

# **School-Located Vaccine Clinics**

## **TOOLKIT**

### **Part 4: MODEL EMERGENCY PLANS**

- 4.1 Model Plan: Emergency Plan for Anaphylaxis**
- 4.2 Model Plan: Administration of Epinephrine and Benadryl**
- 4.3 Model Plan: Evaluation and Follow-up of an Exposure to Blood or Other Potentially Infectious Material**
- 4.4 Model Plan: Prevention of Post-Immunization Syncope-Related Injuries**



## **Model Plan: Emergency Plan for Anaphylaxis**

### **I. Purpose:**

To define allergic hypersensitivity to drugs administered by parenteral route as well as the emergency management that is to be provided by the School Vaccine Provider.

### **II. Policy:**

- A plan for contacting emergency medical services that are available in the area shall be established prior to starting any clinic.
- The plan shall include local emergency telephone numbers.
- Recipients of medication, vaccine, or biologicals administered by parenteral route shall be requested to remain on site for a minimum of 15 minutes for sign of hypersensitivity or anaphylactic reaction. Symptoms of anaphylaxis usually begin within 15 minutes after administration of the drug, and intervention should be implemented immediately. A school vaccine provider shall remain on site for 15 minutes after each drug is administered.
- Individuals with symptoms categorized as mild may only require close monitoring on site with notice to their health care provider. Individuals with symptoms that progress shall require intervention including the administration of epinephrine. (See SLVC Toolkit, Model Plan: Administration of Epinephrine and Benadryl.)



## Model Plan: Administration of Epinephrine and Benadryl

### NOTE:

The signs and symptoms of anaphylactic shock are: hypotension, respiratory distress such as laryngeal edema, dyspnea, wheezing, a sense of retrosternal pressure or tightness, rapid and/or irregular pulse, urticarial, loss of consciousness, agitation, faintness, burning and/or itching eyes, tearing, congestion and itching nose, rhinitis, nausea, vomiting, abdominal pain, diarrhea, flushed skin, general itching, non-pruritic swelling of extremities as well as the face and perioral or periorbital regions, and/or a sense of uneasiness.

- After an injection of medication and/or vaccine it is determined that the individual has symptoms categorized as mild, the client may only require close monitoring on site with notice to their health care provider.
- Using clinical judgment, when the individual's symptoms progress to those of anaphylactic shock, School Vaccine Providers shall initiate the emergency procedure for the administration of Epinephrine and Benadryl.

### Special Instructions:

1. Equipment needed includes:
  - Ampules of Epinephrine (adrenaline) 1:1000 (or epinephrine auto-injectors)
  - 1 vial of Benadryl (diphenhydramine) 50mg/ml
  - 4 TB syringes
  - (2) 3cc syringes (w/needle-22-25ga, 1-1.5" length)
  - Alcohol Swabs
  - Blood Pressure cuff and stethoscope
  - CPR mask
2. All School Vaccine Providers are required to be trained in Health Care Provider cardiopulmonary resuscitation (CPR).

3. In the event of a medical emergency during a clinic session, school vaccine providers shall activate emergency medical services and notify the responsible health care provider and/or call an ambulance or other local emergency medical services.
4. School vaccine provider staff shall initiate CPR if the situation warrants it, unless there is a “Do Not Resuscitate” order in place. The school disclaims any liability for misapplication of this knowledge by the School Vaccine Provider.

**In an emergency:**

1. Call for assistance
2. Notify local emergency medical services
3. Establish and maintain an airway

**To administer Epinephrine and Benadryl, follow the steps below:**

**1. Administer Epinephrine (per dosage chart/guidelines)**

- A. Using tuberculin (1cc)-syringe draw up only the amount of Epinephrine needed, based on the weight of the child or the dosage amount for an adult, or use epinephrine autoinjector.
- B. Administer the Epinephrine subcutaneously. NOTE: DO NOT GIVE if symptoms of angina are present.

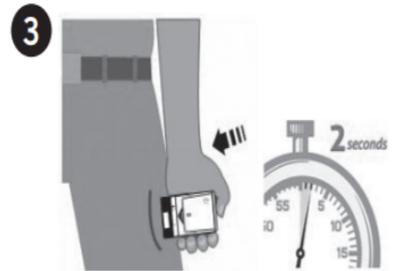
<b><u>Epinephrine Dosage Guidelines:*</u></b>
Epinephrine (Adrenaline Chloride) 1:1000
0.1cc for children < 20 lbs. (0-12 months of age)
0.2cc for children 20 – 45 lbs. (1-4 years old)
0.3cc for children > 45 lbs. (> 4 years of age)
0.3cc for adults

- C. Guidelines for Epinephrine autoinjectors, see dosage and images below.

<b><u>Epinephrine Autoinjector Dosage Guidelines:*</u></b>
0.15 mg (junior dose) indicated for child under 66 pounds
0.3 mg (adult dose) indicated for over 66 pounds.

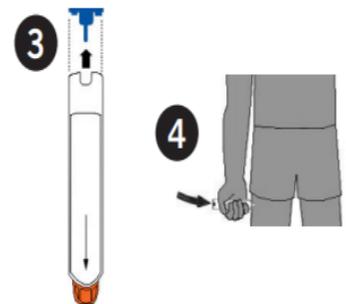
### HOW TO USE AUVI-Q® (EPINEPHRINE INJECTION, USP), KALEO

1. Remove Auvi-Q from the outer case.
2. Pull off red safety guard.
3. Place black end of Auvi-Q against the middle of the outer thigh.
4. Press firmly until you hear a click and hiss sound, and hold in place for 2 seconds.
5. Call 911 and get emergency medical help right away.



### HOW TO USE EPIPEN® AND EPIPEN JR® (EPINEPHRINE) AUTO-INJECTOR AND EPINEPHRINE INJECTION (AUTHORIZED GENERIC OF EPIPEN®), USP AUTO-INJECTOR, MYLAN AUTO-INJECTOR, MYLAN

1. Remove the EpiPen® or EpiPen Jr® Auto-Injector from the clear carrier tube.
2. Grasp the auto-injector in your fist with the orange tip (needle end) pointing downward.
3. With your other hand, remove the blue safety release by pulling straight up.
4. Swing and push the auto-injector firmly into the middle of the outer thigh until it 'clicks'.
5. Hold firmly in place for 3 seconds (count slowly 1, 2, 3).
6. Remove and massage the injection area for 10 seconds.
7. Call 911 and get emergency medical help right away.



### HOW TO USE IMPAX EPINEPHRINE INJECTION (AUTHORIZED GENERIC OF ADRENACLICK®), USP AUTO-INJECTOR, IMPAX LABORATORIES

1. Remove epinephrine auto-injector from its protective carrying case.
2. Pull off both blue end caps: you will now see a red tip.
3. Grasp the auto-injector in your fist with the red tip pointing downward.
4. Put the red tip against the middle of the outer thigh at a 90-degree angle, perpendicular to the thigh.
5. Press down hard and hold firmly against the thigh for approximately 10 seconds.
6. Remove and massage the area for 10 seconds.
7. Call 911 and get emergency medical help right away.



### ADMINISTRATION AND SAFETY INFORMATION FOR ALL AUTO-INJECTORS:

1. Do not put your thumb, fingers or hand over the tip of the auto-injector or inject into any body part other than mid-outer thigh. In case of accidental injection, go immediately to the nearest emergency room.
2. If administering to a young child, hold their leg firmly in place before and during injection to prevent injuries.
3. Epinephrine can be injected through clothing if needed.
4. Call 911 immediately after injection.

## 2. Administer Benadryl (per dosage chart/guidelines)

Administer the Benadryl deep I.M. in a large muscle.

### Benadryl Dosage Guidelines

**\*\*Adult:** Benadryl 50mg. Deep I.M. in large muscle

**\*\*\*Pediatric Patients other than premature infants or**

**Neonates:** Benadryl 1mg/kg Deep I.M. in large muscle

3. Observe the clinical condition of the individual including the apical pulse rate and rhythm, respiratory rate, blood pressure, and level of consciousness.
  - A. Monitor the blood pressure and pulse every 2-5 minutes until stable. Also note a change in any of the symptoms or the development of new symptoms.
  - B. If symptoms persist, give a second dose of Epinephrine in 15 minutes, using a second ampule of Epinephrine.  
**Do not repeat more than one time.**
  - C. If the individual exhibits signs of shock treat him/her by having him/her lie in a supine position with legs elevated, and keeping the person(s) warm with blankets, if necessary.
  - D. Reassure the individual and the family (if present).
  - E. If CPR becomes necessary, institute as per current CPR protocols. The responder must be certified to conduct CPR.

\*American Academy of Pediatrics, Abbott Laboratories, American Hospital Formulary Service, Mosby's Nursing Drug Reference

\*\*Nursing 2006 Handbook, 26<sup>th</sup> edition. New York: Lippincott Williams & Wilkins.

\*\*\*Nelson's Textbook of Pediatrics, 15<sup>th</sup> edition. Philadelphia: Saunders



## Model Plan: Evaluation and Follow-up Of an Exposure to Blood and Other Potentially Infectious Material

### Special Instructions:

1. Any Vaccinator who sustains a needle stick injury or other parenteral or mucosal exposure to blood or other potentially infectious material (OPIM) shall immediately wash the affected area with soap and water. If washing facilities are not available, the School Vaccinator shall use the alcohol-based hand gel and paper towels. Mucous membranes should be flushed with water. <sup>1</sup>
2. The Vaccinator shall proceed to the closest Urgent Care/Emergency Department for post exposure evaluation and treatment if indicated. NOTE: Postexposure prophylaxis should be initiated as soon as possible, preferably within hours rather than days of exposure. <sup>2</sup>
  - i. The Vaccinator who has sustained the exposure with blood or OPIM may enlist the assistance of personnel at the clinic site if needed.
2. The employer of the Vaccinator shall be notified as soon as possible, within 24 hours, of the exposure.
3. The Centers for Disease Control and Prevention (CDC) recommends that the post exposure evaluation and follow-up includes<sup>1</sup>:
  - i. Documentation of the routes and circumstances of the exposure;
  - ii. Identification and testing of the source individual, if possible, in accordance with state laws. If the source person is known, the source person may be asked to voluntarily submit to a blood test;
    - a. Under certain circumstances, and in accord with [M.R.S.A. 19203-C](#), a source that has refused to voluntarily submit to a blood test may be required by a court order to do so.
  - iii. Testing of the exposed employee's blood for HBV, HVC and HIV.
    - a. The HIV blood test may consist of specimens drawn at the time of exposure and at recommended intervals up to 6 months. Counseling occurs according the state law [M.R.S.A. 19203-B](#), or when requested.

- iv. Postexposure prophylaxis as ordered by the physician.
  - v. Postexposure counseling, as indicated for the employee.
    - a. If the employee declines evaluation or treatment they shall sign a declination form that indicates that the employee has been counseled regarding the risks, treatment has offered and the employee refused the evaluation and treatment.
4. The school shall maintain strict confidentiality in accordance with statutes, policies and procedures. The employer of the school vaccine provider shall maintain accurate, confidential, separate records for each employee with an occupational exposure. Per OSHA requirements, these records shall be maintained consistent with the maintenance of OSHA records, for a period of 30 years after the termination of the employee.

<sup>1</sup>CDC.Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HVC, and HIV and Recommendations for Postexposure Prophylaxis.MMWR.2001.50(RR11);1-42

<sup>2</sup>CDC.Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV: Recommendations for Postexposure Prophylaxis. MMWR 2005;54(RR09);1-17



## Model Plan: Prevention of Post-Immunization Syncope-Related Injuries

Syncope, also called fainting, is a temporary loss of consciousness resulting from decreased blood flow to the brain. Immunization providers should be aware of the potential for syncope associated with vaccination, particularly among adolescents. Syncope after vaccination itself is usually not a serious event, and patients generally recover within a few minutes. The main concern is injury, especially head injury. Vaccine clinic staff should take appropriate measures to prevent syncope and to readily respond to the client/student who feels faint.

### Steps to Prevent Syncope-Related Injuries

- Make sure the patient is either seated or lying down at the time of vaccination.
- Observe patients for 15 minutes after vaccination for signs and symptoms that commonly precede syncope, such as weakness, dizziness, light-headedness, nausea, sweatiness, coldness of the hands or feet, paleness or visual disturbances.
- If client/student is experiencing possible signs or symptoms of fainting, take the following steps to prevent syncope and injury from falling:
  - Have the patient sit or lie down immediately.
  - Have the 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 the patient's face and neck.
  - Observe the patient until symptoms completely resolve.
- If client/student falls but does not experience loss of consciousness:
  - Check the patient to determine if injury is present before attempting to move him/her.
  - Place the patient flat on back with feet elevated.
  - Observe the patient until symptoms completely resolve.
- If client/student loses consciousness:
  - Check the patient to determine if injury is present before attempting to move him/her.
  - Place the patient flat on back with feet elevated.
  - Maintain an open airway.
  - Call 911 if the patient does not recover immediately.

**References:**

The Children's Hospital of Philadelphia. Vaccine Update for Healthcare Providers. Technically speaking: Guidance for preventing fainting and associated injuries after vaccination. Available at: <http://www.chop.edu/professionals/vaccine-healthcare-providers/technically-speaking/>. Accessed on 6/6/2012.

CDC. General Recommendations on Immunization: A Report of the Advisory Committee on Immunization Practices. MMWR 2011; 60(RR02):1-60.

CDC. Vaccine Safety: Fainting (Syncope) After Vaccination. Available at: <http://www.cdc.gov/vaccinesafety/Concerns/syncope.html>. Accessed on 6/4/2012.

Immunization Action Coalition. Medical Management of Vaccine Reactions in Children and Teens. Available at: <http://www.immunize.org/catg.d/p3082a.pdf>. Accessed on 6/4/2012.