# 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.

## Needle Tips
- **Visit www.immunize.org/catg.d/p3082.pdf**
- **Table** describes procedures you can follow if various reactions occur.

## Medical Management of Vaccine Reactions in Adult Patients

### Reaction | Symptoms | Management
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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 antihistamine (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 faint or syncope (fainting) | | Have patient sit or lie down for the vaccination.

Fright before injection is given | | Extreme paleness, sweating, coldness of the hands and feet, nausea, light-headedness, dizziness, weakness, or visual disturbances.

Fall, without loss of consciousness | | 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.

Loss of consciousness | | Examine the patient to determine if patient is present before attempting. Place patient flat on back.

Anaphylaxis | | Sudden or gradual onset of generalized itching, erythema (redness), or urticaria (hives); angioedema (swelling of the lips, face, or throat); severe broncho-spasm (wheezing); shortness of breath; shock; abdominal cramping; or cardiovascular collapse.

See “Emergency Medical Management of Anaphylactic Reactions in Adults” next page for detailed steps to follow.

### Needed medications for a community immunization clinic

**FIRST-LINE medication**
- **Epinephrine**: intramuscular (e.g., 0.01 mL/kg/dose, 0.3 mL to 0.5 mL, with maximum single dose of 0.3 mL).

**Optional medication**:
- **H₁ antihistamines**
  - Diphenhydramine (e.g., Benadryl)
  - Hydroxyzine (e.g., Atarax, Vistaril) 25 mg/mL solution, or prefilled syringes, including oral (12.5 mg/5 mL liquid, 25 or 50 mg tablets, 10 mg/5 mL solution)
  - Chlorpheniramine (e.g., Astemizole) 5 mg/mL solution, or prefilled syringes, including oral (12.5 mg/5 mL liquid, 25 or 50 mg capsules/tablets).

**Additional medications**:
- **Antibiotics**
- **Vaccines**
- **Prescribed medications**

**Needed supplies for a community immunization clinic**
- **Syringes**: (1 and 3 cc) and needles (22 and 30); 1” and 2½” for epinephrine, diphtheria, tetanus, and hepatitis B.
- **Antihistamines**: alcohol wipes, blankets, cold compresses, supplies for airway (oral/nasal airway, endotracheal tube), intravenous fluids, oral pain relievers (acetaminophen, ibuprofen), and atropine.
- **Equipment for resuscitation**: pulse oximeter, stethoscope, sphygmomanometer, and 25 g, 1”, 1½”, and 2” needles for epinephrine, 0.5 mL syringes, and 1 mL syringes with 25 g, 1½” needles.
- **Syringes (1 and 3 cc) and needles (22 and 30); 1” and 2½” for epinephrine, diphtheria, tetanus, and hepatitis B.
- **Medication**: diphenhydramine (e.g., Benadryl) 1 mg/kg every 4–6 hrs up to 100 mg maximum single dose.
- **Optional treatment**: H₁ antihistamines for hives or itching; you may also administer diphenhydramine (either orally or by intramuscular injection; the standard dose is 1–2 mg/kg every 4–6 hrs, up to 100 mg maximum single dose).
- **Needed supplies for a community immunization clinic**

- **Syringes**: (1 and 3 cc) and needles (22 and 30); 1” and 2½” for epinephrine, diphtheria, tetanus, and hepatitis B.

**Medication Management of Vaccine Reactions in Adults</br>Continued on next page**

### Technical content reviewed by the Centers for Disease Control and Prevention

Visit www.immunize.org/catg.d/p3082.pdf

### References

- **Sweeney, F.H., Cunningham, C.A. Anaphylaxis. Rapid recognition and treatment. In: UpToDate, Bachar M. (ed), UpToDate, Waltham, MA, 2013.**