™ Anesthesia & Analgesia 2015. ⁷Thomas JJ, Ferras B, Brinton JT, Guffey P, Myron Y. Integration of the Codonics Safe Label System and the Omnicell XT Anesthesia Workstation into Pediatric Anesthesia Practice: Utilizing Technology to Increase Medication Labeling Compliance and Decrease Medication Discrepancies While Maintaining User Acceptability. Sage Journals Hospital Pharmacy November 5, 2020. All registered and unregistered trademarks are the property of their respective owners. Specifications subject to change without notice. Patents: www.codonics.com/ip/patents Copyright ©2022 Codonics Inc. 03/2022.

Improving healthcare from drug preparation to administration & waste



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