

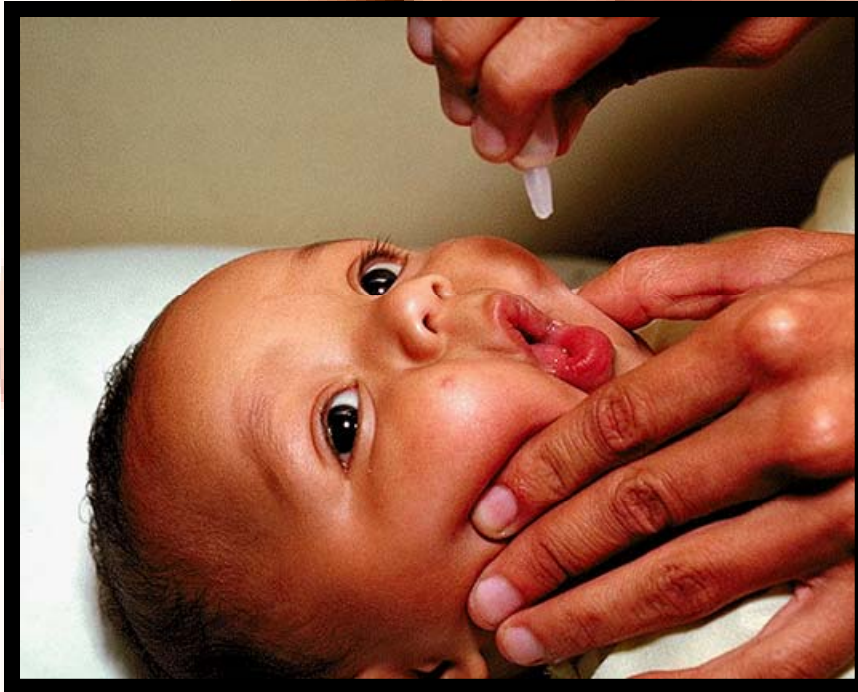


Adverse Events Following Immunization (AEFI)

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Adverse Events Following Immunization (AEFI)





- No vaccine is 100% safe and without any risks.
- Prepare parents for side effects



What is an AEFI ?

A medical event following immunization, that

- Causes concern
- Ranges from mild side effects to life-threatening, but rare, illnesses

Dealing With Rumors

- **P**redict
- **P**repare
- **P**rompt Positive Response
- **P**rofessional support
- **P**olitical support

Types of AEFIs

1. Programmatic error
2. Vaccine reaction
 - Local Reaction
 - Systematic Reaction
 - Allergic Reaction
3. Coincidence
4. Injection reaction
5. Unknown

1. Programmatic Error

Error in vaccine-

- a. Selection,
- b. Storage,
- c. Preparation,
- d. Handling, or
- e. Administration



BCG injection given sub-cutaneously instead of Intradermally: local lymphadenitis and abscess

Types of Programmatic Errors



Programmatic Errors	Possible Adverse event that may occur
Non-sterile injection <ul style="list-style-type: none">• Improperly sterilizing syringe• Contaminated vaccine or diluents• Re-use of reconstituted vaccine at subsequent sessions• Wiping the needle with a swab• Administering injection over clothes	<ul style="list-style-type: none">• Infection -local abscess, sepsis, toxic shock syndrome or death.

Types of Programmatic Errors



Programmatic Errors	Possible Adverse event that may occur
Re-use of disposable syringe and needle	<ul style="list-style-type: none">• Transmission of blood-borne infections such as Hep. B, HIV, Hep. C
Reconstitution Error/ Wrong vaccine preparation <ul style="list-style-type: none">• Incorrect diluents• Drug substituted for vaccine diluents• Inadequate shaking for T-series vaccines	<ul style="list-style-type: none">• Vaccine ineffective• Negative effect of drug, e.g. insulin causing death• Local abscess

Types of Programmatic Errors

Programmatic Errors	Possible Adverse event that may occur
Incorrect Injection site <ul style="list-style-type: none"> • BCG given sub-cutaneously • DPT/DT/TT given superficially • Injection into buttocks 	<ul style="list-style-type: none"> • Local reaction or abscess • Local reaction or abscess • Sciatic nerve damage
Poor transportation/storage	<ul style="list-style-type: none"> • Local reaction from frozen vaccine • Vaccine ineffective
Contraindications ignored	<ul style="list-style-type: none"> • Avoidable serious reaction

2. Vaccine Reaction

Rare event caused by inherent properties of vaccine, not by Programmatic error.



Child has an allergic reaction to vaccine.

True AEFIs

Mild Reactions

- Common
 - Pain & swelling
 - Fever
 - Irritability & malaise
- Self-limiting, hardly requiring even symptomatic treatment
- Important to reassure parents

True AEFIs

Severe Reactions

- Rare
 - Include seizures,
 - Thrombocytopenia, hypotonic hyporesponsive episodes,
 - Persistent inconsolable screaming
- Largely self-limiting and do not lead to long-term problems
- Anaphylaxis, while potentially fatal, is treatable without any long-term effect

3. Coincidence

- Event not caused by the vaccine (a chance association)



Child shows signs of measles a few days/ weeks after DPT vaccine is given.

4. Injection Reaction

- Event is caused by pain from (or fear about) the injection itself.



Child screams and faints at the sight of the needle.

5. Unknown

- Cause of event cannot be determined.



Child develops respiratory infection or fever a few days after Injection.

Elicit Past History of AEFIs

Ask parents about history of any adverse reaction following earlier vaccinations, such as convulsion after DPT vaccination.



How to Minimize AEFIs?

Use separate site for each vaccine.

Measles
(subcutaneous)

OPV
(oral)

Vit A (oral)
(oral)

BCG
(intradermal)

Hepatitis B
(intramuscular)

DPT
(intramuscular)

Minimizing AEFIs

- **Instruction for the health workers**
 - Selection of separate site
 - One syringe & one needle/AD syringe
 - Ensure sterilization
 - Reconstitute vaccines only with diluents
 - Use Reconstituted vaccines within 4 hours
 - Keep diluents of BCG and measles vaccine separate
 - Do not keep needles in the rubber cap (stopper) of vaccine vials.
 - Do not store other drugs or substances in the ILR or deep freezer.





What to do if an AEFI Occurs?

- immediately inform MO and accompany if needed.

What to Report?

- All abscesses
- Serious events requiring hospitalizations
- Deaths
- Clustering of Cases



What not to Report?

Minor reactions due to vaccines		
Mild vaccine reactions	Treatment	When to report
Local reaction (pain, swelling, redness)	<ul style="list-style-type: none"> • Cold cloth at injection site • Give Paracetamol 	<ul style="list-style-type: none"> • In case of an abscess
Fever > 38.5°C	<ul style="list-style-type: none"> • Give extra fluids • Wear cool clothing • Give tepid sponging • Give Paracetamol 	<ul style="list-style-type: none"> • When accompanied by other symptoms
Irritability, malaise and systemic Symptoms	<ul style="list-style-type: none"> • Give extra fluids • Give Paracetamol 	<ul style="list-style-type: none"> • When severe or unusual

Vaccine Preventable Disease Outbreak

- During outbreak ensure the following:-
 - Adequate supply
 - Adequate staff

- **Pertusis:-** Prophylactic antibiotic (erythromycin or ampicillin) for 10 days and booster dose of DPT or DT

- **Measles:-** Ring immunization within 2 days of exposure

- **Polio:-** Ring immunization with use of Oral (Sabin) Polio vaccine

In case of diphtheria outbreak, if the epidemiological situation demands:

- Mass immunization- Entire adult population
- Mass immunization in schools and preschool institutions to ensure-
 - All children are protected against the disease
 - Completion of primary series in non-immunized or incompletely immunized children
 - Booster dose for fully immunized children if the last injection was given >five years ago.



Thank You

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