Standing Order for Medical Management of Vaccine Reactions

Children and Teens

Purpose: Administering any medication, including vaccines, has the potential to cause an adverse reaction. When adverse reactions occur, they can vary from minor to rare and serious. This document describes steps to take if an adverse reaction occurs following immunization.

Policy: Vaccine providers must be prepared to manage a medical emergency related to the administration of vaccines by having a written emergency medical protocol available, as well as equipment and medications. Under these standing orders, eligible healthcare professionals working within their scope of practice may take steps as described below.

Procedure:

1. Assess signs and symptoms to determine reaction and actions
    - Localized Reactions
        - Soreness, redness, itching, or swelling at the injection site
            - Apply a cold compress to the injection site
            - Recommend OTC analgesic pain reliver PRN
            - Recommend OTC antipruritic medication PRN
        - Slight Bleeding
            - Apply pressure and an adhesive compress over the injection site
        - Continuous bleeding
            - Place a thick layer of gauze pads over the 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, pre-syncope, and syncope (fainting)
        - Fright before the injection is given
            - Have patient sit or lie down for the vaccination
        - Presentation: Patient feels "faint" (e.g., light-headed, dizzy, weak, nauseated, or has visual disturbance)
            - Have the patient lie flat
            - Loosen any tight clothing
            - Maintain an open airway
            - Apply a cool, damp cloth to the patient's face and neck
            - Keep the patient under close observation until full recovery
        - Presentation: 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

        - Presentation: Loss of consciousness
            - Check to determine if an injury is present before attempting to move the patient
            - Place the patient flat on their back with feet elevated
            - Call Rapid Response and/or EMS or 911 if the patient does not recover immediately
            - Assess for other etiology, such as IgE mediated event or anaphylaxis
    - Reaction: IgE-medicated event or anaphylaxis
        - Assess systems for symptoms of anaphylaxis
            - Skin and mucosal symptoms such as generalized hives, itching, or flushing; swelling of the lips, face, throat, or eyes
            - Respiratory symptoms such as nasal congestion, change in voice, sensation of throat closing, stridor, shortness of breath, wheezing, or cough
            - Cardiovascular symptoms such as collapse, dizziness, tachycardia, hypotension
            - Gastrointestinal symptoms such as nausea, vomiting, diarrhea, abdominal cramping, or abdominal pain
        - If itching and swelling are confined to the injection site where the vaccine was given, observe the patient closely for the development of generalized symptoms
        - If symptoms are generalized, the primary healthcare professional assesses the airway, breathing, circulation and the level of consciousness of the patient
        - A second person activates the emergency response system for your clinic setting (e.g., rapid response team, EMS or 911) and notify the clinic provider
        - Vital signs should be monitored closely

2. Drug dosing information: Epinephrine is the first line and most important therapy for treatment for anaphylaxis; there is no known equivalent substitute. There are NO absolute contraindications to epinephrine in the setting of anaphylaxis
    - Administer epinephrine in a 1.0 mg/mL aqueous solution (**1:1000 dilution**). You must determine correct dose to be used based on the child's weight
    - If using an auto injector or pre-filled syringe, administer a dose of 0.1 mg, 0.15 mg, or 0.3 mg IM (as appropriate for the patient's weight) into the anterolateral thigh
    - If using another epinephrine format, the recommended dose is 0.01 mg/kg per dose, up to a maximum single dose of 0.5 mg

- Epinephrine dose may be repeated once in as little as 5 minutes, **IF** there is no response or an inadequate response while waiting for rapid response/EMS to arrive. Seek a verbal order from a credentialed provider for any additional doses. More than 2 doses of epinephrine are not covered under these standing orders.

Epinephrine Dose Recommended dose is 0.01 mg/kg body weight up to 0.5 mg maximum dose					
Age group		Range of weight (lb)	Range of weight (kg)*	1.0mg/mL aqueous solution (1:000 dilution); intramuscular. Minimum dose: 0.05mL	Epinephrine autoinjector or prefilled syringe (0.1mg, 0.15mg, 0.3mg)
Infants and children	1-6 months	9-19 lb	4-8.5 kg	0.05 mL (or mg)	off label
	7-36 months	20-32 lb†	9-14.5 kg†	0.1 mL (or mg)	0.1 mg†
	37-59 months	33-39 lb	15-17.5 kg	0.15 mL (or mg)	0.15 mg/dose
	5-7 years	40-56 lb	18-25.5 kg	0.2-0.25 mL (or mg)	0.15 mg/dose
	8-10 years	57-76 lb	26-34.5 kg	0.25-0.3 mL (or mg)	0.15 mg or 0.3 mg/dose
Teens	11-12 years	77-99 lb	35-45 kg	0.35-0.4 mL (or mg)	0.3 mg/dose
	13 years & older	100+ lb	46+ kg	0.5 mL (or mg)	0.3 mg/dose

*Rounded weight at the 50th percentile for each age range
†0.1 mg autoinjector is licensed for use in 7.5 to 14 kg infants and children
Source: Immunization Action Coalition www.immunize.org•www.vaccineinformation.org www.immunize.org/catg.d/p3082a.pdf

- Optional treatment
  - One dose of oral H1 antihistamines may be administered to relieve itching and urticaria (hives). These medications **DO NOT** relieve upper or lower airway obstruction, hypotension, or shock. First-line therapy is epinephrine. Administer **only** if the airway and/or swallow are not affected
  - Maximum single dose for children age <12 years is 40 mgs
  - Maximum single dose for children >12 years is 50 mgs

Diphenhydramine dose calculations based on 1mg/kg† Recommended dose is 1-2 mg/kg body weight				
Age group		Range of weight (lb)	Range of weight (kg)*	Liquid: 10 mg/5 mL Tablets: 10 mg or 25 mg
Infants and children	7-36 months	20-32 lb	9-14.5 kg	10-15 mg/dose†
	37-59 months	33-39 lb	15-17.5 kg	15-20 mg/dose†
	5-7 years	40-56 lb	18-25.5 kg	20-25 mg/dose†
	8-12 years	57-99 lb	26-45 kg	25-50 mg/dose†
Teens	13 years & older	100+ lb	46- kg	25-50 mg/dose

†AP.*Red Book: 2018–2021,*31st ed.(p. 66). Diphenhydramine maximum single dose for children younger than age 12 years is 40 mg, for children age 12 years and older, 100 mg
*Rounded weight at the 50th percentile for each age range
Source: Immunization Action Coalition www.immunize.org•www.vaccineinformation.org www.immunize.org/catg.d/p3082a.pdf

Hydroxyzine dose calculations based on 0.5mg/kg Recommended oral dose is 0.5-1 mg/kg body weight				
Age group		Range of weight (lb)	Range of weight (kg)*	Liquid: 10 mg/5 mL Tablets: 10 mg or 25 mg
Infants and children	7-36 months	20-32 lb	9-14.5 kg	5-7.5 mg/dose
	37-59 months	33-39 lb	15-17.5 kg	7.5-10 mg/dose
	5-7 years	40-56 lb	18-25.5 kg	10-12.5 mg/dose
	8-12 years	57-76 lb	26-34.5 kg	12.5-15 mg/dose
Teens	11-12 years	77-99 lb	35-45 kg	15-25 mg/dose
	13 years & older	100+ lb	46+ kg	25 mg/dose

*Rounded weight at the 50th percentile for each age range
Source: Immunization Action Coalition www.immunize.org•www.vaccineinformation.org www.immunize.org/catg.d/p3082a.pdf

3. Monitor the patient closely until EMS arrives. Perform cardiopulmonary resuscitation (CPR), if necessary, and maintain an open airway. Keep the patient in a recumbent position (flat on their back) unless he or she is having difficulty breathing. If breathing is difficult, the patient's head may be elevated, provided the blood pressure is adequate to prevent loss of consciousness. If their blood pressure is low, elevate their legs. Monitor their blood pressure and pulse at least every 5 minutes
4. Record the patient's reaction (e.g., hives, anaphylaxis) to the vaccine, 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 any other relevant clinical information.
5. Notify the patient's primary care physician
6. Complete a patient safety report

7. Adverse events occurring after administration of any vaccines should be reported to the Vaccine Adverse Event Reporting System (VAERS), reports can be submitted to VAERS online at https://vaers.hhs.gov. Information about VAERS is also available by telephone at (800) 822-7967

This policy and procedure shall remain in effect for all patients of the _____ until rescinded and/or upon a change in the Medical Director, whichever is earlier

_____ _____

Medical Director's Signature Date