Preventing Vaccine Administration Errors

Elisha Hall, PhD, RD
Deputy Chief Medical Officer
Immunization Services Division
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention

May 9, 2024
Nirsevimab Errors
NIP-INFO

• NIP-INFO ([nipinfo@cdc.gov](mailto:nipinfo@cdc.gov)) is the CDC’s immunization inquiry response services.

• Public health providers, health care professionals, and the general public can submit inquiries via email.

• NIP-INFO staff respond to inquiries based on CDC or ACIP guidance.

• NIP-INFO inquiries likely represent only a small proportion of vaccine administration errors that occur.
NIP-INFO received 26 nirsevimab error inquiries from August 2023–March 2024

About one quarter of all nirsevimab error inquiries were received during November 2023.
Inquiries asked about six different types of errors that had occurred

Frequency of nirsevimab error inquiries received by type

- Lower-than-indicated dose (< 8 mo): 13
- Wrong patient population: 5
- Higher-than-indicated dose (< 8 mo): 3
- Two doses in one season: 2
- Lower-than-indicated dose (8–19 mo): 2
- Temperature excursion: 1

50% of all nirsevimab error inquiries involved administration of a lower-than-indicated dose in infants < 8 months of age.
Most errors occurred in infants recommended to receive nirsevimab

Number of error inquiries received by nirsevimab recipient population

- 21 infants
- 5 inquiries indicated nirsevimab was administered to older adults or pregnant people.
NIP-INFO provided clinical guidance on steps to take after an error

- Administer an RSV vaccine if that was decided through shared clinical decision making.
- There is no minimum interval before vaccination.

- Some experts suggest the pregnant person wait and have their infant receive nirsevimab after birth (i.e., pregnant person not receive Pfizer RSV vaccine).
- If nirsevimab is not feasible or preferred by the pregnant person, Pfizer RSV vaccine may be given as soon as feasible at a different anatomic site.

3 errors in older adults

2 errors in pregnant persons
Tips and Tools for Preventing Vaccine Administration Errors
Administer the correct product

- Administer only **Abrysvo (Pfizer)** to pregnant people.
- Do **NOT** administer **Arexvy (GSK)** to pregnant people.
- Administer **nirsevimab (Beyfortus, Sanofi, AstraZeneca)** only to infants and certain young children.
- Do **NOT** administer **RSV vaccines (Abrysvo [Pfizer], Arexvy [GSK])** to infants or young children.
It is critical to put procedures in place to avoid vaccine administration errors.
Preventive actions to avoid vaccine mix-ups

- Education and training
- Systems changes
- Storage and handling
- Preparation and administration
Prevent vaccine mix-ups using education and training strategies

- Put education and training policies in place.
- Integrate vaccine training into orientation and other appropriate education requirements.
- Provide education when new products are added to inventory or recommendations are updated.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Education and training resources: ACIP recommendations

- ACIP recommendations and guidelines: https://www.cdc.gov/vaccines/hcp/acip-recs/index.html
Education and training resources: Clinical guidance

- Clinical and consumer guidance on vaccines, by disease: [https://www.cdc.gov/vaccines/vpd/index.html](https://www.cdc.gov/vaccines/vpd/index.html)
Education and training resources: Job aids

• Job aids for preventing errors:
  - Preventing Vaccine Administration Errors: https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Education and training resources: Other resources

- Other key resources:
  - Resources for Healthcare Providers/Professionals: [https://www.cdc.gov/vaccines/hcp/index.html](https://www.cdc.gov/vaccines/hcp/index.html)
Prevent vaccine mix-ups using systems changes

- Include the manufacturer name with the vaccine abbreviation and brand name whenever possible in orders, medical screens, etc.
- Do NOT list vaccines with look/sound-alike names sequentially on computer screens, order forms, or medical records whenever possible.
- Use standing orders, if appropriate.
- Automate error prevention alerts in electronic health record systems.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Prevent vaccine mix-ups using storage and handling strategies

- Circle important information on the packaging.
- Separate vaccines into bins or other containers according to type and formulation.
- Use color-coded identification labels on vaccine storage containers.
- Store sound/look-alike vaccines in different areas of the storage unit.
- Consider using "name alert" or "look-alike" stickers on packaging and areas where these vaccines are stored.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Prevent vaccine mix-ups using preparation and administration strategies

- Establish “Do NOT Disturb” or no-interruption areas or times.
- Prepare vaccines for patients one at a time.
- Do NOT administer vaccines prepared by someone else.
- Clearly identify diluents.
- Triple check work before administering a vaccine.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Prevent errors involving the wrong patient

• Verify the patient’s identity.

• Educate staff on the importance of avoiding unnecessary distractions or interruptions.

• Prepare and administer vaccines to one patient at a time.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Prevent documentation errors

• Do not use error-prone abbreviations to document vaccine administration.

• Use ACIP vaccine abbreviations.

• Change the appearance of look-alike names or generic abbreviations on computer screens, if possible.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Prevent storage errors

- Integrate vaccine storage and handling training.
- Rotate vaccines based on expiration date.
- Remove expired vaccines/diluents from storage units.
- Isolate vaccines exposed to improper temperatures.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
Prevent scheduling errors

- Use standing orders, if appropriate.
- Implement procedures to obtain a complete vaccination history.
- Train and educate staff.
- Schedule immunization visits after a child’s birthday.
- Post current immunization schedules.
- Counsel parents/patients on the importance of maintaining records.

https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf
There are two ways to protect infants from severe RSV disease—only one is needed for most infants.

- Abrysvo (Pfizer) is the only RSV vaccine for use during pregnancy.
- Niresvimab, an RSV antibody, is only given to infants.

CDC and FDA have received reports of Abrysvo (Pfizer) or Arexvy (GSK) being administered in error to young children.

CDC and FDA have received reports of Arexvy (GSK) being administered in error to pregnant people.

You can put procedures in place to avoid vaccine administration errors.
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.