



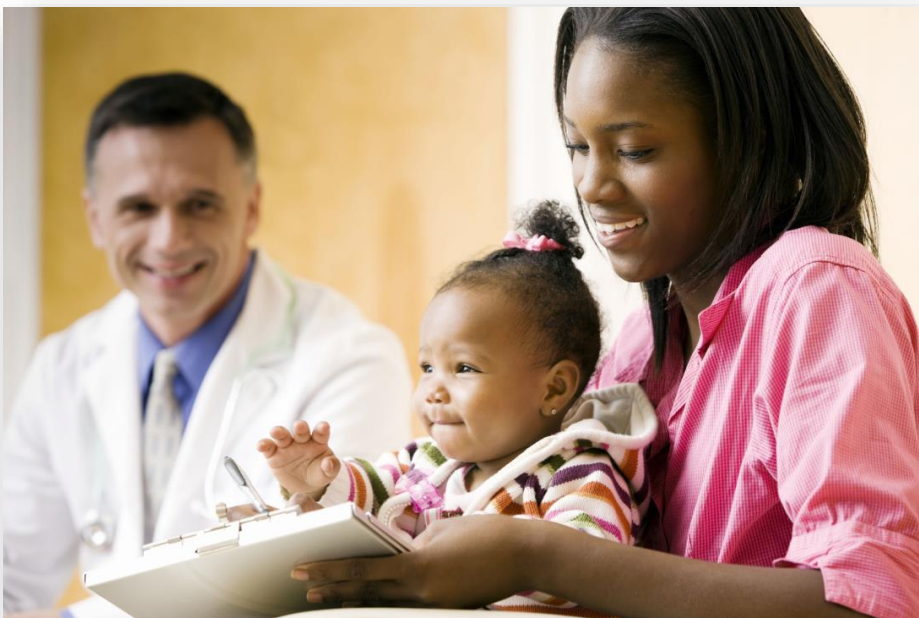
# Vaccine Reactions and How to Respond

Laura Hageman & Melody Couper | June 2023

## Objectives:

1. The definition of an adverse event vs. adverse reaction.
2. What are the types of reactions that can occur after immunization?
3. What is anaphylaxis and how is it recognized?
4. How to respond when a reaction or anaphylaxis occurs
5. What is VAERS?

## Adverse Events



- Any medical event that occurs after vaccination
- 15-Minute observation period suggested following vaccination
- May or may not be related to the immunization
- Further assessment needed to determine if event is caused by vaccine
- Treatment does not change from normal protocol

## Adverse Reaction



- Side effect or untoward effect of vaccine
- Local Adverse Reactions
- Systemic Adverse Reactions
- Allergic Reactions

## Local Reaction

- Most common reaction
- Occurs at the site of the injection
- Occur within a few hours of the shot
- Injection site pain, redness, or swelling



## Managing Local Reactions

- Many will self-resolve
- Pain relievers only as necessary post vaccination
- Supportive care for reactions as appropriate
- Procedural pain management can reduce reactions

## Procedural Pain Management

- Give “Jabs”- inject rapidly without aspiration
- Inject vaccines that cause the most pain last
- Breastfeed children age 2 years or younger during injection
- Give sweet-tasting solution to children who are not breastfeeding
- Topical Pain Relievers
- Tactical stimulation
- Follow age-appropriate positioning best practices

## Systemic Reaction

- Goes beyond location of vaccine
- Usually mild
- Occur 3 to 21 days after vaccine
- Fever, headache, body aches, rash
- May be similar to mild form of natural disease following live attenuated vaccines

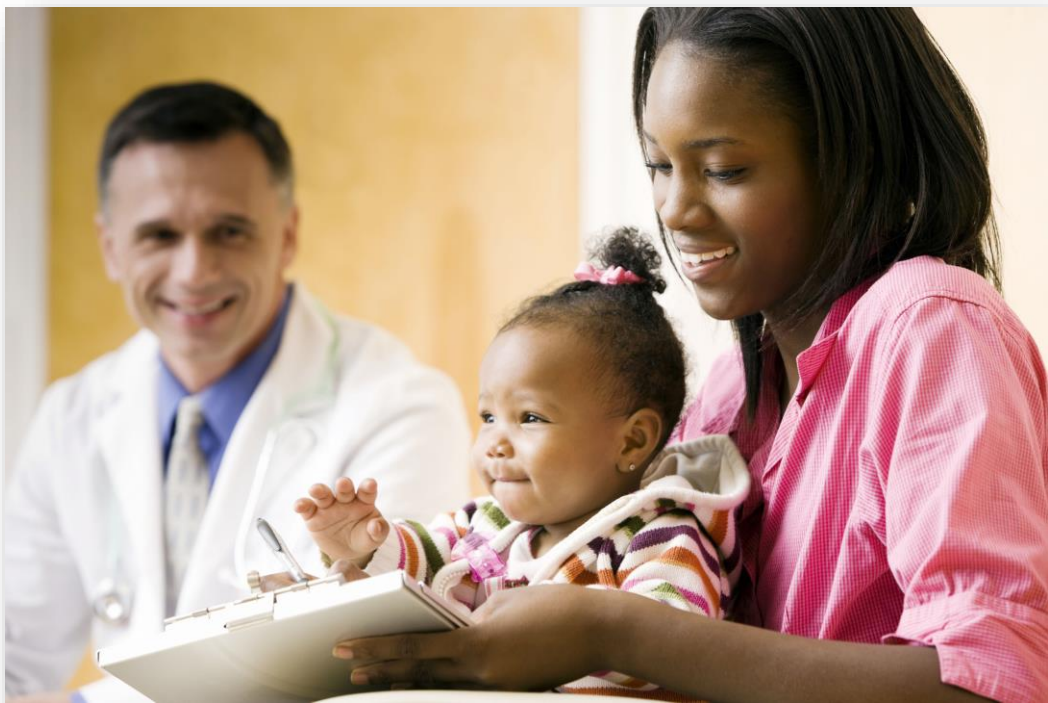


## How to manage a systemic reaction?

- Treat the symptoms
- Drink plenty of fluids
- Get plenty of rest
- Take fever reducing medication if a fever is present
- Take pain-relieving medication if body aches are present
- Consult your physician if symptoms do not improve



## Acute Reactions



- Any location where vaccine is being provide needs a plan
- Syncope
- Allergic Reactions
- Anaphylaxis

## Syncope

- Fainting
- Most common in adolescents and young adults
- 90% occur within 15 minutes of vaccination
- Needle or Pain Phobia
- Presyncope symptoms:
  - light-headedness, dizziness, pallor, diaphoresis, cold extremities, nausea, weakness and visual disturbance



## How to manage syncope?

- Observe patients for 15 minutes
- If patient is experiencing symptoms that precede fainting, get them to a safe place
- Have the patient sit or lie down for the vaccination
- Maintain a plan for every vaccination clinic and follow it
- Apply a cool cloth to patient's face and neck
- Keep the patient under close observation
- Place patient flat on back with feet elevated
- Examine the patient to determine an injury from falling

## Allergic Reaction

- Patient allergies should be checked in screening questions
- Local or generalized urticaria, angioedema, respiratory compromise due to wheezing or swelling of the throat, hypotension, or shock
- Provider must have a plan in place



## Anaphylaxis

- Rare 1-2 per 1,000,000 doses
- Medical Emergency
- Occurs within minutes
- If you fail to plan, you plan to fail
- Signs and symptoms include flushing, dry mouth, swelling of lips/tongue/throat, chest tightness, wheezing, cyanosis, tachycardia, weak pulse, cardiovascular collapse, and many more
- CPR certification and epinephrine trained



## How to manage anaphylaxis?

- Plan should be in place
- Lead healthcare professional on site notified and call 911
- Assess the situation
- **Administer Epinephrine**
- Optional administer an antihistamine to help relieve itching and hives does not relieve an airway obstruction
- Monitor patient closely
- Administer CPR if needed



## VAERS Vaccine Adverse Event Reporting System

- National system used to detect new, unusual, or rare vaccine adverse events.
- Health care providers are required by law to report to this system any adverse event that occurs within a specified timeframe after receiving a vaccine
- Report any possible adverse reactions to this system – online or download the PDF.
- Not meant to determine causal link between vaccines and events

[vaers.hhs.gov](https://vaers.hhs.gov)

## What should be Reported to VAERS?

### Mandatory Reporting

- Vaccine Providers
  - Any adverse effect listed by vaccine manufacturer as contraindication to further doses of the vaccine
  - Any adverse event listed in the VAERS Table of Reportable Events Following Vaccination
- Vaccine Manufacturer
  - All adverse events that come to their attention

### Encouraged Reporting

- Vaccine Administration Errors
- Any Adverse Event that occurs after vaccination

# Vaccines Reactions and How to Respond

## VAERS Vaccine Adverse Event Reporting System

[www.vaers.hhs.gov](http://www.vaers.hhs.gov)

Adverse events are possible reactions or problems that occur during or after vaccination. Items **2, 3, 4, 5, 6, 17, 18** and **21** are **ESSENTIAL** and should be completed. Patient identity is kept confidential. Instructions are provided on the last two pages.

INFORMATION ABOUT THE PATIENT WHO RECEIVED THE VACCINE (Use Continuation Page if needed)

1. Patient name: (first) _____ (last) _____ Street address: _____ City: _____ State: _____ County: _____ ZIP code: _____ Phone: ( ) _____ Email: _____ 2. Date of birth: (mm/dd/yyyy) _____ 3. Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown 4. Date and time of vaccination: (mm/dd/yyyy) _____ Time: hh:mm _____ AM/PM 5. Date and time adverse event started: (mm/dd/yyyy) _____ Time: hh:mm _____ AM/PM 6. Age at vaccination: _____ Years _____ Months 7. Today's date: (mm/dd/yyyy) _____ 8. Pregnant at time of vaccination?: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <small>(If yes, describe the event, any pregnancy complications, and estimated due date if known in item 18)</small>	9. Prescriptions, over-the-counter medications, dietary supplements, or herbal remedies being taken at the time of vaccination: _____ 10. Allergies to medications, food, or other products: _____ 11. Other illnesses at the time of vaccination and up to one month prior: _____ 12. Chronic or long-standing health conditions: _____
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**INFORMATION ABOUT THE PERSON COMPLETING THIS FORM**

**INFORMATION ABOUT THE FACILITY WHERE VACCINE WAS GIVEN**

13. Form completed by: (name) _____ Relation to patient: <input type="checkbox"/> Healthcare professional/staff <input type="checkbox"/> Patient (yourself) <input type="checkbox"/> Parent/guardian/caregiver <input type="checkbox"/> Other: _____ Street address: _____ <input type="checkbox"/> Check if same as item 1 City: _____ State: _____ ZIP code: _____ Phone: ( ) _____ Email: _____ 14. Best doctor/healthcare professional to contact about the adverse event: Name: _____ Phone: ( ) _____ Ext: _____	15. Facility/clinic name: _____ Fax: ( ) _____ Street address: _____ <input type="checkbox"/> Check if same as item 13 City: _____ State: _____ ZIP code: _____ Phone: ( ) _____			16. Type of facility: (Check one) <input type="checkbox"/> Doctor's office, urgent care, or hospital <input type="checkbox"/> Pharmacy or store <input type="checkbox"/> Workplace clinic <input type="checkbox"/> Public health clinic <input type="checkbox"/> Nursing home or senior living facility <input type="checkbox"/> School or student health clinic <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unknown
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**WHICH VACCINES WERE GIVEN? WHAT HAPPENED TO THE PATIENT?**

<b>17.</b> Enter all vaccines given on the date listed in item 4: (Route is HOW vaccine was given, Body site is WHERE vaccine was given) <span style="float: right;">Use Continuation Page if needed</span>						Dose number in series
Vaccine (type and brand name)	Manufacturer	Lot number	Route	Body site		
select			select	select		select
select			select	select		select
select			select	select		select
select			select	select		select

<b>18.</b> Describe the adverse event(s), treatment, and outcome(s), if any: (symptoms, signs, time course, etc.) _____	<b>21.</b> Result or outcome of adverse event(s): (Check all that apply) <input type="checkbox"/> Doctor or other healthcare professional office/clinic visit
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## Resources

- ACIP Adverse Reactions Guidelines for Immunization | CDC
- [cdc.gov/vaccinesafety/ensuringsafety/sideeffects/index.html](https://cdc.gov/vaccinesafety/ensuringsafety/sideeffects/index.html)
- [cdc.gov/vaccines/pubs/pinkbook/index.html](https://cdc.gov/vaccines/pubs/pinkbook/index.html)
- [immunize.org/catg.d/p3082.pdf](https://immunize.org/catg.d/p3082.pdf)
- Management of Anaphylaxis at COVID-19 Vaccination Sites | CDC
- Medical Management of Vaccine Reactions in Adults in a Community Setting (immunize.org)
- Medical Management of Vaccine Reactions in Children and Teens in a Community Setting (immunize.org)
- The Vaccine Handbook: A Practical Guide for Clinicians 6<sup>th</sup> Edition
- Understanding Adverse Events and Side Effects | Vaccine Safety | CDC
- Vaccine Side Effects | HHS.gov
- VAERS - Report an Adverse Event (hhs.gov)

## Thank you/Questions





# Vaccines Reactions and How to Respond

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