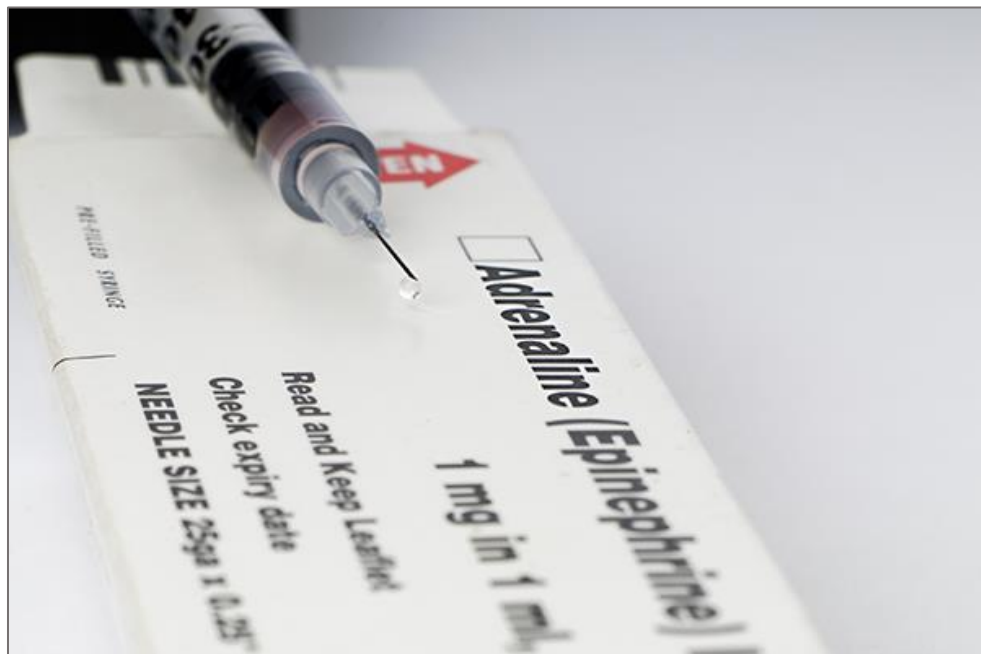


Anaphylaxis



This module is intended to support the continuing education of Alberta's Licensed Practical Nurses and has been updated from the College of Licensed Practical Nurses of Alberta Anaphylaxis Learning Module (2005).

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Purpose

Many licensed practical nurses (LPNs) are performing medication administration including immunizations in non-hospital environments (such as schools, clinics, and home care), where they may be expected to manage anaphylaxis (College of Licensed Practical Nurses of Alberta, 2015). Anaphylaxis is the most severe form of allergic reaction and is potentially life threatening. This module is designed to assist LPNs in recognizing and managing anaphylaxis in non-hospital environments. The information in this module is enriched by the knowledge, skills, attitudes, and clinical judgment LPNs have acquired through the study of anaphylaxis, pharmacology, and medication administration. Additional skills necessary for medication administration and the management of anaphylaxis include proficiency in intramuscular, intradermal, and subcutaneous injections.

The purpose of this module is to review and reinforce the concepts of identifying and managing anaphylaxis in a variety of settings. It is organized into five objectives:

Objective 1: Responses to Medication

Anaphylactic reaction is a serious, life-threatening allergic reaction to an allergen. Although anaphylaxis is uncommon, if not treated appropriately, it may cause death.

When administering medication, it is important to recognize and differentiate between allergic reactions and potentially life-threatening anaphylactic reactions immediately. It is also essential to determine whether the individual has had an allergic or anaphylactic response to the medication in the past, prior to administration.

Objective 1 discusses common responses following medication administration.

Objective 2 identifies common allergens in food, medications, latex, and blood and blood products.

Objective 3 explains how to complete an assessment for primary signs and symptoms of anaphylaxis.

Objective 4 outlines the steps that will enable nurses to manage allergic reactions when they occur.

Objective 5 describes the importance of documenting and reporting incidents. Documentation is part of the professional and legal protocols that nurses have to meet and/or exceed in clients' records.

These objectives will guide LPNs through an update and review of the nursing skills necessary to protect clients and prevent untoward events.

Consider the following definitions:

Desired effect: the achievement of the therapeutic goal of the medication. The medication literally does what it is supposed to do (Carter et al., 2014).

Side effect: a mild but annoying response to a medication (WebMD, 2014).

Adverse effect: a more severe symptom or problem caused by the medication (Carter et al., 2014).

Idiosyncratic response: a unique, strange, or unpredictable response (Stevens, Rodgers, & Stern, 2016).

Paradoxic reaction: opposite of the expected or desired effect (Inal & Celik, 2007).

Allergic response/reaction: an antigen-antibody reaction that usually occurs when an individual has had prior exposure to the antigen and has developed antibodies to it. Upon re-exposure the antigen-antibody reaction causes a rash, hives, itching, and/or swelling. Shortness of breath may also be experienced (American Academy of Allergy, Asthma & Immunology [AAAAI], 2016).

Anaphylactic response/reaction: a severe allergic reaction in which prominent dermal and systemic signs and symptoms manifest. Anaphylaxis is life threatening and must be treated in a timely manner (AAAAI, 2016).

Prior to administering a medication, it is *essential* that the LPN assess the client's allergy history and whether the client has ever had an adverse/allergic reaction to a previous dose. It is important to determine if the client is allergic

Objective 2: Common Allergens

In Canada 1 to 2 percent of the population lives with the risk of anaphylactic reaction, and more than half of all Canadians know of someone who has a severe, life-threatening allergy (Food Allergy Canada, 2016).

The most common allergens to cause allergic reactions are found in food. According to the World Allergy Organization (2011), allergies to milk, peanuts, tree nuts, sesame seeds, eggs,

to any component of the medication and has had a previous anaphylactic reaction to any drugs in the same classification of medications. Anaphylaxis usually occurs on a subsequent exposure to an allergen; however, it can occur with first exposure as well.

Clients may state they are “allergic” to a medication or food when in fact they may only experience a side effect or sensitivity to the antigen. For example, if a client experiences nausea or stomach pain when taking Aspirin, this is considered a side effect and not an allergy. It is important to question why the client feels he or she is allergic to any allergen and what the actual response was. This way the nurse can determine what type of response may have been experienced and whether it is important to consider this item to be an allergen for this client.

The nurse should consult with the appropriate professional anytime there is concern that the client may have allergies or may have had a past adverse reaction to a medication.

Patients/clients should be advised to report any significant adverse reactions to the medication given.

soy beans, peaches, fish, and seafood are most common in children, teens, and young adults, while pregnant women, middle-aged adults, and elderly adults are also at high risk. Medications, especially penicillin, nonsteroidal anti-inflammatory drugs (NSAIDs), and latex, are considered the second most common allergens. Insect venom, plant-derived proteins, and physical exercise are also relatively common allergens.

Radiological contrast media, blood, and blood products are also potential substances that can cause severe anaphylaxis. Although these substances are currently only given in controlled environments like hospitals and clinics, it is important for nursing staff to be aware of anaphylaxis risks (AAAAI, 2016).

Anaphylaxis is a rare complication of immunization, but it should be anticipated in every vaccine. According to national data, approximately 1 percent of all emergency visits each year are attributed to allergic reactions, with about 8 percent of these visits for anaphylaxis (Canadian Institute for Health Information, 2015). Pre-vaccination screening should include questions about possible allergies to any components of the product(s) being considered in order to identify this contraindication. Vaccine providers should be familiar with the protocol for anaphylaxis management.

Usually, anaphylaxis is diagnosed in childhood. However, it can also develop later in a person's life. People who have experienced anaphylaxis must always be prepared for the risk of another unsuspected reaction. They must learn to avoid the allergen throughout their daily lives. This is more difficult with food or insect allergies than with medication allergies; however, clients who have severe allergies should be advised to wear or carry MedicAlert bracelets or cards (Solensky & Khan, 2010).

It is always best for the client to check with an allergist and be tested in a clinical environment if he or she is experiencing sensitivities to specific allergens. Interestingly enough, idiopathic anaphylaxis (reacting where no cause is identified) accounts for up to two-thirds of people who present to an allergist / immunologist.

Objective 3: Signs and Symptoms of Anaphylaxis versus Fainting, Anxiety, and Breath Holding

Anaphylaxis must be distinguished from fainting (vasovagal syncope), anxiety, and breath-holding spells, which are more common and nonthreatening reactions (see Table 1).

The following section has been adapted and reproduced with permission granted by the Minister of Health in January 2016 from the [Canadian Immunization Guide](http://healthy Canadians.gc.ca/publications/healthy-living-vie-saine/2-canadian-immunization-guide-canadien-immunisation/index-eng.php?page=text#p2c3a2) (<http://healthy Canadians.gc.ca/publications/healthy-living-vie-saine/2-canadian-immunization-guide-canadien-immunisation/index-eng.php?page=text#p2c3a2>), Public Health Agency of Canada, 2016, as stated at <http://www.phac-aspc.gc.ca/im-ai->

eng.php#a26, by the College of Licensed Practical Nurses of Alberta.

During fainting, the individual suddenly becomes pale, loses consciousness and collapses to the ground. Fainting is sometimes accompanied by brief clonic seizure activity (i.e., rhythmic jerking of the limbs) which generally requires no specific treatment or investigation. Fainting is managed by placing the vaccinee in a recumbent position. Recovery of consciousness occurs within a minute or two, but the person may remain pale, diaphoretic and mildly hypotensive for several minutes.

The likelihood of fainting is reduced by measures that lower stress in those awaiting immunization, such as short waiting times, comfortable room temperature, preparation of vaccines out of view of recipients, and privacy during the procedure. To reduce injuries due to fainting, people should be immunized while seated.

People experiencing anxiety may appear fearful, pale and diaphoretic and complain of light-headedness, dizziness and numbness, as well as tingling of the face and extremities. Hyperventilation is usually evident. Treatment consists of reassurance and rebreathing using a paper bag until symptoms subside.

Breath-holding episodes occur in some young children when they are upset and crying hard. The child suddenly becomes silent but remains

agitated. Facial flushing and perioral cyanosis deepens as breath-holding continues. Some episodes end with resumption of crying, but others end with a brief period of unconsciousness during which breathing resumes. Similar spells may have been evident in other circumstances. No treatment is required beyond reassurance of the child and parents.

In the case of anaphylaxis, changes develop over several minutes to several hours and usually involve two or more body systems. A systematic approach is critically important. The principles of treatment apply to all clients with anaphylaxis from all triggers who present at any time during an acute episode. Anaphylaxis management is initiated when specific criteria is exhibited.

Table 1: Anaphylaxis versus Fainting and Anxiety

	Anaphylaxis	Fainting	Anxiety
Definition	An acute systemic and potentially fatal allergic reaction to a foreign substance	A temporary unconsciousness caused by decreased blood supply to the brain due to painful stimuli or emotional reaction	A protective physiological state recognized as fear, apprehension, or worry
Onset	Usually slower; most instances begin within 30 minutes after immunization	Sudden; occurs before, during, or shortly after immunization; recovery occurs within one to two minutes	Sudden; occurs before, during, or shortly after immunization; recovery occurs within one to two minutes
Skin	<ul style="list-style-type: none"> Flushed, red, blotchy areas (may not be itchy) Itchy, generalized hive-like rash Painless swelling; tingling sensation about face, mouth, and tongue Nasal congestion 	<ul style="list-style-type: none"> Pale Excessive perspiration Cold, clammy 	<ul style="list-style-type: none"> Pale Excessive perspiration Cold, clammy
Breathing	<ul style="list-style-type: none"> Sneezing, coughing, wheezing, laboured breathing Upper-airway swelling (hoarseness and/or difficulty swallowing), possibly causing airway obstruction 	<ul style="list-style-type: none"> Normal or shallow, irregular, and laboured 	<ul style="list-style-type: none"> Rapid and shallow (hyperventilation)
Pulse	<ul style="list-style-type: none"> Rapid (tachycardia) and weak 	<ul style="list-style-type: none"> Slow and steady 	<ul style="list-style-type: none"> Rapid
Blood Pressure	<ul style="list-style-type: none"> Decreased systolic and diastolic (hypotension) 	<ul style="list-style-type: none"> Decreased systolic and diastolic 	<ul style="list-style-type: none"> Normal or elevated systolic
Symptoms and Behaviours	<ul style="list-style-type: none"> Uneasiness, restlessness, agitation Hypotension, generally develops later and can progress to cause shock and collapse Not all signs/symptoms will be exhibited in each client; usually one body system predominates 	<ul style="list-style-type: none"> Fearfulness Light-headedness Dizziness Numbness, weakness Sometimes accompanied by brief clonic seizure activity 	<ul style="list-style-type: none"> Fearfulness Light-headedness Dizziness Numbness, weakness Tingling around lips and spasms in hands and feet associated with hyperventilation
Gastrointestinal	<ul style="list-style-type: none"> Nausea and vomiting Abdominal pain, diarrhea 	<ul style="list-style-type: none"> Nausea 	<ul style="list-style-type: none"> Nausea
Other Symptoms	<ul style="list-style-type: none"> Loss of consciousness Progression of injection site reaction beyond hives and swelling 		

(Note. Reprinted from BC Centre for Disease Control. Section V—[Management of anaphylaxis in a non-hospital setting](http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%20-%20Imms/SectionV_Anaphylaxis.pdf). April 2013.pdf. Retrieved from http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%20-%20Imms/SectionV_Anaphylaxis.pdf)

Summary of Anaphylaxis Signs and Symptoms

Anaphylactic reactions may include a combination of common signs and symptoms. Usually, respiratory symptoms, angioedema, and itching and hives followed by fainting are the most common symptoms.

Respiratory symptoms include dyspnea, wheezing, upper airway obstruction, bronchospasm, cough, and stridor hypoxemia. This is due to the rapid onset of increased secretion from mucous membranes, increased bronchial smooth muscle tone, decreased vascular smooth muscle tone, and increased capillary permeability occurring after exposure to an allergen.

Approximately one-third of those affected will experience gastrointestinal symptoms including nausea, vomiting, diarrhea, and abdominal pain. An additional one-third will experience cardiovascular symptoms like dizziness, syncope, sudden reduced blood pressure, or symptoms of end-organ dysfunction (such as hypotonia, collapse, incontinence, and loss of consciousness).

Unconsciousness is rarely the sole manifestation of anaphylaxis. It occurs only as a late event in severe cases.

Approximately 1.5 percent of people will experience central nervous system symptoms such as seizure.

Anaphylactic reactions generally begin within a few minutes or up to 30 minutes, but almost always within two hours after antigen exposure. Some employers have policies in place regarding an observation time following administration of parenteral medications. These policies may expect the nurse to closely observe the client for 10 to 15 minutes or more following administration of medications.

An inconsistent early feature is swelling and urticarial rash at the injection site. This is more likely to be evident with vaccines (medications) injected subcutaneously rather than intramuscularly.

Anaphylaxis is described as mild or early when signs are limited to urticarial rash and injection site swelling. At this stage symptoms may arise from other systems (sneezing, nasal congestion, tearing, coughing, facial flushing) but are associated with minimal dysfunction. Features of severe (advanced anaphylaxis) disease include obstructive swelling of the upper airway, marked bronchospasm and hypotension.

Objective 4: Management of Anaphylaxis

The initial management of anaphylaxis is key to the best outcome for the client.

Anaphylaxis is life threatening. If not treated promptly, the client's airway may close off from swelling, resulting in death. Note that a child's airway is considerably smaller than an adult's, thus increasing the risk.

A specific assessment is necessary to determine if in fact you are dealing with anaphylaxis. The

most important component to management of the client is, of course, airway. Secondary to airway is the administration of epinephrine.

Epinephrine has a rapid onset but a short duration of action; therefore, it is vital for LPNs in non-hospital settings to understand the protocol for management of anaphylaxis and initiate a call for emergency medical services immediately.

Anaphylaxis: Initial Management in Non-Hospital Settings

A systematic approach is critical in the management of anaphylaxis. Steps 1 to 5 are meant to be done rapidly or simultaneously. *The priority is prompt administration of epinephrine (adrenaline), which should not be delayed if earlier steps cannot be completed quickly (Public Health Agency of Canada, 2016).*

1. Assess client's airway, breathing, circulation, disability (mental status), exposure (to known or suspected allergens/time of exposure), skin, vital signs, and body weight.
2. Call for help, including emergency medical services—direct someone to **dial 911** (where available). Since 20 percent of anaphylaxis episodes follow a biphasic course with recurrence of the reaction after a two-to-nine-hour asymptomatic period, hospitalization or a long period of observation is recommended for monitoring. For all but the mildest cases of anaphylaxis, clients should be hospitalized overnight or monitored for at least 12 hours.

3. Promptly administer epinephrine intramuscularly (IM) into the vastus lateralis muscle of the thigh, as speedy intervention is of paramount importance: 0.01 mg/kg body weight of 1:1000 (1 mg/mL) solution (Public Health Agency of Canada, 2016).

- Adolescent or adult: maximum 0.5 mg
- Child: maximum 0.3 mg

Record the time of the dose. Repeat every 5 to 15 minutes as necessary, for a maximum of three doses.

Failure to use epinephrine promptly is more dangerous than using it improperly.

An intramuscular injection in the vastus lateralis region of the thigh (not the upper arm or deltoid) results in a more rapid rise of blood levels of epinephrine, making this the preferred route for administration (AAAAI, 2012). Prompt and appropriate management

of anaphylaxis is the key to good client outcomes.

4. Place the client on his or her back or in a position of comfort if there is respiratory distress; elevate the lower extremities. Place the client on his or her side if vomiting or unconscious. A fatality can occur within seconds if the client stands or sits suddenly.
5. Establish an oral airway if necessary, and loosen restrictive clothing.
6. If oxygen is available, it should be given to clients with cyanosis, dyspnea, or any other severe reactions. Monitor with pulse oximetry if available.
7. When indicated at any time, perform cardiopulmonary resuscitation (CPR) with continuous chest compressions.
8. As an adjunct to epinephrine, a dose of diphenhydramine hydrochloride (Benadryl®) can be given. It should be reserved for clients who are not responding well to epinephrine or to maintain symptom control in those who have responded to epinephrine (epinephrine being a short-acting agent), especially if transfer to an acute-care facility cannot be effected within 30

minutes. Oral treatment (oral dose: 1–2 mg/kg to a maximum single dose of 50 mg) is preferred for conscious clients who are not seriously ill because Benadryl® is painful when given intramuscularly. This drug has a high safety margin, making precise dosing less important. (See Table 4).

9. If available, consider inhaled beta-agonist if there is a bronchospasm resistant to an adequate dose of epinephrine (i.e., nebulized salbutamol 2.5–5.0 mg in 3 mL of saline or 1 puff per 3 kg to a maximum of 10 puffs by metered-dose inhalers).
10. Monitor vital signs and reassess the situation frequently to guide medication use.
11. Document assessment, intervention, and client response as soon as possible.
12. Transfer to hospital for observation.

As with all medications, it is pertinent to review the purpose and all related information about epinephrine before administration (see Table 2). Additional information may include action, dose range, side and adverse effects, and nursing implications.

Table 2: Epinephrine

Purpose (Therapeutic Effect)	In emergency treatment of anaphylactic reaction, epinephrine acts as a bronchodilator, narrowing blood vessels, which results in the opening of bronchial tubes.
Action	It has a rapid onset of action, stimulating the sympathetic nervous system. It is the initial drug for treating bronchoconstriction and hypotension resulting from anaphylaxis and all forms of cardiac arrest. It is useful in managing reactive airway disease.
Dosage Range	0.01 mL per kg to 0.5 mL per kg of body weight. See Table 3 and the following guide for age-specific dosing.
Route	Intramuscular injection is the preferred route. May also be given through IV in hospital.
Side and Adverse Effects	Mild to severe symptoms or problems caused by medication.
Pertinent Information	<i>Indications:</i> bronchial asthma, acute allergic reaction, cardiac arrest, asystole. <i>Contraindications:</i> hypersensitivity, hypovolemic shock, coronary insufficiency, hypertension. <i>Adverse reactions:</i> headache, nausea, restlessness, weakness, dysrhythmias, hypertension.
Nursing Implications	Be aware of protocols for repeating dosage as necessary. Implement the steps of management of anaphylaxis. Observe for adverse reactions.

(Note: Data from Public Health Agency of Canada, 2016)

The following is a guide only. A single-dose epinephrine auto-injector (EpiPen® or alternate) may also be used (Pfizer Canada, 2015). For infants less than 7 months of age, the dose of epinephrine should be determined by weight, if possible (Table 3). The nurse is responsible for following the anaphylactic protocol of the employing agency.

Adults: 0.01 mg/kg of a 1:1000 (1 mg/mL) solution of epinephrine (or EpiPen® for adult or child weighing 30 kg or more) into the mid- anterolateral thigh. Record the time of the dose and repeat if there is no improvement every 5 to 15 minutes to a maximum of 0.5 mg (Pfizer Canada, 2015).

Children: under 5 years: 0.05 to 0.15 mg epinephrine 1:1000 (1 mg/mL) (adrenaline) into the mid- anterolateral thigh.

5 years: 0.20 mg epinephrine 1:1000 (1 mg/mL) (adrenaline) into mid- anterolateral thigh. Give one repeat dose if there is no improvement in 5 to 15 minutes. Do not exceed 0.40 mg in one hour. EpiPen® Junior auto-injector of 0.15 mg may be used for children weighing 15 to 30 kg (Pfizer Canada, 2015). If less than 30 kg give Junior dose of 0.15 mg; if 30 kg or more give standard dose of 0.30 mg.

6 to 9 years: 0.30 mg epinephrine 1:1000 (1 mg/mL) (adrenaline) into the mid- anterolateral

thigh. Give one repeat dose if there is no improvement in 5 to 15 minutes. Do not exceed 0.40 mg in one hour.

10 to 13 years: 0.40 mg epinephrine 1:1000 (1 mg/mL) (adrenaline) into the mid-anterolateral thigh. Give one repeat dose if there is no improvement in 5 to 15 minutes. Do not exceed 0.80 mg in one hour.

A different limb is preferred for each dose to maximize drug absorption.

The epinephrine dose should be carefully determined. Calculations based on body weight are preferred when weight is known. Recording the weight of children before injection is recommended when feasible. Table 3 illustrates the appropriate dose of epinephrine according to age or weight.

Table 3: Dose of Epinephrine (1:1000, 1 mg/mL solution) by age or weight

Age Group	Weight (kg) ¹	Dose by Injection 1 mg/mL Injectable (1:1000); Minimum Dose: 0.05 mL	Dose by Auto-injector 0.15 mg or 0.3 mg
0 to 6 months	Up to 9 kg (20 lb)	0.01 mg/kg body weight	Not applicable
7 to 36 months	9–14.5 kg (20–32 lb)	0.1 – 0.2 mg	Not applicable
37 to 59 months	15–17.5 kg (33–39 lb)	0.15 – 0.30 mg ²	Junior dose of 0.15 mg
5 to 7 years	18–25.5 kg (40–56 lb)	0.20 – 0.30 mg ²	Junior dose of 0.15 mg
8 to 12 years	26–45 kg (57–99 lb)	0.30 mg ²	If less than 30 kg (66 lb) give Junior dose If 30 kg or more give standard dose of 0.30 mg
13 years and older	46+ kg (100+ lb)	0.50 mg ³	Give standard dose of 0.30 mg
Frail elderly		0.30 mg	Give standard dose of 0.30 mg
¹ Rounded weight at the 50 th percentile for each age range ² Maximum dose for children 12 years of age and younger ³ Maximum dose for adolescents			

(Note: Material reproduced from *Canadian Immunization Guide*, Public Health Agency of Canada, 2016)

Table 4: Dose of Diphenhydramine Hydrochloride, by age

Age	Weight	Dose of diphenhydramine hydrochloride
12-23 months ¹	7-12 kg (15-25 lbs)	6.25 - 12.5 mg
2 to 4 years	12-25 (25-55 lbs)	12.5 – 25 mg
5 to 11 years	25-45 (55-99 lbs)	25 - 50 mg
≥12 years	45 kg+ (99 lbs or more)	50 mg

¹ Use with caution in children 12 – 23 months due to risk of sedation or paradoxical excitement.

(Note: Material reproduced from Public Health Agency of Canada, 2016)

Pharmacologic adverse effects after a *recommended* dose of epinephrine include pallor, tremor, anxiety, palpitations, dizziness, and headache. These symptoms indicate that a therapeutic dose has been given. Although unpleasant, such side effects pose little danger. Excessive doses of epinephrine can add to clients’ distress by causing palpitations, tachycardia, flushing, and headache. Serious adverse effects such as ventricular arrhythmias, hypertensive crises, and pulmonary edema potentially occur after an overdose of epinephrine. Cardiac dysrhythmias may occur in older adults but are rare in otherwise healthy children. The anaphylactic state in clients receiving beta-adrenergic antagonist therapy (for elevated blood pressure) will be more resistant to epinephrine therapy.

Since anaphylaxis is rare, epinephrine vials and other emergency supplies should be checked on a regular basis and replaced if outdated.

List of recommended items in an anaphylaxis management kit

Clear, concise summary of the anaphylaxis emergency management procedures

- Laminated table of dosage recommendations for epinephrine and diphenhydramine hydrochloride (e.g. Benadryl®) by weight and age

- Two 1 cc syringes with attached needles (one 25-gauge 5/8-inch needle; one 25-gauge 1-inch needle)
- Two vials of aqueous epinephrine 1:1000 (check expiration date monthly and replace as necessary) OR
- Adult dose: EpiPen® 0.3 mg dose 1:1000 (if weight greater than 30 kg)
- Pediatric/Junior dose: EpiPen® 0.15 mg dose 1:1000 (if weight is 15–30 kg)
- One vial of diphenhydramine hydrochloride (pills or oral solutions optional; check expiration date monthly and replace as necessary)
- One 25-gauge 5/8-inch needle (extra)
- Two 25-gauge 1-inch and 1.5-inch needles (extra)
- Two alcohol swabs (optional)
- Scissors
- One nasopharyngeal airway and one oropharyngeal airway for each age range
- Pocket mask
- Stethoscope and sphygmomanometer
- Tongue depressors
- Flashlight (Public Health Agency of Canada, 2016)

An epinephrine self-injector (EpiPen® or EpiPen Jr.®) is usually prescribed by a physician for an individual to use in an anaphylactic reaction to a

known allergen. The client and family would have received instruction into the use of the pen and the symptoms of an anaphylactic reaction so they can identify when it is necessary to self-administer the epinephrine.

Many healthcare agencies now use an EpiPen® to treat anaphylaxis. A nurse who is administering medications or vaccines within non-hospital settings (client's home, community clinic, or school environment) must have access to an epinephrine kit to properly manage anaphylaxis. The junior preparations contain 0.15 mL of epinephrine 1:1000, which is ideal for children weighing 15 to 30 kg. The regular preparations contain 0.3 mL of epinephrine 1:1000 and should be used for clients weighing ≥ 30 kg. For those weighing below 15 kg or between 15 and 30 kg, judgment should be used to decide which, if any, self-injector should be used.

Objective 5: Documenting and Reporting

It is vital to clients' safety and full recovery that full documentation of all interventions given in the management of anaphylaxis is completed. Prior to ambulance arrival, it is of key importance that the nurse has clearly documented all medications given and the clients' reactions to them. Employers should have documentation protocols to use when managing anaphylaxis and it is important the nurse is aware of these protocols.

It is important to review the policies and procedures within individual employment settings to understand the expectations of each specific employer. Access to anaphylaxis protocols within all settings is necessary.

While epinephrine is the first-line treatment for anaphylaxis, H₁ antihistamines relieve itching, flushing, urticaria, angioedema, and nasal and eye symptoms; however, they should not be substituted for epinephrine because they are not lifesaving and do not prevent or relieve upper-airway obstruction, hypotension, or shock.

Epinephrine is considered emergency medical treatment and must be followed by appropriate emergency medical treatment and observation in a hospital.

Following a drug reaction, it is important to follow the employer policy and procedures to document and report the incident appropriately. Health Canada encourages reporting of all adverse reactions to assist in the ongoing collection of data to enhance the safety and effectiveness of medications used throughout Canada (Health Canada, 2016).

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