

| **No.** | **Problem** | **Recommendation** | **Organization Assessment** | **Action Required/ Assignment** | **Date Completed** |
| --- | --- | --- | --- | --- | --- |
| Confusion regarding strength listed on Fresenius Kabi oxytocin vials |
| (22)  | Ten-fold dosing errors occurred in the pharmacy when oxytocin 10 mL vials were used instead of 1 mL vials. The 10 mL vial label prominently lists the amount per mL (10 units/mL), with the total volume near the bottom of the label, causing staff to think the 10 mL vial only contained 10 units. Barcode scanning did not warn staff about the error.  | Fresenius Kabi is updating the labels to express the total amount of drug per total volume as the primary designation. For now, ensure oxytocin vial (and premixed infusion) labels clearly note the amount of drug per total volume. Review an earlier 2020 article ([www.ismp.org/node/14240](file:///C%3A%5CUsers%5Cashastay%5CAppData%5CLocal%5CTemp%5CTemp1_word-excel.zip%5Cwww.ismp.org%5Cnode%5C14240)) for additional recommendations when using oxytocin.  |  |  |  |
| Prevent *shoulder injury related to vaccine administration* (SIRVA) when administering the coronavirus disease 2019 (COVID-19) vaccines |
| (25) | SIRVA presents as persistent shoulder pain, weakness, and limited range of motion within hours to days after administration of an intramuscular (IM) vaccine into the shoulder capsule instead of the deltoid muscle. This condition is preventable, given healthcare providers follow proper IM vaccine administration technique. | When administering IM vaccinations in the deltoid muscle, expose the upper arm/shoulder area, measure 2 to 3 finger widths from the acromion process (bony prominence above the deltoid), and locate the armpit as the lower border. Use the thumb and forefinger to make a V outlining the deltoid muscle before injecting the needle at a 90-degree angle.  |  |  |  |
| Mandatory error reporting for drugs granted Emergency Use Authorization (EUA) from the US Food and Drug Administration (FDA) |
|  (25) | Drugs and biologics used under an EUA (including COVID-19 vaccines) are not officially approved for use in the US by FDA but instead are temporarily authorized for use during a crisis. Thus, FDA requires mandatory reporting of adverse events, including errors, within a specified time period for all EUA drugs and biologics.  | Refer to the *Fact Sheet* to determine the process and timeline for reporting adverse events and/or errors, as requirements may differ depending on the drug or biologic. Also, continue to report errors with these drugs or biologics, including vaccines, to ISMP; however, this does not replace the need for mandatory reporting to FDA. |  |  |  |
| Learn from influenza (flu) vaccine errors to prepare for coronavirus disease 2019 (COVID-19) vaccine campaigns |
| (23) | Analysis of recent flu vaccine errors can be used to prepare for COVID-19 vaccine campaigns. Risk factors include look-alike vaccine names, labels, and pack-aging; unsegregated refrigerator/freezer storage; mixing/dilution errors; communication barriers; not checking/documenting administration in the immunization information system (IIS); inability to use technologies during mass immunizations; and temperature excursions.  | When planning vaccine campaigns, consider infection control measures, optimal staffing patterns, anticipated language barriers, and storage for cold chain requirements. Before vaccination, screen patients for contraindications and precautions, verify prior vaccinations, and provide patients with a *Fact Sheet.* Establish best practices for vaccine preparation, administration, and documentation, and treatment of adverse reactions.  |  |  |  |
| ISMP survey shows safety gaps in pharmacy compounded sterile preparation (CSP) systems and practices |
| (21) | Our survey on pharmacy CSPs identified the most common challenges, including lack of direct verification of the CSP process, difficulty meeting USP standards, and insufficient staff training and competency. Only half of respondents found it easy to identify which drugs, diluents, and volumes were used when verifying CSPs, citing limitations in technology and the syringe pull-back method of verification. Nearly three-quarters were aware of at least one pharmacy CSP error in the past year.  | Use the results of this survey to prompt internal discussions about improvements that may be needed in sterile compounding practices to reduce the risk of errors in your organization. If your pharmacy did not participate in this survey, you can download it at www.ismp.org/ext/568, distribute it internally, take the survey, and review the results to pinpoint your vulnerabilities and establish a plan for improvement. |  |  |  |
| ISMP survey provides insights into preparation and admixture practices outside the pharmacy  |
| (22) | Our survey on admixture practices outside the pharmacy identified the most common challenges, including lack of space, lack of independent double checks, and lack of staff training. The biggest concerns were rushing through the preparation process, labeling issues, mixing by memory, interruptions and distractions, and concerns about sterility and accuracy. Nearly one-third of respondents were aware of associated errors in the past year.  | Use the results of this survey to prompt internal discussions about limiting the preparation of admixtures outside the pharmacy as much as possible and how to increase the use of pharmacy- and manufacturer-prepared products. If your organization did not participate in this survey, you can download it at www.ismp.org/ext/595, distribute it internally, take the survey, and review the results to pinpoint your vulnerabilities and establish a plan for improvement.  |  |  |  |
| The US Food and Drug Administration (FDA) provides an updated Emergency Use Authorization (EUA) for VEKLURY (remdesivir) |
| (23) | FDA approved Veklury for the treatment of COVID-19 in hospitalized adult and pediatric patients 12 years and older weighing at least 40 kg, and revised the EUA to permit use in patients less than 12 years weighing at least 3.5 kg. FDA continues to receive reports of administering the wrong Veklury dose or formulation (solution vs. lyophilized powder), missed doses, or wasted doses that have been improperly prepared or stored. | Veklury should only be administered in a hospital/acute care setting and used for the FDA-approved and EUA indications. Staff education is required before preparing the different formulations (solution and lyophilized powder), particularly regarding dilution, storage, and indication. Review an earlier 2020 article (www.ismp.org/node/20176), the revised EUA *Fact Sheet*, and the package insert prior to use.  |  |  |  |
| Using primary administration sets to administer small-volume intravenous (IV) infusions can lead to underdosing |
| (24) | Small-volume intermittent IV infusions administered using a primary administration set may lead to underdosing due to the residual volume in the tubing. In one health system, about 360,000 small-volume infusions were being administered annually to patients at lower doses than prescribed.  | Increase staff awareness of the residual volume left in the tubing when using primary administration sets for small-volume infusions. Create reminders to administer these with a secondary set. Add an appropriate carrier fluid to order sets to flush residual drug from the tubing. |  |  |  |
| Neuromuscular blocking agent (paralyzing agent) vial caps without warnings may circulate through 2022 |
| (25)  | Due to shortages, temporary manufacturing of vecuronium (Fresenius Kabi) and rocuronium (Athenex, Alvogen) without the vial cap warning, “Paralyzing Agent,” was allowed. Although these vials are now being manufactured with a cap warning, vials without the warning have expiration dates up to May or June 2022 and may remain in distribution. | Make sure staff are aware of the absence of the warning statement on some paralyzing agents that may still be in stock. Store these products with the labels (not the caps) face up, as the labels still carry a warning statement. Affix auxiliary “Warning: Paralyzing Agent” labels to vial caps of affected products.  |  |  |  |
| Similarities between B. Braun 500 mL bags of intravenous (IV) heparin and hypertonic sodium chloride 3% |
| (21)  | ISMP received multiple reports involving mix-ups between 500 mL bags of IV heparin and IV hypertonic (3%) sodium chloride (B. Braun). The bags look very similar in their overwraps. Mix-ups with these products could prove serious.  | Use barcode scanning to help prevent errors and store these products apart in the pharmacy. Consider obtaining one of the products from a different manufacturer. ISMP asked B. Braun to consider labeling changes to prevent mix-ups.  |  |  |  |
| More mix-ups between vials of ePHEDrine and EPINEPHrine (ADRENALIN) |
| (21)  | Look-alike vials of e**PHED**rine and **EPINEPH**rine have been frequently mixed up due to name and packaging similarities. The latest mix-up occurred between Amneal Pharmaceuticals e**PHED**rine and PAR Pharmaceutical **EPINEPH**rine vials, both of which are similar in size (1 mL) and have purple caps.  | Use barcode scanning when stocking, dispensing, and administering these medications. Store them apart in the pharmacy and in locked, lidded drawers in automated dispensing cabinets (ADCs). Use prefilled **EPINEPH**rine syringes from an outsourcer, and/or have pharmacy prepare infusions and bolus doses for these drugs (except in emergencies).  |  |  |  |
| Topical thrombin (RECOTHROM) given systemically instead of antithrombin III (THROMBATE III) |
| (22) | During cardiac surgery, a patient received topical Recothrom systemically instead of Thrombate III. The perfusionist typed “T-H-R-O-M” into the automated dispensing cabinet (ADC) and selected Recothrom in error. Recothrom vials come with a Luer syringe, which was then connected to a cardiopulmonary bypass machine and administered.  | Edit electronic health records and ADC product displays to clearly list “topical thrombin” for Recothrom and “antithrombin III” for Thrombate III to decrease the risk of name confusion. If possible, stock topical thrombin in a kit that does NOT contain a Luer syringe (e.g., THROMBIN-JMI). Review our 2017 article (www.ismp.org/node/234) for additional recommendations. |  |  |  |
| Mix-up between conventional and liposomal DOXOrubicin formulations |
| (24)  | A technician accidently used liposomal instead of conventional **DOXO**rubicin to prepare two infusions. The technician did receive an alert when she scanned the wrong medication, but she overrode it. The pharmacist did not catch the error during verification, and the preparations were dispensed and administered.  | Vials of liposomal and conventional **DOXO**rubicin should be stored separately. Consider affixing a prominent sticker on the liposomal formulation so it is not confused with the conventional formulation. A pharmacist should review all scanning overrides prior to final verification of the preparation.  |  |  |  |
| Administer adenosine injection via rapid intravenous (IV) push for cardioversion |
| (24)  | Adenosine was administered too slowly during cardiac arrest, resulting in a fail-ure to convert the patient to normal sinus rhythm. Adenosine is often retrieved from an automated dispensing cabinet (ADC) via override (e.g., during a code), so instructions about rapid administration built into orders may not be visible.  | Pharmacy staff, especially those station-ed in the emergency department or res-ponding to codes, should educate others about the requirement for rapid injection at a site as close to the patient’s torso as possible, and that the medication must be rapidly flushed and cleared from any tubing. An auxiliary label may also help. |  |  |  |