

Medical Management of Vaccine Reactions in Adult Patients

All vaccines have the potential to cause an adverse reaction. In order to minimize adverse reactions, patients should be carefully screened for precautions and contraindications before vaccine is administered. Even with careful screening, reactions may occur. These reactions can vary from trivial and inconvenient (e.g., soreness, itching) to severe and life threatening (e.g., anaphylaxis). If reactions occur, staff should be prepared with procedures for their management. The table below describes procedures to follow if various reactions occur.

Reaction	Symptoms	Management
Localized	Soreness, redness, itching, or swelling at the injection site	Apply a cold compress to the injection site. Consider giving an analgesic (pain reliever) or antipruritic (anti-itch) medication.
	Slight bleeding	Apply an adhesive compress over the injection site
	Continuous bleeding	Place thick layer of gauze pads over site and maintain direct and firm pressure; raise the bleeding injection site (e.g., arm) above the level of the patient's heart.
Psychological fright and syncope (fainting)	Fright before injection is given	Have patient sit or lie down for the vaccination
	Extreme paleness, sweating, coldness of the hands and feet, nausea, light-headedness, dizziness, weakness, or visual disturbances	Have patient lie flat or sit with head between knees for several minutes. Loosen any tight clothing and maintain an open airway. Apply cool, damp cloths to patient's face and neck.
	Fall, without loss of consciousness	Examine the patient to determine if injury is present before attempting to move the patient. Place patient flat on back with feet elevated.
	Loss of consciousness	Check the patient to determine if injury is present before attempting to move the patient. Place patient flat on back with feet elevated. Call 911 if patient does not recover immediately.
Anaphylaxis	Sudden or gradual onset of generalized itching, erythema (redness), or urticaria (hives); angioedema (swelling of the lips, face or throat); severe bronchospasm (wheezing); shortness of breath; shock; abdominal cramping; or cardiovascular collapse.	See "Emergency Medical Protocol for Management of Anaphylactic Reactions in Adults" on the next page for detailed steps to follow in treating anaphylaxis.

Emergency Medical Protocol for Management of Anaphylactic Reactions in Adults

SUPPLIES NEEDED

- Aqueous epinephrine 1:1000 (i.e., 1 mg/mL) dilution, in ampoules, vials of solution, or prefilled syringes, including epinephrine autoinjectors (e.g., EpiPen). If EpiPens are stocked, at least three EpiPens (0.30 mg) should be available
- Diphenhydramine (Benadryl) injectable (50mg/mL solution) and 25 mg or 50 mg capsules or tablest and syrup (12.5 mg/5mL suspension)
- Syringes: 1-3 cc, 22-25g, 1", 1.5", and 2" needles for epinephrine and diphenhydramine (Benadryl)
- Wristwatch with second hand
- Adult Airways (small, medium and large)
- Sphygmomanometer (adult and extra-large cuffs) and stethoscope
- Adult size pocket mask with one-way valve
- Alcohol swabs
- Tourniquet
- Tongue Depressors
- Flashlight with extra batteries (for examination of the mouth and throat)
- Cell phone or access to an on-site phone

(Continued on page 2)

Treatment in Adults

1. If itching and swelling are confined to the injection site where the vaccination was given, observe patient closely for the development of generalized symptoms.
2. If symptoms are generalized, activate the emergency medical system (EMS; e.g., call 911) and notify the on-call physician. This should be done while a second person assesses the airway, breathing, circulation and level of consciousness of the patient.
3. Administer aqueous epinephrine 1:1000 dilution intramuscularly, 0.01 mL/kg/dose (adult dose ranges from 0.3mL to 0.5mL, with maximum single dose of 0.5mL).
4. In addition, for systemic anaphylaxis, administer diphenhydramine either orally or by intramuscular injection; the standard dose is 1-2 mg/kg, up to 100mg maximum single dose.
5. Monitor the patient closely until EMS arrives. Perform cardiopulmonary resuscitation (CPR), if necessary, and maintain airway. Keep patient in supine position (flat on back) unless he or she is having breathing difficulty. If breathing is difficult, patient's head may be elevated, provided blood pressure is adequate to prevent loss of consciousness. If blood pressure is low, elevate legs. Monitor blood pressure and pulse every 5 minutes.
6. If EMS has not arrived and symptoms are still present, repeat dose of epinephrine every 10-20 minutes for up to 3 doses, depending on patient's response.
7. Record all vital signs, medications administered to the patient, including the time, dosage, response, and the name of the medical personnel who administered the medication, and other relevant clinical information.
8. Notify the patient's primary care physician.
9. *Document each patient's vaccine administration information and follow up in the following places:*
 - a. **Patient medication profile:** Record the recipient's name, date, address of administration, administering pharmacist, anaphylaxis treatment agent, manufacturer and lot number. A copy of this standing order and protocol shall also be maintained in the patient medication profile for patients who receive the anaphylaxis treatment agent. In the event that a patient medication profile is not required, record this information on a separate form retained by the pharmacist who administered the anaphylaxis treatment agent.
 - b. **Local emergency medical system or provider of equivalent follow-up care and the patient's primary care physician (PCP):** Report the name of the agent used for anaphylaxis, when it was administered, the dosage strength, and route of administration.

Sources: 1. American Academy of Pediatrics. Passive Immunization. In: Pickering LK, ed. Red Book: 2006 Report of the Committee on Infectious Diseases. 27ed. Elk Grove Village, IL: American Academic of Pediatrics; 2006: 64-66
2. American Pharmacists Association, Grabenstein JD, *Pharmacy-Based Immunization Delivery*, 2002
3. *Got Your Shots? A Providers Guide to Immunizations in Minnesota*, Second Edition, Minnesota Department of Health, 2001:80-82

If the pharmacist(s) are not identified but are identified as employed under contract with an entity that it legally authorized to employ or contract with pharmacists to provide pharmaceutical services:

The certified pharmacist(s) are limited to administering immunizations only in the course of such employment or pursuant to such contract with

_____.
[name of entity(s)]

This policy and procedure shall remain in effect for all the patients of _____ from the effective date stated below until rescinded or until _____.

[end date] [name of entity(s)]

If the pharmacist(s) are identified:

This policy and procedure shall remain in effect for all the patients of the pharmacist(s) listed here from the effective date stated below until rescinded or until _____.

[end date]

[Pharmacist name and license number]

[Pharmacist name and license number]

[Pharmacist name and license number]

Name of Issuing Physician or Certified Nurse Practitioner: _____

License Number: _____

Signature: _____ Effective date: _____