- Changing the appearance of look-alike medication names (for example, using "**TALL**man lettering" on labels such as **DOBUT**amine and **DOP**amine or oxy**BUTY**nin and oxy**CONTIN**)

When use of the above suggested methods is not possible, the hospital must implement an alternative strategy to prevent LASA errors. The hospital should also stay updated on emerging strategies to prevent LASA errors when applicable and when available resources allow. Examples include the following:

- Configuration of computer selection screens and drop-down menus in prescription systems to prevent LASA names from appearing adjacent to each other
- Automated dispensing by means of electronic devices and serialization technology
- Use of a closed-loop system with barcode technology to enhance the readability of look-alike labels
- Consideration of potential LASA errors when reordering stock or making purchasing decisions

The hospital should keep its list of LASA medications updated regularly, as new medications are approved or trade names of drugs change. The risks for LASA–related errors are not limited to prescribing and dispensing. Other strategies to prevent LASA errors include avoiding storage of these medications close to each other, where a health care practitioner could inadvertently retrieve the wrong one for dispensing or administration. The hospital's process should also include a mechanism to evaluate whether a LASA risk exists when the hospital must substitute medications to address shortages (for example, when substituting another brand of medication that has packaging similar to a different medication in the existing formulary, or which has a different trade name from the original that is similar to another medication). The hospital should implement a *comprehensive approach* to LASA medication management, from the point of medication stock ordering where decisions are made regarding brands (trade names of medications, label appearances), throughout the continuum all the way to the frontline staff who handle and administer them. The hospital must educate clinical and technical staff handling LASA medications on the standardized process, the risks related to each medication, and the risk mitigation strategies for each medication.

Measurable Elements of IPSG.03.01

1. Ⓓ The hospital identifies, in writing, its list of look-alike/sound-alike medications. (*See also* MMU.02.00, ME 1; MMU.07.01, ME 2)
2. The hospital implements a process for managing look-alike/sound-alike medications that is comprehensive and uniform throughout the hospital. (*See also* MMU.07.01, ME 2)
3. The hospital reviews and revises, when necessary, its list of look-alike/sound-alike medications annually at minimum.

Standard IPSG.03.02

The hospital implements a process to manage the safe use of concentrated electrolytes.

Intent of IPSG.03.02

The incorrect or unintentional administration of concentrated electrolytes can be deadly errors, and the most effective means to reduce or to eliminate these occurrences is to implement a process for managing concentrated electrolytes. Concentrated electrolytes are *vials* of concentrated forms of electrolytes that *require dilution* or other preparation before IV administration. It is important to distinguish that the standard excludes concentrated forms of electrolytes such as 3%–5% saline for infusion, because it is already diluted and prepared for infusion rather than being stocked in vials that require dilution before administration. Concentrated electrolytes include but are not limited to the following:

- Potassium chloride
- Potassium phosphate
- Sodium chloride
- Magnesium sulfate

Concentrated electrolytes should not be available as unit stock on any patient care units (including in operating room/anesthesia regular stock) as much as is possible given the pharmacy capabilities. Wherever concentrated electrolytes are stored, it is critical that the hospital perform a risk assessment such as a failure mode and effects analysis (FMEA) or other recognized risk assessment methodology to identify and mitigate potential risks associated with it. In addition, concentrated electrolytes must always be segregated from other medications, and access to these restricted to only qualified and trained staff. For example, if the hospital determines it is necessary to stock concentrated electrolytes in emergency carts, they must still be segregated from the other medications in the cart with appropriate warning labels, staff must be trained on the risks and safety considerations, a risk assessment must have been conducted that includes mitigation of those risks, and this must be outlined in hospital policy.

Electrolytes should not be dispensed in their concentrated form to patient care units for individual patients. The exceptions to this recommendation are for vials contained in a cardiac surgery kit or a cardiac surgery locked storage area and available only to the operating team, magnesium sulfate contained in emergency carts or in areas where patients with preeclampsia may be treated (labor and delivery, emergency department, or intensive care unit), concentrated sodium in areas treating patients who may suffer from increased intracranial pressure (intensive care unit, emergency department, and operating room), and other special areas and circumstances defined by hospital policy and procedures.

The hospital can use labeling practices to decrease the risk of inadvertent administration of concentrated electrolytes, when it is possible for a single vial to be removed or transported from an open bin, box, or container. The individual vial must be labeled in addition to the storage container. Only qualified and trained individuals should have access to these vials.

Administration of electrolyte replacement therapy for hypokalemia, hyponatremia, and hypophosphatemia is safest when standardized guidelines and/or protocols with prediluted electrolytes (such as 20 mEq of potassium chloride in 100 cc of normal saline) are used, and the dispensing or handling of concentrated electrolyte vials on the patient care units is prohibited.

Measurable Elements of IPSG.03.02

1. Only qualified and trained individuals have access to concentrated electrolytes, and they are labeled with appropriate warnings and segregated from other medications throughout the storage and dispensing process. (*See also* MMU.04.00, ME 1; MMU.04.01, MEs 4 and 5; MMU.05.00, ME 1; MMU.05.03, ME 4)
2. The hospital only stores vials of concentrated electrolytes outside of the pharmacy for emergency situations or specific purposes, and these are clearly identified in hospital policy. (*See also* MMU.03.00, MEs 1 and 2)
3. Ⓓ The hospital performs initial and ongoing proactive risk assessments at least annually for all areas where concentrated electrolytes are stored.

Goal 4: Ensure Safe Surgery

Standard IPSG.04.00

The hospital implements a process for the preoperative verification and surgical/invasive procedure site marking.

Intent of IPSG.04.00

Wrong-patient, wrong-site, and wrong-procedure surgery present a risk for significant patient safety events that result in patient injury. Wrong-patient, wrong-site, and wrong-procedure surgery events can result from