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ISMP Institute for Safe Medication Practices
An ECRI Company

Community/Ambulatory Care ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices

Mix-up between PPD and poliovirus vaccine

Problem: An enterprise supply technician intercepted an error in an order being readied for shipment to a clinic. They noticed that there was a mix of inactivated poliovirus vaccine (IPV) (**IPOL**) and tuberculin purified protein derivative (PPD) (**TUBERSOL**) skin test solution cartons within the shipment. Both products had been received from the wholesaler on the same day and then were inadvertently mixed-up together when they were placed into inventory. The reporter attributed the stocking error to the look-alike nature of the cartons (**Figure 1**). Both Tubersol and IPOL are manufactured by Sanofi. Both use similar design elements (e.g., colors, rectangles, half circles) creating the look-alike appearance. The good catch by the technician prevented the error from reaching the clinic and potentially patients.

This is not the first time we have received reports of potential and actual mix-ups between these products. In the July 2011 issue of this newsletter, we described a medication error that occurred at an immunization clinic. A public health nurse, intending to administer a PPD skin test, mistakenly administered 0.1 mL of IPV intradermally. The nurse noticed the error immediately and the appropriate test was administered using 0.1 mL of PPD. The effects of the intradermal IPV injection on the patient were limited to a 20 mm by 15 mm area of erythema at the injection site 72 hours post injection and complaints of mild tenderness upon palpation. Since the error was recognized immediately, the area of erythema was not mistaken as induration and misread as a positive PPD, and the patient denied pruritus or any other symptoms.

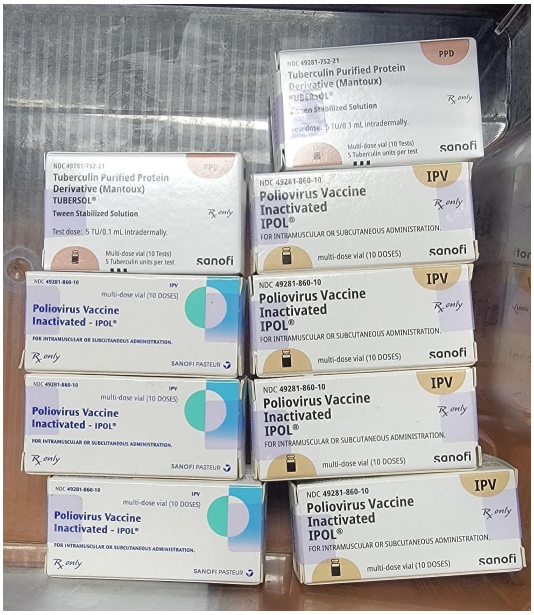

Figure 1. Cartons of Tubersol skin test solution (cartons on top) and IPOL, both from Sanofi, look similar and have been mixed-up together in error.

Safe Practice Recommendations: Use barcode scanning on all medications when stocking, dispensing, and prior to administration. Ensure these products are separated in storage. Consider additional labeling of the vials and cartons, or highlighting the drug name by circling it with a pen, to help distinguish products from one another. Engage patients/caregivers by asking them open-ended questions about what they are expecting to receive. Show them the product label and verify that the product in hand is correct prior to administration.

Sunlenca and Yeztugo: Same drug, different indications

Problem: Two lenacapavir products are now available. **SUNLENCA** (lenacapavir) is indicated for the treatment of adults with human immunodeficiency virus (HIV) infections. **YEZTUGO** (lenacapavir) is approved for pre-exposure prophylaxis (PrEP) to reduce the risk of HIV-1 acquisition in adults and

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SAFETY briefs

Chlorthalidone prescription incorrectly changed to chlorproMAZINE. A pharmacy reported an incident involving an electronic prescription (e-prescription) for chlorthalidone 25 mg, an oral diuretic. Although the prescription was correctly entered into the pharmacy dispensing system, the wrong medication was ultimately dispensed.

The pharmacy technician was unable to locate the chlorthalidone product with the National Drug Code (NDC) listed on the prescription label. In an attempt to resolve the issue, the technician selected a different chlorthalidone product and updated the NDC in the system. However, they mistakenly retrieved chlorpro**MAZINE** 25 mg—an antipsychotic agent commonly used to treat nausea and vomiting—and used that product's NDC to update the prescription. No independent double check or verification of the NDC change was performed before the technician completed the filling process. Unfortunately, the final verification pharmacist also missed the error. As a result, the patient received and consumed four doses of the incorrect medication.

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IMPORTANT! Read and utilize the Community/Ambulatory Care Action Agenda

Items from the **May – August 2025** issues of the ***ISMP Medication Safety Alert! Community/Ambulatory Care*** newsletters have been selected and prepared for you and your staff to stimulate discussion and collaborative action to reduce the risk of medication errors. Each item includes a brief description of the medication safety problem, a few recommendations to reduce the risk of errors, and the issue date to locate additional information. The **Action Agenda** is available as an Excel file here.

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adolescents weighing at least 35 kg. Both products are manufactured by the same company and are available in a 463.5 mg/1.5 mL solution for subcutaneous injection and a 300 mg oral tablet. Also, both drugs require an initiation phase with subcutaneous injections and oral dosage forms, followed by a maintenance phase with only subcutaneous injections. The subcutaneous injections must be administered by a healthcare provider while patients self-administer the oral tablets.

In addition to both containing the same active ingredient, their tablets look identical. They are both beige, capsule-shaped, film-coated, and debossed with 'GSI' on one side of the tablet and '62L' on the other side of the tablet. These overlapping characteristics increase the risk of mix-ups between these products.

Safe Practice Recommendations: Multiple brand names for products with the same active ingredient increase the likelihood of mix-ups, especially if the drug is ordered only using the generic name. Medical offices, clinics, and pharmacies should evaluate how these drugs appear in their electronic systems, and if possible, only allow them to be ordered by brand name, or use both generic and brand names. Prescribers should also include the purpose of the medication on the prescription. Educate staff and patients that these products are not interchangeable, and to confirm it is the correct brand name prior to dispensing and administering. During patient education, verify the reason the patient is taking the medication and reinforce the specific brand.

Review and update parenteral nutrition order forms and order sets

Problem: An outpatient infusion center dietitian reported that staff have been receiving outdated parenteral nutrition (PN) order forms from hospitals, which list products that are no longer commercially available. One PN order form had the multiple trace element dose prescribed as 0.2 mL/kg, which was the recommended dosing for a pediatric multiple trace element product that has not been on the market since 2021.

The products that are currently available are **MULTRYS** (trace elements injection 4) and **TRALEMENT** (trace elements injection 4), both manufactured by American Regent. Multrys is indicated for neonatal and pediatric patients weighing less than 10 kg. Each mL of Multrys contains zinc 1,000 mcg, copper 60 mcg, manganese 3 mcg, and selenium 6 mcg. The dosing recommendations for Multrys are weight-based, with a maximum daily dose of 1 mL. When the patient reaches 10 kg, the recommendation is to switch to Tralement, intended for adult and pediatric patients weighing 10 kg or more, which also has weight-based dosing. Each mL of Tralement contains zinc 3 mg, copper 0.3 mg, manganese 55 mcg, and selenium 60 mcg. The dietitian reported that hospitals are also sending orders for Multrys with doses significantly above 1 mL and for patients who are above 10 kg.

Safe Practice Recommendations: Organizations should build PN order templates with standardized units for defined patient populations (i.e., dose per day for adults, dose/kg/day for pediatric and neonatal patients). Ideally, hospitals should collaborate with local provider offices, clinics, and infusion pharmacies to develop a consensus on these order templates. Evaluate what clinical decision support is available (in the electronic health record, pharmacy computer systems, and/or automated compounding device) and ensure there are soft warnings and hard stops to alert practitioners when approaching or exceeding limits (e.g., single dose, daily dose). Review order sets and order forms at least annually and when new products are purchased. If your organization uses Multrys and/or Tralement, educate practitioners to be aware of the various patient weight categories that will require different dosages as well as differing amounts of individual trace elements. Regularly review alert overrides to determine appropriateness and to improve the safety of PN practices.

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Examine your processes for reviewing changes made after entering a prescription. If not already present, build in an independent double check using the original prescription anytime a change is made to a prescription, especially for any that has already undergone one or more verification steps. A verification step should occur before the prescription can proceed to fulfillment or the next step in your pharmacy workflow.

We encourage the use of tall man lettering schemes (i.e., chlorpro**MAZINE**) where the drug names appear in computer systems, in electronic prescriptions, and on any labels applied to pharmacy shelves. Prescribers should include the purpose of the drug on prescriptions. Pharmacies may also consider separating the storage locations for these drugs. Make sure staff are aware that the medications have been separated and where to locate them. Pharmacists should review the prescription label with the patient, confirm the indication, and ensure it is the medication they expect

Mix-ups due to look-alike Cosentyx cartons. A pharmacy recently reported that pharmacy technicians have been retrieving the wrong dosage form of **COSENTYX** (secukinumab) from refrigerated storage units. Cosentyx is an anti-interleukin 17A monoclonal antibody approved for a variety of indications, including plaque psoriasis and psoriatic arthritis. It is available as single-dose pen injectors and single-dose prefilled syringes, as well as a vial presentation.

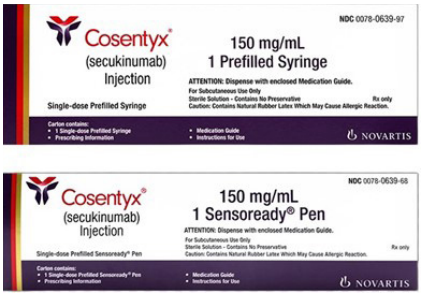

Figure 1. Look-alike cartons of Cosentyx 150 mg/mL prefilled syringes (top) and 150 mg/mL pen devices (below).

The reporter indicated that cartons for the same strengths of Cosentyx prefilled syringes and pen devices look very similar (**Figure 1**),

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Priorix packaging—risk of diluent being given without the vaccine

Problem: A medical assistant (MA) working in an outpatient clinic reported concerns with how **PRIORIX** (measles, mumps, and rubella vaccine, live) is supplied by the manufacturer (GSK). Priorix comes in a carton of 10 single-dose vials of lyophilized antigen component and 10 single-dose prefilled syringes of sterile water diluent. Upon opening the carton, practitioners will find that a side flap covers the vials, initially obscuring them from view (**Figure 1**). To access the vials, practitioners must lift the side flap. However, the syringes are visible immediately upon opening the package. Since several other vaccines come in ready-to-administer prefilled syringes, the MA who reported this is concerned that staff may select only the diluent syringe to administer because that is all they see when they open the carton. This poses a safety risk (e.g., lack of proper immunization) if a practitioner unknowingly administers the diluent syringe without the lyophilized antigen component.

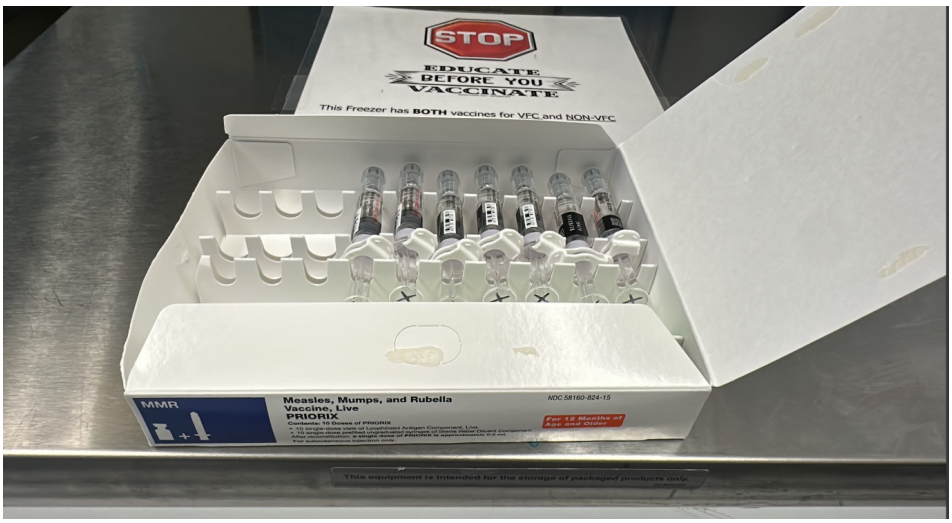

Figure 1. The design of the side flap (see side flap at near side of the carton in the figure) on the Priorix carton prevents practitioners from seeing the vials containing the lyophilized antigen component, which may result in the inadvertent administration of only the diluent syringe.

Safe Practice Recommendations: We have reached out to the manufacturer to notify them of this concern and to recommend modifying the Priorix packaging so that users can see the vials after opening the carton. If your organization purchases this product, notify staff of this issue. Explore ways to keep the products together. Consider adding an auxiliary label to remind staff to reconstitute prior to administration. Barcode scanning prior to preparing and administering a vaccine could help identify an error if the system is set up to require scanning of both the vaccine vial and corresponding diluent syringe barcodes.

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contributing to the mix-ups. Also, they noted that the error is more likely to occur when filling prescriptions for multiple packages (e.g., three pens) when the incorrect carton may be more difficult to notice if two correct cartons have also been retrieved as they look similar. The syringes and pen devices have different directions for use, so a mix-up could lead to patient self-administration errors.

To help intercept selection errors, scan each carton during fulfillment. Clearly label storage bins, and if space permits, use separate storage locations for the different strengths and presentations (e.g., syringes, pen devices). Make sure staff are aware that the medications have been separated and where to locate them. Explore ways to differentiate the products to highlight critical information when they are received from the supplier. Alert staff to the potential for mix-ups.

Special Announcements

Apply for a JUST CULTURE scholarship
Applications will be closing **September 30, 2025** for the ***Judy Smetzer Just Culture Champion Scholarships***. If you currently work in the healthcare field, have at least 5 years of full-time postgraduate experience, and commitment from executive leadership, apply now! For details and to submit an application, click here.

FREE ISMP webinar with CE
Join us on **October 9, 2025** for our webinar, ***Applying Best Practices to Prevent Wrong Drug Errors Associated with Generic Names***. Pharmacy and nursing continuing education (CE) will be offered. This activity is supported by an educational grant from Azurity Pharmaceuticals. For more information and to register, click here.

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