SOUTHERN NEVADA HEALTH DISTRICTDIVISION
POLICY AND PROCEDURE

DIVISION:	FQHC and Primary and Preventive Care	**NUMBER(s):**	CHCA-020 PPC--###
PROGRAM:	Division Wide	**VERSION:**	1.0X
TITLE:	Medical Management of Vaccine/Medication Reactions/Medical Events	**PAGE:**	1 of 7
		EFFECTIVE DATE: Click or tap here to enter text.	
DESCRIPTION:	Protocol for use of medications to manage vaccine/medication reactions and medical events.	**ORIGINATION DATE:** 6/18/2008	
APPROVED BY: **DISTRICT HEALTH OFFICER** Fermin Leguen, MD, MPH Date **DEPUTY DISTRICT HEALTH OFFICER – OPERATIONS** Cassius Lockett, PhD Date **CHIEF EXECUTIVE OFFICER - FQHC** Randy Smith Date **CHIEF ADMINISTRATIVE NURSE** Lourdes C. Yapjoco, MSN, RN, CCM Date		**REPLACES:** All previous versions: CS-ADM-001-C and CS-ADM-002-C, Medical Management of Vaccine/Medication Reactions	

I. PURPOSE

To provide safe, effective, and immediate care to those who experience reactions to vaccine/medication administration at the Southern Nevada Health District (Health District). This protocol is part of the Responding to Medical Emergencies Policy.

II. SCOPE

Applies to Workforce members within the scope of their practice (clinicians) that administer vaccines/medications and medically-manage reactions.

III. POLICY

The Health District believes that the safe, effective and immediate care of those who experience reactions to vaccines/medication is crucial to prevent morbidity/mortality in these individuals.

A. Quality Assurance

1. Appropriate workforce members will receive education related to management of vaccine/medication reactions upon orientation, within their scope of practice.
2. Annual review of the protocol and Responding to Medical Event Policy.

IV. PROCEDURE/PROTOCOL

A. Workforce members will identify signs/symptoms of vaccine/medication reactions to include localized reactions, psychological fright/syncope and anaphylaxis. Workforce members will initiate appropriate measures for each type of reaction. See APPENDIX A for details.

B. Emergency medical protocol for management of anaphylactic reactions as a result of vaccine/medication administration.

1. If itching and swelling are confined to the site of administration, the clinician will observe patient closely for the development of generalized symptoms.
2. If symptoms are generalized, the primary clinician will instruct a second person to activate the emergency medical system (EMS; e.g., call 911) while the primary clinician assesses the airway, breathing, circulation, and level of consciousness of the patient. Activate Dr. Bluebird or Dr. Whitebird as appropriate. See policy on Responding to Medical Events.
3. Workforce members (as needed) will perform basic life support (BLS), if necessary, and maintain airway.
4. **The first-line and most important therapy in anaphylaxis is epinephrine. There are NO absolute contraindications to epinephrine in the setting of anaphylaxis. There is no known equivalent substitute**. See APPENDIX B.
    a. For children and adolescents: If using an autoinjector 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.
        i. 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.
    b. For adult: Administer a 0.3 mg dose IM using a premeasured or

prefilled syringe or an autoinjector in the mid-outer thigh.

i. If using another epinephrine formulation, the recommended dose is 0.01 mg/kg, ranging for adults from 0.3 mg to maximum dose of 0.5 mg.

5. Epinephrine dose may be repeated 2 additional times every 5–15 minutes (or sooner as needed) while waiting for EMS to arrive.

6. Optional treatment (see APPENDIX B): H_1 antihistamines for hives or itching only – DO NOT USE IF PATIENT EXPERIENCING ANAPHYLAXIS. Administer diphenhydramine (either orally or by intramuscular injection) at a standard dose of 1–2 mg/kg every 4–6 hrs,). Maximum single dose is 40 mg for children <12 years; for older children and adults, 100 mg.

7. Monitor vital signs if indicated. If blood pressure is low, responder should place patient in supine position 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.

C. Documentation

1. Clinicians will document in the patient/client record the patient's reaction (e.g., hives, anaphylaxis) to the vaccine/medication, all vital signs, medications administered to the patient, including the time, dosage, response, the name of the medical personnel who administered the medication, and other relevant clinical information.

2. Clinicians will complete the Medical Event Form and forward to Chief Administrative Nurse and Medical Event Review Team at medeventreview@snhd.org.

3. If applicable, report any vaccine incident to the Vaccine Adverse Event Reporting System (VAERS) if appropriate.

Acronyms/Definitions

Not Applicable

V. REFERENCES

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

https://www.immunize.org/catg.d/p3082a.pdf

VI. DIRECT RELATED INQUIRIES TO

(Subject Matter Expert Title)
(Department Name)

(Department Extension, if applicable)

HISTORY TABLE

Table 1: History

Version/Section	Effective Date	Change Made
Version 2		
Version 1	9/6/2017	
Version 0	6/18/2008	First issuance

VII. ATTACHMENTS

Appendix A – Reaction, Signs and Systems, and Management Chart

Appendix B – Dosage Chart for Children and Adolescents

Appendix C – Description of Recommended PCMs

APPENDIX A

REACTION	SIGNS AND SYMPTOMS	MANAGEMENT
Localized	Soreness, redness, itching or swelling at the injection site	Apply a cold compress to the injection site. Consider giving an analgesic or antipruritic medication.
	Slight bleeding	Apply pressure and an adhesive compress over the injection site.
	Continuous bleeding	Place thick layer of gauze pads over site and maintain direct and firm pressure. Consider use of tourniquet if warranted. Monitor vital signs and level of consciousness. Activate EMS if warranted.
Psychological fright, presyncope, and syncope	Fright before injection is given	Have patient sit or lie down for the vaccination.
	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, or leaning back in chair in a safe position.
	Presyncope-patient feels 'faint' (e.g., paleness, sweating, coldness of hands and feet, nausea, light-headedness, dizziness, weakness, has visual disturbance.	*Have patient use American Heart Association-approved physical counterpressure maneuvers (PCM). Have patient lie flat. Loosen any tight clothing and maintain open airway.
	Loss of consciousness	Check to determine if injury is present before attempting to move patient. Place patient flat on back. Activate EMS if patient does not recover immediately.
Anaphylaxis	Skin and mucosal symptoms such as generalized hives, itching, or flushing; swelling of lips, face, throat, or eyes, abdominal cramping. Respiratory symptoms such as nasal congestion, change in voice, trying to clear throat, sensation of throat closing, stridor, shortness of breath, wheeze, or cough. Cardiovascular symptoms such as collapse, dizziness, tachycardia, hypotension. (Suspect anaphylaxis on the basis of these symptoms.)	Refer to Procedure section of this policy and "Responding to Medical Event" policy.

*See APPENDIX C

APPENDIX B

Dosage Chart for Children and Adolescents

Approximate dosages based on weight and age are provided in the following charts.
Please confirm that you are administering the correct dose for your patient.

First-Line Treatment: Epinephrine				Epinephrine Dose	
				1 mg/mL injectable (1:1000	Epinephrine auto-injector,
	Age group	Range of weight (lb)	Range of weight (kg)*		
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)	off label
	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) – max. dose	0.3 mg/dose

Recommended dose is 0.01 mg/kg body weight up to 0.5 mg maximum dose. May be repeated every 5–15 minutes for a total of 3 doses.

* Rounded weight at the 50th percentile for each age range

Note: If body weight is known, then dosing by weight is preferred.
If weight is not known or not readily available, dosing by age is appropriate.

Optional Treatment: Diphenhydramine				Diphenhydramine Dose
				Liquid: 12.5 mg/5 mL Tablets: 25 mg or 50 mg Injectable: 50 mg/mL (IV or IM)
	Age group	Range of weight (lb)	Range of weight (kg)*	
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	50 mg/dose (up to 50 mg or 100 mg† single dose)

Commonly known as Benadryl. Recommended dose is 1–2 mg/kg body weight every 4–6 hrs

* Rounded weight at the 50th percentile for each age range

Note: If body weight is known, then dosing by weight is preferred.
If weight is not known or not readily available, dosing by age is appropriate.

† According to AAP's Red Book, for children age ≥12 years, the diphenhydramine maximum single dose is 100 mg.

APPENDIX C

Description of Recommended PCMs

Method	Description	Illustration
Lower-body PCMs		
Leg crossing with muscle tensing	Leg crossing with tensing of the leg, abdominal, and buttock muscles while lying down or, if necessary, while standing	
Squatting	Lowering the body into a squatting position. Adjunctive lower-body and abdomen muscle tensing can be done during the squat and then on standing once symptoms have resolved.	
Upper-body PCMs		
Arm tensing	Gripping opposing hands with fingers and pulling with arms in opposing directions with maximum force	
Isometric handgrip	Clenching fist at maximum contraction with or without an item in the hand	
Neck flexion	Touching the chin to the chest and tightening the neck musculature	

PCM indicates physical counterpressure maneuver.

Recommendations—New 2019

1. If a person experiences signs or symptoms of presyncope (including pallor, sweating, lightheadedness, visual changes, and weakness) of vasovagal or orthostatic origin, the priority for that person is to maintain or assume a safe position, such as sitting or lying down. Once the person is in a safe position, it can be beneficial for that person to use PCMs to avoid syncope (*Class 2a; Level of Evidence C-LD*).

2. If a first aid provider recognizes presyncope of suspected vasovagal or orthostatic origin in another individual, it may be reasonable for the first aid provider to encourage that person to perform PCMs until symptoms resolve or syncope occurs. If no improvement occurs within 1 to 2 minutes, or if symptoms worsen or reoccur, providers should initiate a call for additional help (*Class 2b; Level of Evidence C-EO*).

3. If there are no extenuating circumstances, lower-body PCMs are preferable to upper-body and abdominal PCMs (*Class 2b; Level of Evidence C-LD*).

4. The use of PCMs is not suggested when symptoms of a heart attack or stroke accompany presyncope (*Class 3: Harm; Level of Evidence C-EO*).

*https://www.ahajournals.org/doi/10.1161/CIR.0000000000000730