YOU CALL THE SHOTS

Vaccine Administration: Preventing Vaccine Administration Errors

A vaccine administration error is any preventable event that may cause or lead to inappropriate medication use or patient harm.[1] Vaccine administration errors can have many consequences, including inadequate immunological protection, possible injury to the patient, cost, inconvenience, and reduced confidence in the health care delivery system. Take preventive actions to avoid vaccine administration errors and establish an environment that values reporting and investigating errors as part of risk management and quality improvement.

Vaccine administration errors may be due to causes such as:

- Insufficient staff training
- Distraction
- Changes in recommendations
- Lack of standardized protocols
- Patient misidentification
- Using nonstandard or error-prone abbreviations
- Easily misidentified products (e.g. DTaP, Tdap, Td)

If an error occurs, determine how it occurred and take the appropriate actions to put strategies in place to prevent it from happening in the future. The following table outlines common vaccine administration errors and possible preventive actions you can take to avoid errors.

Error(s)	Possible Preventive Actions
Wrong vaccine, route, site, or dosage (amount); or improperly prepared.	Circle important information on the packaging to emphasize the difference between the vaccines.
	Include the brand name with the vaccine abbreviation whenever possible (e.g., PCV20 [Prevnar20]) in orders, medical screens, etc.
	Separate vaccines into bins or other containers according to type and formulation. Use color-coded identification labels on vaccine storage containers.
	Store look-alike vaccines in different areas of the storage unit (e.g., pediatric and adult formulations of the same vaccine on different shelves in the unit).
	Do not list vaccines with look-alike names sequentially on computer screens, order forms, or medical records, if possible.
	Consider using "name alert" or "look-alike" stickers on packaging and areas where these vaccines are stored.
	Consider purchasing products with look-alike packaging from different manufacturers, if possible.
	Establish "Do NOT Disturb" or no-interruption areas or times when vaccines are being prepared or administered.
	Prepare vaccine for one patient at a time. Once prepared, label the syringe with vaccine name.
	Do not administer vaccines prepared by someone else.
	Triple-check work before administering a vaccine and ask another staff member to check.
	Keep reference materials on recommended sites, routes, and needle lengths for each vaccine used in your facility in the medication preparation area.
	Clearly identify diluents if the manufacturer's label could mislead staff into believing the diluent is the vaccine itself.
	Integrate vaccine administration training into orientation and other appropriate education requirements.
	Provide education when new products are added to inventory or recommendations are updated.
	Use standing orders, if appropriate.

1. National Coordinating Council for Medication Error Reporting and Prevention, https://www.nccmerp.org/about-medication-errors

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Error(s)	Possible Preventive Actions
Wrong patient	Verify the patient's identity before administering vaccines.
	Educate staff on the importance of avoiding unnecessary distractions or interruptions when staff is administering vaccine.
	Prepare and administer vaccines to one patient at a time. If more than one patient needs vaccines during the same clinical encounter (e.g., parent with two children), assign different providers to each patient, if possible. Alternatively, bring only one patient's vaccines into the treatment area at a time, labeled with vaccine and patient name.
Documentation errors	Do not use error-prone abbreviations to document vaccine administration (e.g., use intranasal route [NAS] to document the intranasal route—not IN, which is easily confused with IM).
	Use ACIP vaccine abbreviations.
	Change the appearance of look-alike names or generic abbreviations on computer screens, if possible.
Improperly stored and/or handled vaccine administered (e.g., expired vaccine given)	Integrate vaccine storage and handling training based on manufacturer guidance and/or requirements.
	Rotate vaccines so those with the earliest expiration dates are in the front of the storage unit. Use these first.
	Remove expired vaccines/diluents from storage units and areas where viable vaccines are stored.
	Isolate vaccines exposed to improper temperatures and contact the state or local immunization program and/or the vaccine manufacturer.
Scheduling errors (e.g., vaccine doses in a series administered too soon)	Use standing orders, if appropriate.
	Create procedures to obtain a complete vaccination history using the immunization information system (IIS), previous medical records, and personal vaccination records.
	Integrate vaccine administration training, including timing and spacing of vaccines, into orientation and other appropriate education requirements.
	For children, especially infants, schedule immunization visits after the birthday.
	Post current immunization schedules for children and adults that staff can quickly reference in clinical areas where vaccinations may be prescribed and administered.
	Post reference sheets for timing and spacing in your medication preparation area. CDC has vaccine catch-up guidance for DTaP, Tdap, Hib, pneumococcal conjugate vaccine and polio vaccines to assist health care personnel in interpreting the catch-up schedule for children.
	Counsel parents and patients on how important it is for them to maintain immunization records.

Adapted with appreciation from Table 11-2, Medication Errors, 2nd ed, by Cohen, Michael. Washington D.C: American Pharmacists Association; 2007.

Healthcare providers are strongly encouraged to report vaccine administration errors to Vaccine Adverse Event Reporting System (VAERS).* To file an electronic report, please see the VAERS website at https://vaers.hhs.gov/reportevent.html

*At this time, COVID-19 vaccines given under an Emergency Use Authorization (EUA) have additional VAERS reporting requirements, including required reporting of vaccine administration errors. Please see https://vaers.hhs.gov/faq.html for more information.

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