

# Acute Care

# ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices

## Patients with low health literacy make more errors interpreting instructions and warnings



**PROBLEM:** Whether limited by knowledge, socioeconomic factors, emotional or clinical state, or cultural background, the patient's level of health literacy—the ability to read, understand, and act in a well-informed manner on healthcare information—is often dangerously low. This issue is compounded by the fact that healthcare information is increasingly available via digital healthcare portals. According to the US Department of Education, National Center for Education Statistics (NCES), National Assessment of Adult Literacy (NAAL) ([www.ismp.org/ext/1238](http://www.ismp.org/ext/1238)), more than half of adults (53%) are classified as having intermediate health literacy, followed by basic (22%), and below basic (14%), with only a small percentage (12%) considered health literacy proficient. People who have difficulty reading or understanding health information may be embarrassed and hide the problem, often masking underlying fear due to the misunderstanding. In addition, low health literacy is often not obvious, and practitioners may not be aware that some patients need additional support to understand their care plan. Also, researchers have reported poor reading skills in some of the most poised and vocally articulate patients. Most patients need help understanding information about their health and medications regardless of their level of intelligence, ability to read or write, or reading comprehension.

### Definition of health literacy

Healthy People 2030 ([www.ismp.org/ext/1237](http://www.ismp.org/ext/1237)), an initiative led by the Centers for Disease Control and Prevention (CDC), describes health literacy in terms of both personal and organizational aspects. They define personal health literacy as the degree to which individuals can find, understand, and use information and services to inform health-related decisions and actions for themselves and others. Healthy People 2030 defines organizational health literacy as the degree to which organizations equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others. Patients should be able to make “well-informed” decisions rather than “appropriate” ones. These definitions emphasize the patient's ability to use health information rather than just understand it, and acknowledge that organizations have a responsibility to address health literacy with everyone.

### Problems with low health literacy

Patients with low health literacy are more likely to make errors when interpreting medication instructions and warning labels.<sup>1</sup> This is especially true when instructions involve a titration or taper. Not understanding how to take the medication may result in taking a sub-optimal dose or overdose of medication, which can lead to an increased risk of adverse events.<sup>2</sup> Low health literacy can also contribute to decreased medication adherence.<sup>3</sup> Furthermore, patients who do not understand their disease state and how medication can help, may be less likely to take their medication as prescribed to minimize disease progression or complications.<sup>4</sup>

Organizations and individual practitioners may not have the proper resources to help assess or support varying levels of health literacy in patients they treat. To complicate the matter, medical information is difficult to understand even for patients whose primary language is English. Comprehension of medical language is even more difficult for patients with limited English proficiency (LEP) who may struggle with both linguistic and other cultural barriers. Due to time

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## SAFETY brief



**Do not confuse these respiratory syncytial virus (RSV) products.** Most patients who get respiratory syncytial virus (RSV), a lower respiratory tract infection, will have mild illness and will recover in a week or two. However, RSV can be dangerous for infants and young children, and for certain adults (e.g., older immunocompromised adults) ([www.ismp.org/ext/1282](http://www.ismp.org/ext/1282)). With all the publicity about new RSV products, and RSV outbreaks in many areas, it is easy to confuse product names, dosages, and schedule differences between the two monoclonal products or confuse the two RSV vaccines. So, be prepared! **Beyfortus and Synagis are indicated for use in certain infants and children, while Arexvy and Abrysvo are indicated for use in certain adults.**

**Pediatric RSV products.** In July 2023, the US Food and Drug Administration (FDA) approved the monoclonal antibody **BEYFORTUS** (nirsevimab-alip), to prevent RSV infection in neonates and infants, and in certain children up to 24 months of age. Beyfortus is available in 50 mg/0.5 mL and 100 mg/mL single-dose prefilled syringes for intramuscular (IM) administration (**Figure 1**). See the prescribing information ([www.ismp.org/ext/1235](http://www.ismp.org/ext/1235)) for the recommended dose



**Figure 1.** Beyfortus is available in 50 mg/0.5 mL (top) and 100 mg/mL (bottom) prefilled syringes.

based on age, weight, RSV season, and for children who undergo cardiopulmonary bypass surgery. In October 2023, the

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constraints, lack of available interpreters, or convenience, practitioners may choose to “get by” without an interpreter.<sup>5</sup> Staff may use family members, friends, or even colleagues as interpreters, but these people may not have the ability to understand or translate the information appropriately in medical terms.

**Errors related to health literacy**

Below are recent events reported to ISMP that involve gaps in health literacy:

A Spanish-speaking patient misinterpreted the directions (in English) for DisposeRx (Figure 1), a product intended to facilitate safe drug disposal. The patient thought the contents were to be ingested, partly due to the photo on the packet of the powder being dispersed in what looked like a glass of water. Fortunately, a home care nurse who was counseling the patient using a Spanish-language interpreter intercepted the error.



**Figure 1.** A patient thought they were supposed to ingest the contents of the DisposeRx packet, in part due to the picture on the packet.

A non-English speaking patient was discharged from a hospital with a new prescription for albuterol 2.5 mg/3 mL nebulization solution. During a post-discharge phone call, the patient told a nurse that she had been given a liquid medication to drink from a “syringe.” The nurse contacted the patient’s pharmacy and realized that the patient was drinking the albuterol from the plastic container (Figure 2), which the patient had described as a “syringe.”



**Figure 2.** Albuterol nebulization solution comes in a plastic container that is to be used with a nebulizer machine for inhalation. The patient referred to it as a “syringe” and drank the contents.

**SAFE PRACTICE RECOMMENDATIONS:** Health literacy has a critical impact on informed decision-making, including safe medication use. Consider the following recommendations to support both personal and organizational health literacy.

**Assess literacy level.** As part of the admission process, consider the use of assessment tools. The Test of Functional Health Literacy in Adults (TOFHLA) and the Rapid Estimate of Adult Literacy in Medicine (REALM) are the most widely used instruments to measure health literacy ([www.ismp.org/ext/1241](http://www.ismp.org/ext/1241)).

**Provide health literacy-friendly materials.** Organizations should strive to offer written materials (e.g., medication handouts, prescription labels) in the patient’s preferred language, at a fifth grade reading level or lower. Simplify materials and offer small amounts of information at a time. Use clear captions, pictures, diagrams, or videos to help explain concepts. Most patients, even those who read well, depend on visual clues to reinforce learning and spark memory. Consider using the Patient Education Materials Assessment Tool (PEMAT) ([www.ismp.org/ext/1236](http://www.ismp.org/ext/1236)) to evaluate how understandable and actionable medication education materials are to the general public. To promote better patient understanding of labeling instructions and information on prescription containers, review the USP, General Chapter <17> Prescription Container Labeling (December 1, 2021).

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Centers for Disease Control and Prevention (CDC) distributed an advisory from their Health Alert Network, *Limited Availability of Nirsevimab in the United States—Interim CDC Recommendations to Protect Infants from Respiratory Syncytial Virus (RSV) during the 2023–2024 Respiratory Virus Season* ([www.ismp.org/ext/1276](http://www.ismp.org/ext/1276)) with interim recommendations for those who should receive the vaccine. Based on manufacturing capacity and currently available stock, CDC recommends prioritizing the 100 mg/mL prefilled syringes for infants at the highest risk for severe RSV disease. Recommendations for using 50 mg/0.5 mL doses remain unchanged at this time. However, it is important to continually check the CDC website for the most up-to-date recommendations as to which patient population meets the current criteria for receiving immunization against RSV.

Practitioners may be familiar with **SYNAGIS** (palivizumab), which was approved in 1998. Like Beyfortus, Synagis is a monoclonal antibody (Figure 2) but is only recommended for children less than 24 months with certain conditions that place them at increased risk for severe RSV disease ([www.ismp.org/ext/1264](http://www.ismp.org/ext/1264)). The dose of Synagis is 15 mg/kg IM, given once a month throughout the RSV season, which typically lasts for about 5 months, meaning 5 doses are needed.



**Figure 2.** Synagis is available in 50 mg/0.5 mL (top) and 100 mg/mL (bottom) single-dose vials for IM use.

**Adult RSV products.** In 2023, the FDA approved two vaccines for RSV prevention in adults. **AREXVY** (respiratory syncytial virus vaccine, adjuvanted) (Figure 3, page 3) is

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**Gather feedback.** Seek feedback from patients (e.g., focus groups, targeted satisfaction survey questions), patient advocates, and healthcare educators to ensure that written materials effectively communicate the most vital information in concise, familiar language, and update as necessary.

**Provide patients with tools.** Provide resources to prepare patients on how to be more involved in their health including their medication regimens ([www.ismp.org/ext/1240](http://www.ismp.org/ext/1240)). Make medication education information available for patients within an online portal, via a smartphone application, and/or via handouts ([www.ismp.org/node/1055](http://www.ismp.org/node/1055)). Ensure information on the patient portal is patient-friendly, especially if making highly technical documents available digitally (e.g., CT scan summary interpretation by a radiologist, echocardiogram results written by a cardiologist).

**Offer language services.** Make formal interpreter services available, including in person, by video call, and/or by telephone. Interpreter services benefit not only the patient but also staff members who otherwise struggle to ensure the provision of high-quality care ([www.ismp.org/ext/1242](http://www.ismp.org/ext/1242)). Use caution with interpretation services from multilingual teammates, or family members of the patient, who may not be well-versed in healthcare translation. Ensure any communication past conversational discussions involves a trained professional.

**Document in the EHR.** Build required fields to document preferred patient language and interpreter service needs in the electronic health record (EHR). Ensure this information is easily accessible to staff. Automatically schedule interpreters at clinical points of service for patients who are identified with LEP.

**Educate patients.** Implement the teach-back method and have patients show and tell how they plan to take their medications. Avoid closed-ended questions and never assume patients understand how to take their medications. Do not assume being articulate and confident equates to adequate reading skills and other proficiency. Patients who cannot read will likely try to mask their lack of skill due to emotional reasons (e.g., embarrassment) or misunderstanding of the potential negative impacts on their care. Empower patients and families to report errors through the ISMP consumer website, [www.consumermedsafety.org](http://www.consumermedsafety.org), so they can contribute to learning.

**Coach practitioners.** Instruct staff about best practices involving disease and medication information communication, interpreter service use, and cultural awareness. Create a policy or procedure for practitioner onboarding to ensure staff are aware of the available resources and when to use them. To minimize language barriers, the Agency for Healthcare Research and Quality (AHRQ) has several training programs available, including the TeamSTEPs (Team Strategies and Tools to Enhance Performance and Patient Safety) LEP Module ([www.ismp.org/ext/1242](http://www.ismp.org/ext/1242)).

## References

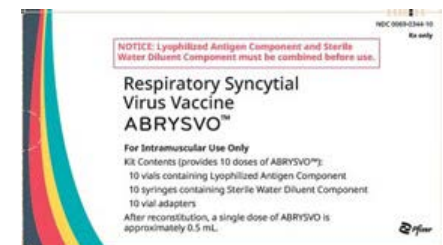
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indicated for active immunization of adults 60 years and older. **ABRYSVO** (respiratory syncytial virus vaccine) (**Figure 4**) is for active immunization of pregnant individuals at 32 through 36 weeks gestational age, as well as individuals 60 years of age and older. Both Arexvy and Abrysvo need to be reconstituted and are administered IM as a single dose, currently without recommendations for revaccination with additional doses.



**Figure 3.** The Arexvy carton includes vials of lyophilized antigen (powder) and vials of adjuvant suspension (liquid). After reconstitution, a single dose is 0.5 mL.



**Figure 4.** The Abrysvo carton includes vials of lyophilized antigen (powder), prefilled syringes containing sterile water diluent, and vial adapters. After reconstitution, a single dose is 0.5 mL.

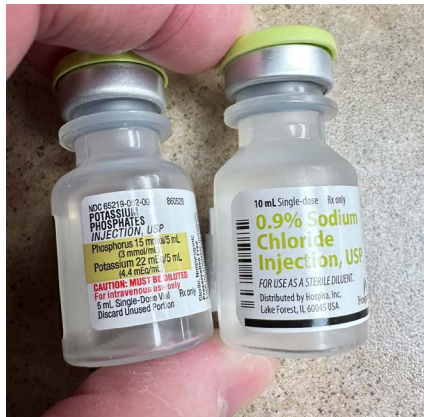
Based on your patient population, determine which products should be available in your organization. Create order sentences to guide practitioners in selecting the appropriate product and dosage based on the indication and the patient's age and/or weight. Patients may also receive other vaccines (e.g., influenza, coronavirus disease 2019 [COVID-19]) at the same time as these RSV vaccines, so clearly label prepared vaccine syringes (e.g., vaccine name, dose). Ensure barcode scanning is used prior to dispensing and at the time of administration. Educate staff about the differences in indication, preparation, and dosage.



## Look-alike potassium phosphates and sodium chloride vials

During the past 3 years, we received several reports expressing concerns about similar-looking vials of potassium phosphates injection (5 mL, Fresenius Kabi) and 0.9% sodium chloride injection (10 mL, Hospira) (**Figure 1**). Two of the reports involved close calls related to pharmacy dispensing errors that were caught prior to administration. These products are each packaged in plastic vials of similar size and shape and have similar label and cap colors (**Figure 2**). The use of a black closure system (black cap overseal, black ferrule, and "must be diluted" warning) applies only to potassium chloride for injection concentrate, not other parenteral potassium salts such as potassium acetate injection or potassium phosphates injection, even though a direct intravenous (IV) push injection could prove fatal if, for example, a vial was mistaken as sodium chloride and used as an IV flush.

One organization reported that practitioners found a potassium phosphates vial in the sodium chloride pocket of an automated dispensing cabinet (ADC). A nurse identified the error after the barcode was scanned prior to administration. In another report, a prescriber ordered intravenous (IV) **CORTROSYN** (cosyntropin lyophilized powder) 0.25 mg for a patient prior to an adrenocortical insufficiency diagnostic test. A pharmacy technician sent the Cortrosyn via the pneumatic tube system along with a vial of potassium phosphates injection instead of 0.9% sodium chloride injection. Fortunately, a nurse realized the error before diluting the powder with the potassium phosphates. The nurse returned the incorrect vial to the pharmacy where additional vials of potassium phosphates were found intermingled in the sodium chloride storage bin. During the event investigation, the hospital found that a pharmacist had checked the Cortrosyn vial and then asked the pharmacy technician to send it with a vial of 0.9% sodium chloride for reconstitution. However, the technician did not have the pharmacist check the diluent before sending both vials to the nursing unit.



**Figure 1.** Similar-looking vials of potassium phosphates injection by Fresenius Kabi (left) and 0.9% sodium chloride injection by Hospira (right).

Although look-alike vials of sodium chloride injection and potassium phosphates injection have been available for a while, we are asking USP, which set the standard for potassium chloride for injection concentrate, to consider this situation. We have also shared this concern with Fresenius Kabi and recommended using a different color for the potassium phosphates product. For now, consider purchasing one of the products from a different manufacturer or take steps to prevent mix-ups, such as sequestering potassium phosphates injection vials away from other products like 0.9% sodium chloride injection (e.g., only store potassium phosphate in the sterile compounding room in the pharmacy). To prevent misidentifying medications by viewing only the vial caps, avoid storing injectable medication vials in an upright position, especially when stored in a bin or drawer below eye level. Store them in a way that always keeps their labels visible. Also, ensure practitioners use barcode scanning when stocking and prior to compounding/dispensing and administration. As with potassium chloride for injection concentrate, do not store vials of potassium phosphates injection in patient care areas where staff could mix them up with 0.9% sodium chloride injection vials. Educate practitioners about these look-alike products and ensure pharmacy verification includes checking all medications, including diluents prior to distribution and dispensing.



**Figure 2.** The caps on the potassium phosphates injection and 0.9% sodium chloride injection look identical, making it easier to choose the wrong product when the vials are stored upright.

## Your Reports at Work



### Cardinal Health recalls certain Monoject syringes

Cardinal Health has recalled some of its Monoject syringes because they have different dimensions and may be incompatible with certain syringe pumps ([www.ismp.org/ext/1281](http://www.ismp.org/ext/1281)). In our September 21, 2023 newsletter ([www.ismp.org/node/98658](http://www.ismp.org/node/98658)), we shared that organizations reported syringe pump flow/volume inaccuracies when using certain Cardinal Health Monoject syringes with syringe pumps. During their investigation, Cardinal Health placed a shipping hold on specific lot numbers, and we recommended that you sequester any supply of the impacted syringes. We want to thank you for reporting these issues. We cannot emphasize how important it is to report errors to ISMP and the US Food and Drug Administration (FDA). As a reminder, we automatically send your reports to the FDA.

## Quarterly ISMP Resources and Services

### ► What does ISMP have to offer you?

Check out our highlighted educational webinars and workshops, professional development opportunities, and medication safety tools. Please visit: [www.ismp.org/node/61994](http://www.ismp.org/node/61994).

To subscribe: [www.ismp.org/node/10](http://www.ismp.org/node/10)



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**Report medication and vaccine errors to ISMP:** Please call 1-800-FAILSAFE(E), or visit [www.ismp.org/report-medication-error](http://www.ismp.org/report-medication-error). ISMP guarantees the confidentiality of information received and respects the reporters' wishes regarding the level of detail included in publications.

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# HITTING THE SAFETY HIGH NOTES



ISMP 26<sup>TH</sup> ANNUAL CHEERS AWARDS

## Tuesday, December 5, 2023

### House of Blues – Anaheim

Join us on Tuesday evening, **December 5, 2023**, at 6:00 pm for the ISMP 26th Annual **Cheers Awards** at the **House of Blues** in Anaheim. The awards will showcase medication safety stars who have set the tempo when it comes to developing innovative strategies that ensure progress.

You can help honor this year's **Cheers Award** winners by attending the awards dinner and/or supporting the event. Your participation helps bring attention to safety advances and enables ISMP to continue the core of its lifesaving work – preventing medication errors. For support opportunities and/or to register for the dinner, please visit: [www.ismp.org/node/83407](http://www.ismp.org/node/83407)



**Guest Speaker:**

RaDonna Vaught, a former nurse who is a passionate advocate for system-based medication safety and second victims of errors



**Lifetime Achievement Award Winner:**

Susan D. Scott, PhD, RN, CPPS, FAAN  
Nurse Scientist/Adjunct Associate Professor, University of Missouri Health Care/Sinclair School of Nursing

## ISMP Activities at the 2023 ASHP Midyear Meeting

**Workshop** (registration required)

**Thursday, November 30 & Friday, December 1**

**Medication Safety Intensive**

7:30 am – 4:30 pm ET

Virtual format

To register, visit: [www.ismp.org/node/76170](http://www.ismp.org/node/76170)

**Symposium** (at Anaheim Convention Center North)

**Wednesday, December 6**

**Leveraging IV Robotics to Optimize Sterile Compounding Practices to Improve Safety**

11:30 am – 1:00 pm PT, Doors open at 10:45 am

Room: 161, 100 Level

To register, visit: [www.ismp.org/node/101371](http://www.ismp.org/node/101371)

**Educational Sessions with ISMP Speakers**

(at Anaheim Convention Center)

**Sunday, December 3**

**2023 Health Technology and Patient Safety Hazards: Are You Playing at the TOP of Your Game?**

4:00 pm – 5:00 pm PT

Room: 204b, Level 2

**Tuesday, December 5**

**ISMP Medication Safety Update 2023**

2:00 pm – 3:00 pm PT

Room: 207b, Level 2

**Wednesday, December 6**

**Look Outside! Safety Risks Outside the Pharmacy Walls**

8:00 am – 9:15 am PT

Room: 204b, Level 2

**Visit us at booth #621**



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