DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

MANAGEMENT OF MEDICAL EMERGENCIES STANDING ORDERS

Valid through June 30th 2021

DELAWARE DIVISION OF PUBLIC HEALTH MEDICAL EMERGENCY POLICIES, PROCEDURES AND GUIDELINES

Delaware Health and Social Services
Division of Public Health

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MANAGEMENT OF MEDICAL EMERGENCIES

Emergency situations involving DPH clients and/or DPH staff may occur at any time. The following apply for all medical emergencies:

- The physician and/or licensed medical personnel should be notified immediately of any medical emergencies.
- Each clinic must have emergency numbers posted on the telephones.
- American Heart Association (AHA) Healthcare Provider (HCP) BSL (Basic Life Support) Cardiopulmonary Resuscitation (CPR) is used as the standard of care for CPR[1].

Emergency Medications and Equipment

The following supplies and medications must be located on-site and available for immediate use. They should be restocked after each use and checked monthly for expiration dates. *(See Quality Assurance Tool at the end of this document.)*

- Ammonia inhalants
- Alcohol swabs
- Oxygen masks, tubing and cannulas
- Oxygen tank with nipple and flow meter
- Ambu bag
- Pocket face mask with one way valve
- Diphenhydramine (Benadryl) oral liquid and IM vial
- Naloxone
- Epinephrine (vial; EpiPEN and EpiPEN Jr (or generic auto injector equivalent))
- AED

[1] American Heart Association. *HIGHLIGHTS of the American Heart Association 2015 Guidelines Update for CPR and ECC.* https://eccguidelines.heart.org/wp-content/uploads/2015/10/2015-AHA-Guidelines-Highlights-English.pdf Accessed 5/23/19. (See also Appendix I.)

- Tourniquet
- Syringes (1 ml[1] and 3 ml for epinephrine and naloxone)
- Syringes (10 ml for oral liquid diphenhydramine)
- Needles (⅝" -1½" for IM administration of medication for ages infants to adults)

A copy of DPH PM 27 Bloodborne Pathogen Exposure Control should be in or with the emergency supply box at all times.

Each site should have established procedures for maintaining the emergency supply box. Emergency box and AED should be inspected at least monthly using the "Quality Assurance Tool: Emergency Supply" form on page 32 in this document.

AT ALL TIMES, STAFF SHOULD TAKE ALL REASONABLE PRECAUTIONS TO PROTECT CLIENTS AND THEMSELVES FROM POTENTIAL TRANSMISSION OF INFECTION. WEAR, AT THE MINIMUM, GLOVES WHEN CARING FOR A CLIENT IN AN EMERGENCY SITUATION AS THERE IS A HIGH LIKELIHOOD OF CONTACT WITH BLOOD AND BODY FLUIDS.

[1] 1 ml syringes are necessary in order to accurately measure small doses (for Benadryl and epinephrine).

Opioid Overdose

Naloxone indication

Naloxone is an opioid antagonist and is indicated for the reversal of opioid overdose which may be manifested by respiratory depression or central nervous system depression.

Formulations

It is available as both intranasal spray as well as an injectable formulation for intramuscular, subcutaneous or intravenous administration. Injectable naloxone can be delivered from a pre-filled single use auto injector or by withdrawing dose from a vial and administering to the patient.

As of May 2019, only the 0.4mg/ml single dose vial is available in DPH clinics. However, these orders include information to guide nurses in administering other forms of naloxone that may be available in state service centers as DPH nurses may be called upon to respond to emergencies involving non-DPH clients. In such a situation, nurse should use whatever form of naloxone is available in keeping with these orders.

NOTE: These orders are not to be used for the administration of naloxone to persons aged less than 6 weeks given the life-threatening complications that can arise from rapid opioid reversal in young infants.

Ensuring integrity of naloxone supply:

Store naloxone at manufacturer recommended temperature, away from direct sunlight and in its box until ready to use.

At least once a month, the nursing supervisor or designee must:

a. Inspect the naloxone solution. If it is discolored, cloudy or

contains particles, replace.

b. Check expiration date and obtain replacement in advance of expiration.

c. Check that medical equipment needed to respond to emergencies (including Ambu bag and masks, Automated external defibrillator-AED, etc.) are in good functioning order and not in need of replacement or battery change as appropriate.

Orders for use of Injectable Naloxone

A. Recognize

Suspicion of overdose should be based on history as well as signs and symptoms of opiate overdose. History comprises report from bystanders, presence nearby of drugs and/or paraphernalia as well as nurse's prior knowledge of the patient. Signs and symptoms of opiate overdose are noted in box below:

STEP 1: RECOGNIZE

Observe for signs of overdose:

- Pale, clammy skin
- Speech infrequent or slurring
- Not breathing or very shallow breathing
- Deep snorting or gurgling sounds
- Unresponsive to stimuli (calling name, shaking, sternal rub): May be unconscious or may appear awake but is not responding
- Slowed heart beat/pulse
- Blue lips or fingertips
- Pinpoint pupils

B. Respond safely

When responding to a possible overdose situation, nurses should take every precaution to ensure their safety and that of bystanders. Serious illness is known to have occurred when responders were exposed to potent opioids in the drug user's environment. In addition, blood borne pathogens are a risk when handling drug paraphernalia. At a minimum, gloves should be worn when handling the patient, their clothing and any paraphernalia or unknown substances. If there is any powdery substance in the environment, this should not be disturbed by nurse or persons assisting the nurse. Facemasks that offer a close fit to the face should be worn by nurse and anyone assisting nurse when responding if powdered substances are present.

STEP 2: RESPOND

A. Immediately call for help- Direct someone to call 911 to activate Emergency medical services (EMS) and request for Advanced life support

B. Check for pulse and breathing (use ≤10 secs to check)

- Pulse absent→ perform high quality Cardiopulmonary resuscitation (CPR) for two minutes then go to "Step 3: Reverse"
- Pulse present BUT Not breathing (or agonal breathing)→ Give 2 rescue breaths THEN go to "Step 3: Reverse"
- Pulse present + breathing?→ Go to "Step 3: Reverse"
- To give rescue breaths:
    - Tilt head back and lift chin
    - Check to see if there is any object in their mouth blocking their airway
    - If object present, remove the object
    - Place and hold ambu bag mask over mouth and nose
    - Give 2 even, regular-sized breaths
    - Blow enough air into their lungs to make their chest rise
    - Breaths should be 5 seconds apart

C. Reverse the opiate effect: (Administer naloxone from vial)

**DO NOT PRIME OR TEST DEVICE PRIOR TO ADMINISTRATION*

STEP 3a: REVERSE with vial naloxone

1. Draw 1ml of the 0.4mg/mL naloxone.
2. Administer intramuscularly into deltoid or outer thigh (okay to administer through clothing if removing clothing would cause unnecessary delay.)
3. Reassess pulse and breathing:
    - Resume high quality CPR if needed.
4. Re-administer naloxone if needed such as:
    a. If a patient fails to respond to initial dose or responds and subsequently goes back into respiratory depression, re-administer naloxone.
    b. Naloxone can be administered every 2-3 minutes if needed up to a maximum cumulative dose of 10mg per overdose event.
5. Once the patient is breathing spontaneously and mentation improves, go to Step 4 “Reassess and Record.”

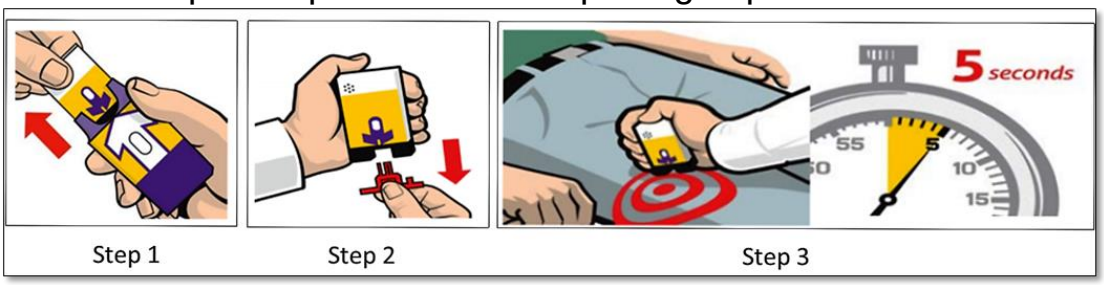
If autoinjector is available, use autoinjector since it is quicker than drawing from vial. Note that vial naloxone and auto-injector can be used interchangeably if additional doses are needed and you are out of one formulation. The maximum cumulative dose still remains 10 mg.

C. Reverse the opiate effect: (Administer intramuscular naloxone via auto-injector)

DO NOT PRIME OR TEST DEVICE PRIOR TO ADMINISTRATION

STEP 3b REVERSE with auto-injector (where available)
Administer Naloxone via auto injector device (2mg dose per device)

1. Remove red safety guard when ready to use.
2. Place the black end against the middle of the patient's outer thigh, through clothing (pants, jeans, etc.) if necessary. However, it is preferable to remove clothing over thigh if this can be done expeditiously.
3. If the patient is less than one year, pinch up the thigh muscle to facilitate delivery.
4. Press injector device to thigh firmly and hold in place for 5 seconds.
5. Even if the electronic voice instruction system does not operate properly, EVZIO will still deliver the intended dose of naloxone.
6. After use, place the auto-injector back into its outer case.
7. Do not replace the red safety guard- discard the auto-injector in sharps box per blood borne pathogen protocol.



(Graphic credit: kaleo, 2016)

8. Reassess pulse and breathing:
   - Resume high quality CPR if needed.
9. Re-administer naloxone if needed
   - If a patient fails to respond to initial dose or responds and subsequently goes back into respiratory depression, re-administer naloxone.
   - Naloxone can be administered every 2-3 minutes if needed.
   - Auto injectors are for single use. Do not attempt to reuse the auto-injector. Use a new auto-injector for each injection of naloxone.
10. Once the patient is breathing spontaneously and mentation improves, go to Step 4 “Reassess and Record.”

D. Reassess and Record

Step 4: REASSESS and RECORD

1. Once patient is breathing spontaneously, place in recovery position (lying on their side).
2. Stay with the patient until EMS arrives.
3. Check and record the patient's vitals every 10 minutes while waiting for EMS- including BP, Heart rate, respiratory rate.
4. While waiting for EMS arrival, record events using form in Appendix 1, "Naloxone Administration report form."
5. Note that in those with chronic opioid use, naloxone may cause withdrawal symptoms. If these symptoms occur, document them. Symptoms of withdrawal include body aches, diarrhea, tachycardia, fever, runny nose, sneezing, sweating, yawning, nausea or vomiting, nervousness, restlessness or irritability, shivering or trembling, abdominal cramps, weakness, and increased blood pressure.

E. Refer

Step 5: REFER

1. Have the individual transported to nearest medical facility by EMS, even if symptoms seem to get better.
2. Contact parent/guardians/next of kin per protocol.
3. Complete Naloxone Administration Report form (Appendix 1) and submit to the Office of Public Health Nursing.
4. Where feasible, follow up with the patient at a later date to see if they have been successfully connected to substance abuse treatment services.

F. Resources

Step 6: REACH OUT

For resources for those who need treatment for substance abuse, refer patient to www.helpisherede.com.

Orders for use of Intranasal Naloxone

A. Recognize

Suspicion of overdose should be based on history as well as signs and symptoms of opiate overdose. History comprises report from bystanders, presence nearby of drugs and/or paraphernalia as well as nurse's prior knowledge of the patient.

Signs and symptoms of opiate overdose are noted in box below:

STEP 1: RECOGNIZE

Observe for signs of overdose:

- Pale, clammy skin.
- Speech infrequent or slurring.
- Not breathing or very shallow breathing.
- Deep snorting or gurgling sounds.
- Unresponsive to stimuli (calling name, shaking, sternal rub): May be unconscious or may appear awake but is not responding.
- Slowed heart beat/pulse.
- Blue lips or fingertips.
- Pinpoint pupils.

B. Respond Safely

When responding to a possible overdose situation, nurses should take every precaution to ensure their safety and that of bystanders. Serious illness is known to have occurred when responders were exposed to potent opioids in the drug user's environment. In addition, blood borne pathogens are a risk when handling drug paraphernalia. At a minimum, gloves should be worn when handling the patient, their clothing and any paraphernalia or unknown substances. If there is any powdery substance in the environment, this should not be disturbed by nurse or persons assisting the nurse. Facemasks that offer a close fit to the face should be worn by nurse and anyone assisting nurse if powdered substances are present.

STEP 2: RESPOND

C. Immediately call for help- Direct someone to call 911 to activate Emergency Medical Services and request for Advanced life support.

D. Check for pulse and breathing (use ≤10 secs to check)

- Pulse absent→ perform high quality Cardiopulmonary resuscitation (CPR) for two minutes then go to "Step 3: Reverse."
- Pulse present BUT Not breathing (or agonal breathing)→ Give 2 rescue breaths THEN go to "Step 3: Reverse."
- Pulse present + breathing?→ Go to "Step 3: Reverse."
- To give rescue breaths:
    - Tilt head back and lift chin.
    - Check to see if there is anything in their mouth blocking their airway.
    - If object present in mouth, remove the object.
    - Place and hold ambu bag mask over mouth and nose.
    - Give 2 even, regular-sized breaths.
    - Blow enough air into their lungs to make their chest rise.
    - Breaths should be 5 seconds apart.

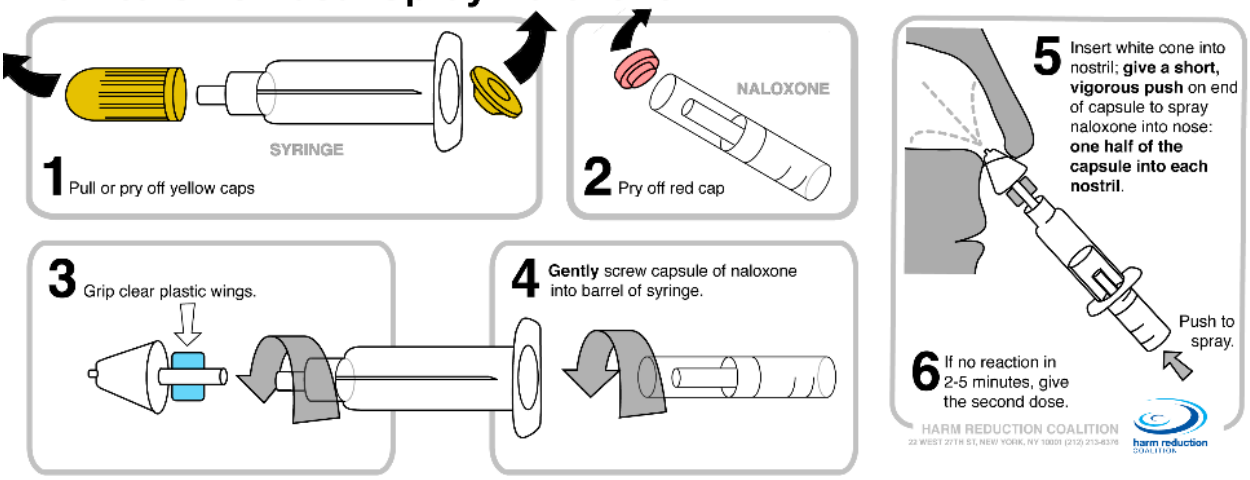
C. Reverse

STEP 3: REVERSE

Administer Intra-Nasal Naloxone:

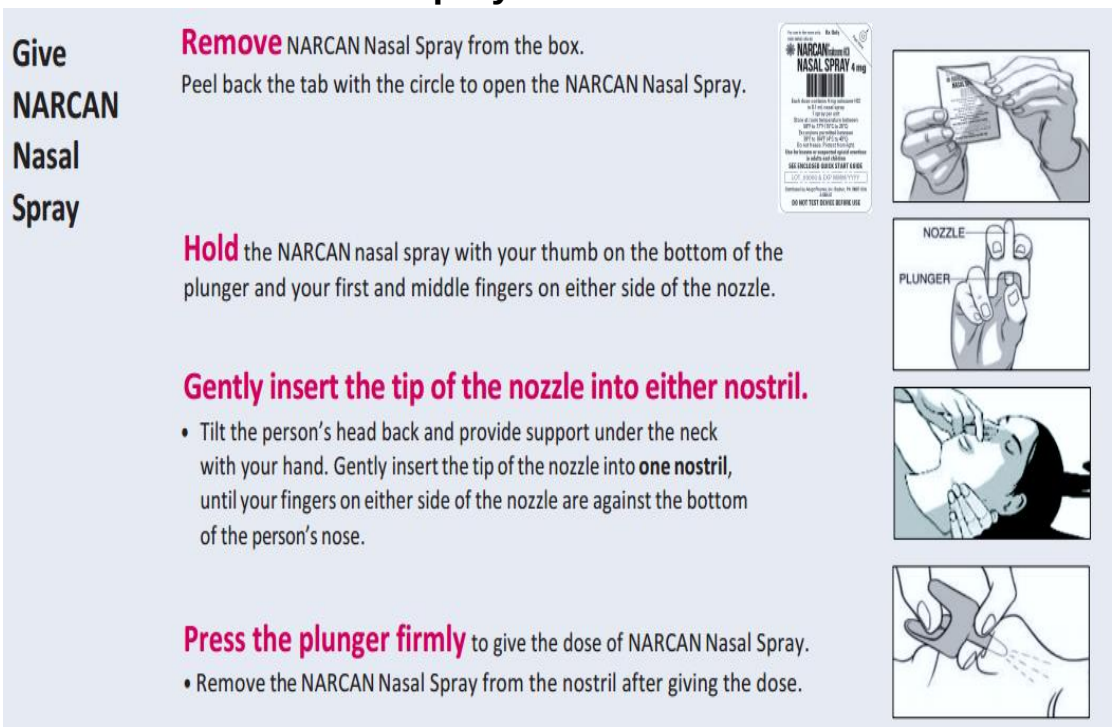
1. Tilt head back and give spray into one nostril following steps below. The recommended initial dose of naloxone Nasal Spray in adults and pediatric patients is a spray delivered by intranasal administration into one or both nostrils. Per manufacturer, either the 2mg or 4mg spray device is appropriate for use in adults and pediatric patients (Use whichever you have available):

How to Give Nasal Spray Naloxone



Graphic Credit: Harmreduction.org

How to Give Narcan Nasal Spray:



Graphic credit: (ADAPT Pharma, 2015)

2. Reassess pulse and breathing:
    - Resume high quality CPR if needed.
3. Re-administer intranasal naloxone if needed.
    - If a patient fails to respond to initial dose or responds and subsequently goes back into respiratory depression, re-administer intranasal naloxone. Naloxone can be administered every 2-3 minutes using alternating nostrils. Each naloxone spray device is designed for a one time dose. **Do not re-use the intranasal naloxone spray device. Use a new nasal spray device each time.**

D. Reassess and Record

Step 4: REASSESS and RECORD

1. Once patient is breathing spontaneously, place in recovery position (lying on their side).
2. Stay with the patient until EMS arrives.
3. Once they are breathing spontaneously, check and record the vitals every 10 minutes while waiting for EMS including BP, Heart rate, respiratory rate, Pulse Ox.
4. While waiting for EMS arrival, record events using form in “Naloxone Administration report form”, (Appendix 1).
5. Note that in those with chronic opioid use or dependence, naloxone may cause withdrawal symptoms. If these symptoms occur, document them. Symptoms of withdrawal include body aches, diarrhea, tachycardia, fever, runny nose, sneezing, sweating, yawning, nausea or vomiting, nervousness, restlessness or irritability, shivering or trembling, abdominal cramps, weakness, and increased blood pressure.

E. Refer

Step 5: REFER

1. Have the individual transported to nearest emergency room by EMS, even if symptoms seem to get better.
2. Contact parent/guardians/next of kin, per protocol.
3. Complete Naloxone Administration Report form (Appendix 1) and submit to the Office of Public Health Nursing.
4. Where feasible, follow up with the patient at a later date to see if they have been successfully connected to substance abuse treatment services.

F. Resources

Step 6: Resources

For resources for those who need treatment for substance abuse, go to www.helpisherede.com.

Acknowledgement

Much of the content in these standing orders was adapted from the National Association of Nurses (NASN) naloxone toolkit and is used with that organization's permission. Toolkit available at www.nasn.org.

References

1. National Association of Nurses (NASN) naloxone toolkit https://www.pathlms.com/nasn/courses/3353 accessed 7/21/17

2. BLS suspected opioid overdose algorithm https://www.aclsmedicaltraining.com/bls-suspected-opioid-overdose-algorithm/ accessed 7/21/2017

3. Community Management of Opioid Overdose. Geneva: World Health Organization; 2014. ANNEX 4, KEY QUESTION 4 – EVIDENCE PROFILE AND DECISION TABLE. Available from: https://www.ncbi.nlm.nih.gov/books/NBK264300/

4. Narcan (naloxone hydrochloride) nasal spray prescribing information. https://www.narcan.com/pdf/NARCAN-Prescribing-Information.pdf (accessed 10/3/17)

5. Prescribers digital reference http://www.pdr.net/drug-summary/Evzio-0-4-mg-naloxone-hydrochloride-3482 Accessed 10/3/2017

6. EVZIO (naloxone hydrochloride injection) Auto-Injector for intramuscular or subcutaneous use.

7. Prescribing information. https://evzio.com/hcp/pdfs/Evzio-PI.pdf (Accessed 10/3/17).

8. DOI: https://doi.org/10.26616/NIOSHPUB2019101 HHS (NIOSH) Publication No. 2019–101 October 2018.

Vasovagal Syncope

After a painful injury, emotional upset, fear or fright, there is a widespread dilation of blood vessels and capillaries, thus reducing the effective volume of blood in circulation, This occurs in 2 phases- the Sympathetic Nervous System (fight or flight) is responsible for Phase 1; the Parasympathetic Nervous System (conservation and withdrawal) is responsible for Phase 2.

Signs and Symptoms

Phase 1

1. increased pulse rate
2. increased blood pressure (especially systolic)
3. increased cardiac output
4. increased vascular resistance
5. the individual says she's "fine" but appears pale and apprehensive

Phase 2

1. decreased pulse rate
2. decreased blood pressure
3. decreased cardiac output
4. decreased vascular resistance
5. diaphoresis (sweating)
6. weakness
7. lightheadedness/ vertigo
8. loss of consciousness
9. vomiting and seizures may occur

Management of Vasovagal Syncope

As with all medical emergencies, the licensed professional medical personnel on duty should be notified immediately.

- Assess and maintain the patient's circulation, airway and breathing (C-A-B)

(IT IS IMPORTANT TO NOTE THE ORDER FOR RESUSCITATION IS C-A-B BASED ON UPDATES FROM THE AMERICAN HEART ASSOCIATION IN 2010 and 2015[2] THAT MAKES ASSESSING CIRCULATION AND GIVING CHEST COMPRESSIONS IF NECESSARY THE PRIORITY OVER AIRWAY AND BREATHING. BREATHING AND PULSE CHECK CAN BE PERFORMED SIMULTANEOUSLY IN LESS THAN 10 SECONDS.)

- Elevate legs.
- Loosen tight clothing.
- Reassure patient and keep comfortably warm.
- Administer ammonia inhalant.
- Monitor and record vital signs (blood pressure, apical or radial pulse, respirations).
- Remain with patient until fully recovered or emergency response crew (EMS) arrives.
- If patient does not show signs of improvement within 5 mins, call 911 or local emergency number.

Call 911 or your local emergency number IMMEDIATELY if:

1. Systolic blood pressure is ≤90mmHg or ≥170 mmHg.
2. Heart rate is ≤ 55 per min or ≥ 120 per min.
3. The individual has a known cardiac condition including (but not limited to) cardiac arrhythmia (abnormal heart rhythm), prior myocardial infarction (heart attack).
4. Patient complained of chest pain, severe headache or palpitations (racing heart) prior to passing out.

While waiting for emergency responders (fire rescue/ EMS):

- Continue the above measures.
- Administer oxygen by mask at 8 liters per minute or by nasal cannula at 6 liters per minute.
- Monitor and record vital signs (blood pressure, apical or radial pulse, respirations) until stable.
- Remain with the patient and prepare for transportation to the nearest emergency department.

[2] American Heart Association. *HIGHLIGHTS of the American Heart Association 2015 Guidelines Update for CPR and ECC.* https://eccguidelines.heart.org/wp-content/uploads/2015/10/2015-AHA-Guidelines-Highlights-English.pdf Accessed 5/23/19. (See also Appendix I.)

Shock

Shock is due to a decrease in blood pressure and tissue perfusion that results from an actual or relative loss of intravascular blood volume. Shock may be caused by dehydration, hemorrhage (hemorrhagic shock), sepsis, myocardial infarction, cardiac tamponade, adrenal failure, severe trauma, spinal cord injury, anaphylaxis, poisoning and other major insults to the body.

Signs and Symptoms

1. Confusion or lack of alertness
2. Drowsiness/fatigue
3. Loss of consciousness
4. Sudden and ongoing rapid heartbeat
5. Nausea/Vomiting
6. Diaphoresis (sweating)
7. Pallor
8. Weak pulse
9. Rapid breathing
10. Decreased or no urine output
11. Cool hands and feet
12. Enlarged pupils
13. Blue tinge to lips or fingernails

Management of Shock

- As with all medical emergencies the licensed professional medical personnel on duty should be notified immediately.
- Call 911 or your local emergency number **IMMEDIATELY.**
- Assess and maintain the patient's Circulation, Airway, Breathing. C-A-B
  (IT IS IMPORTANT TO NOTE THE ORDER FOR RESUSCITATION IS C-A-B BASED ON UPDATES FROM THE AMERICAN HEART ASSOCIATION IN 2010 AND 2015[3] THAT MAKES ASSESSING CIRCULATION AND GIVING CHEST COMPRESSIONS IF NECESSARY THE PRIORITY OVER AIRWAY AND BREATHING. BREATHING AND PULSE CHECKS CAN BE PERFORMED SIMULATANEOUSLY IN UNDER 10 SECONDS.)

[3] American Heart Association. *HIGHLIGHTS of the American Heart Association 2015 Guidelines Update for CPR and ECC.* https://eccguidelines.heart.org/wp-content/uploads/2015/10/2015-AHA-Guidelines-Highlights-English.pdf Accessed 5/23/19. See also Appendix I.

- Lay person down and elevate feet 12 inches.
- Monitor and record vital signs (blood pressure, pulse, and respirations)
- Loosen tight clothing, and keep person warm.
- Do not give the person anything by mouth, including food and drink.
- Turn head to the side if they vomit.
- Administer oxygen by mask at 8 liters per minute or by nasal cannula at 6 liters per minute.
- If patient is bleeding, attempt to control site of hemorrhage with:
    - Direct pressure and/or
    - Elevation of the bleeding site.
    - If bleeding is from a limb (arm or leg), apply a tourniquet (by tying a tight cloth or cord). This should be applied proximal to the bleeding source (i.e., at a point between the bleeding source and the person's torso/trunk) to prevent further loss of blood. As an example, if the person is bleeding from the hand, apply the tourniquet to the forearm; if bleeding from the forearm, apply the tourniquet to the upper arm.
- Remain with the client and prepare for transportation to the nearest emergency department.

Reference:

American College of Emergency Physicians. Emergency Care for You. Shock. http://www.emergencycareforyou.org/emergency-101/shock/#sm.0000wstxj7cslfkow2l139h8fvbpf. Accessed: 5/23/19.

Mayo Clinic. Shock First Aid. 2017. https://www.mayoclinic.org/first-aid/first-aid-shock/basics/ART-20056620?p=1. Accessed 5/23/19.

Cardiac and/or Respiratory Arrest

Cardiac arrest is the sudden cessation of circulation and pulmonary function. Respiratory arrest is the sudden cessation of respiration.

Signs and Symptoms

Unresponsiveness

Absence of breathing (or only gasping) and absence of a palpable carotid pulse

Management of Cardiac and/or Respiratory Arrest

RECOGNITION OF CARDIAC ARREST

Assess Circulation, Airway, Breathing, C-A-B, in that order

Determine unresponsiveness and the absence of pulse and respiration.

ACTIVATION OF EMERGENCY RESPONSE SYSTEM

- As with all medical emergencies, the licensed professional medical personnel on duty should be notified immediately.
- **Instruct a staff person to call 911 immediately and Call for AED**

COMPRESSION/ VENTILATION

- If there is **a pulse, but NO respirations**, initiate **RESCUE BREATHING** using ambu bag and attached mask.
- If there is **NO pulse or respiration BEGIN high quality CPR.**
  For step by step guidance in performing high quality CPR for children and adults
  See next page (p. 25):
  SUMMARY OF AHA HIGH QUALITY CPR COMPONENTS FOR BLS PROVIDERS
- **Use AED as soon as available**
- Administer Oxygen by nasal cannula at 6 liters per minute.
- Continue CPR or rescue breathing until emergency personnel arrive or until the client's own pulse and respiration have been re-established.
- Remain with the patient until EMS arrives

Table 1: Summary of AHA High Quality CPR Components for BLS Providers

Table 2 Summary of High-Quality CPR Components for BLS Providers

Component	Adults and Adolescents	Children (Age 1 Year to Puberty)	Infants (Age Less Than 1 Year, Excluding Newborns)
Scene safety	Make sure the environment is safe for rescuers and victim		
Recognition of cardiac arrest	Check for responsiveness No breathing or only gasping (ie, no normal breathing) No definite pulse felt within 10 seconds (Breathing and pulse check can be performed simultaneously in less than 10 seconds)		
Activation of emergency response system	If you are alone with no mobile phone, leave the victim to activate the emergency response system and get the AED before beginning CPR Otherwise, send someone and begin CPR immediately; use the AED as soon as it is available	***Witnessed collapse*** Follow steps for adults and adolescents on the left ***Unwitnessed collapse*** Give 2 minutes of CPR Leave the victim to activate the emergency response system and get the AED Return to the child or infant and resume CPR; use the AED as soon as it is available	
Compression-ventilation ratio *without advanced airway*	***1 or 2 rescuers*** 30:2	***1 rescuer*** 30:2 ***2 or more rescuers*** 15:2	
Compression-ventilation ratio *with advanced airway*	Continuous compressions at a rate of 100-120/min Give 1 breath every 6 seconds (10 breaths/min)		
Compression rate	100-120/min		
Compression depth	At least 2 inches (5 cm)*	At least one third AP diameter of chest About 2 inches (5 cm)	At least one third AP diameter of chest About 1½ inches (4 cm)
Hand placement	2 hands on the lower half of the breastbone (sternum)	2 hands or 1 hand (optional for very small child) on the lower half of the breastbone (sternum)	***1 rescuer*** 2 fingers in the center of the chest, just below the nipple line ***2 or more rescuers*** 2 thumb–encircling hands in the center of the chest, just below the nipple line
Chest recoil	Allow full recoil of chest after each compression; do not lean on the chest after each compression		
Minimizing interruptions	Limit interruptions in chest compressions to less than 10 seconds		

*Compression depth should be no more than 2.4 inches (6 cm).

Abbreviations: AED, automated external defibrillator; AP, anteroposterior; CPR, cardiopulmonary resuscitation.

American Heart Association. *HIGHLIGHTS of the American Heart Association 2015 Guidelines Update for CPR and ECC.* https://eccguidelines.heart.org/wp-content/uploads/2015/10/2015-AHA-Guidelines-Highlights-English.pdf

Accessed 5/23/19..

Hyperventilation Syndrome

Hyperventilation is usually manifested by acute anxiety which increases inspiration and expiration of air resulting in carbon dioxide depletion.

Signs and Symptoms

Increased respiratory rate
Anxiety
Diaphoresis (Sweating)
Lightheadedness
Hypotension (low blood pressure)
Tightness in chest
Feeling of suffocation
Perioral tingling
Tingling, spasms of hands/fingers
Convulsions may occur in severe cases

Management of Hyperventilation Syndrome

- As with all medical emergencies, the licensed professional medical personnel on duty should be notified immediately.
- Assess and maintain the patient's Circulation, Airway, and Breathing.
- Reassure and comfort patient.
- Encourage the patient to slow down his/her breathing.
- Monitor and record vital signs (blood pressure, apical or radial pulse rate, and respirations)
- Give oxygen by mask or nasal canula
- If no improvement within 5 minutes, call 911 or your local emergency number **IMMEDIATELY** as the hyperventilation may be a sign of a serious medical condition such as acute myocardial infarction (MI), pneumothorax, and pulmonary embolism (PE)**.**
- Stay with client and prepare patient for transportation to the nearest emergency department.

Allergic Reactions and Anaphylaxis

At the first suspicion of a severe reaction/anaphylaxis, the nurse should:

Call for help – ACTIVATE THE EMS SYSTEM – CALL 911

Remain with the patient.

Initiate basic life support measures: in this order: **C-A-B**

Circulation – Check for a pulse. Ongoing assessment of vital signs

Airway – Maintain patent airway with patient in position of comfort/safety

Breathing – Check breathing and give supplemental oxygen via face mask at 8 liters per minutes or nasal cannula at 6 liters per minute

Document initial and interval vital signs symptoms, and all nursing interventions.

MILD REACTION

Signs and Symptoms

Mild Shortness of breath, able to talk in full sentences

Mild urticaria

Treatment

Give oral liquid dye-free **diphenhydramine (Benadryl)** 12.5mg/5ml by mouth (see chart next page).

Dosage by weight is preferred to dosage by age. If weight is known or if the situation permits quick measurement of weight to determine dose, this should be done.

Use of syringe is most accurate way to dispense a small amount of liquid PO meds.

Oral Diphenhydramine (Benadryl) Dosage*

(The recommended dosage is 1-2 mg/kg body weight)

AGE *(As much as possible, avoid using age as basis for dosing. Use weight instead)*	WEIGHT (lbs)	WEIGHT (kg)	Dose (mg)	AMOUNT OF ORAL LIQUID Diphenhydramine (Benadryl) 12.5 mg/5ml
1 - 6 months or > 6 months with weight below 20lb/9kg	****DO NOT ADMINISTER DIPHENHYDRAMINE ((BENADRYL) TO CHILDREN 6 MONTHS AND BELOW OR TO INDIVIDUALS WHO WEIGH LESS THAN 20lbs (9kg) UNDER THESE STANDING ORDERS			
7-36 months	**20-32 lbs**	9-14.5 kg	17.5 mg	**7 ml**
37-59 months	**33-39 lbs**	15-17.5 kg	25 mg	**10 ml**
5-7 years	**40-56 lbs**	18-25.5 kg	30 mg	**12 ml**
8-12 years	**57-99 lbs**	26-45 kg	30 mg	**12 ml**
13 yrs and older	**100+ lbs**	46+ kg	50 mg	**20 ml**

Adapted from Immunization Action Coalition

www.immunize.org/catg.d/p3082a.pdf Item#P3082a (7/11)

***Note: 30mg is maximum dose for children; 50mg is maximum dose for teens**

If condition worsens, use orders for severe reaction/anaphylaxis.

Severe Allergic Reaction/Anaphylaxis

Signs and symptoms include:

A. Generalized (body wide) itching, erythema (redness) or urticaria (hives) **and/or**
B. Angioedema (swelling of face, throat, tongue, lips and/or drooling) **and/or**
C. Respiratory distress (wheezing, stridor, unable to talk, voice change, tightness in throat/chest)
D. Shock symptoms (tachycardia, hypotension) may be present
E. Abdominal cramping may or may not be present, and when present alone without other symptoms of anaphylaxis, should not be considered evidence of anaphylaxis

Onset of symptoms may be sudden or gradual.

Once anaphylaxis is suspected, give treatment as detailed below.

Treatment

Give IM Epinephrine (Adrenaline Chloride)

See Epinephrine Dose charts on next page

AND

If able to swallow, give oral liquid PO Diphenhydramine (Benadryl 12.5 mg /5ml):

See Diphenhydramine (Benadryl) dosage chart for oral liquid on previous page.

OR

If not able to swallow, give IM Diphenhydramine (Benadryl 50 mg/ml):

See Diphenhydramine (Benadryl) dosage chart for IM injectable on page 31.

Administering Epinephrine

EPI-PEN/EPI-PEN Jr.

Below chart is summary of orders for Epi-pen/Epi-Pen Jr administration.

EPI-PEN (Adrenaline Chloride 1:1000, 0.3mg/0.3ml)

EPI-PEN Jr (Adrenaline Chloride 1:2000, 0.15mg/0.3ml)

Weight	EPI-PENS*
0-21 lbs.	Do Not Use EpiPen. Give Epi from Epi vial (See Chart below)
22-32 lbs.	Do Not Use EpiPen. Give Epi from Epi vial (See Chart below)
33-65 lbs.	EPI-Pen Jr.
66 lbs. and greater	EPI-Pen

***Administer epi via EPI PENs IM into the anterolateral aspect of the thigh**

Vial epinephrine:

Note: EPI-PEN/EPI-PEN Jr are preferable for use if they are available. If epi-pens are not available, give Epinephrine (Adrenaline Chloride) 1:1000 per dosage chart below

Epinephrine (Adrenaline Chloride 1:1000, 1mg/1ml) Dosage*			
Age	**Weight (kg)**	**Weight (lbs)**	**Epinephrine Dose**
1-6 mos	4-7 kg	9–15 lbs	0.05 mg (0.05 ml)
7-18 mos	7-11 kg	15–24 lbs	0.1 mg (0.1 ml)
19-36 mos	11-14 kg	24–31 lbs	0.15 mg (0.15 ml)
37-48 mos	14-17 kg	31–37 lbs	
49-59 mos	17-19 kg	37–42 lbs	0.2 mg (0.2 ml)
5-7 years	19-23 kg	42–51 lbs	
8-10 years	23-35 kg	51–77 lbs	0.3 mg (0.3 ml)
10-12 years	35-45 kg	77–99 lbs	0.4 mg (0.4 ml)
13 yrs & older	45+ kg	99+ lbs	0.5 mg (0.5 ml)

*Dosage by weight is preferred.

Administer all epinephrine IM into anterolateral thigh

1. **Monitor vital signs and symptoms every 5 minutes at a minimum.**

Repeat doses may be necessary for persistent symptoms:

If *using epinephrine from vial* and EMS has not arrived, and symptoms are still present, repeat epinephrine at 5-15 minute intervals for up to 2 total doses

If *using epipen or epipen jr* and EMS has not arrived, and symptoms are still present, Give one additional epipen/epipen jr dose after 5-15 minutes. (For a total of 2 doses).

To avoid local tissue necrosis, do not inject repeated doses in the same injection site. Use the other thigh or (if both thighs have been used) administer in a location in the anterior thigh as far as possible from earlier injection.

Diphenhydramine (Benadryl) Dosage* *(The recommended dosage is 1-2 mg/kg body weight)*					
AGE *(As much as possible, avoid using age as basis for dosing. Use weight instead)*	**WEIGHT (lbs)**	**WEIGHT (kg)**	**Dose (mg)**	**AMOUNT OF ORAL LIQUID Diphenhydramine (Benadryl) 12.5 mg/5ml**	**AMOUNT OF INJECTABLE (IM) Diphenhydramine (Benadryl) 50 mg/ml**
1 - 6 months or > 6 months with weight <20lb/9kg	****DO NOT ADMINISTER DIPHENHYDRAMINE (BENADRYL) TO CHILDREN 6 MONTHS AND BELOW OR TO INDIVIDUALS WHO WEIGH LESS THAN 20lbs (9kg) UNDER THESE STANDING ORDERS				
7-36 months	**20-32 lbs**	9-14.5 kg	17.5 mg	**7 ml**	**0.35 ml**
37-59 months	**33-39 lbs**	15-17.5 kg	25 mg	**10 ml**	**0.5 ml**
5-7 years	**40-56 lbs**	18-25.5 kg	30 mg	**12 ml**	**0.6 ml**
8-12 years	**57-99 lbs**	26-45 kg	30 mg	**12 ml**	**0.6 ml**
13 yrs and older	**100+ lbs**	46+ kg	50 mg	**20 ml**	**1.0 ml**

***Note: 30mg is maximum dose for children; 50mg is maximum dose for teens**

Anaphylaxis References:

American Academy of Pediatrics. Treatment of Anaphylactic Reaction. In Pickering LK, Baker CJ, Kimberlin, DW, Long SS, eds. *Red Book: 2012 Report of the Committee on Infectious Disease*, 29th ed., Elk Grove Village, IL: American Academy of Pediatrics; 2012: 65-67.

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Immunization Action Coalition. (*Emergency medical protocol for management of anaphylactic reactions in children and teens in) Medical Management of Vaccine Reactions in Children and Teens.* www.immunize.org/catg.d/p3082a.pdf Item #P3082a (1/15)

Immunization Action Coalition. (*Emergency medical protocol for management of anaphylactic reactions in adults) Medical Management of Vaccine Reactions in Adults.* www.immunize.org/catg.d/p3082.pdf Item #P3082 (9/14)

EpiPen and EpiPenJr. Highlights of Prescribing Information. Full Prescribing Information. Mylan Specialty L.P., Morgantown, WV 26505, U.S.A. by Meridian Medical Technologies, Inc., Columbia, MD 21046, U.S.A., a Pfizer company. April 2014 https://www.epipen.com/en/prescribing-information Accessed 6/9/16.

Emergency Summary Sheet

Client's Name_____
Client's Address_____
Birthdate/Age_____Phone_____

Medication/Antigen given before reaction noted (dosage and method)
1) _____
2) _____

Chief Complaint and Symptoms:
_____

OBSERVATIONS AND TREATMENT AFTER REACTION NOTED:

TIME	VITAL SIGNS	MEDICATIONS (dosage and route of administration)	NOTES

EMS Called (time):_____EMS Arrived (time):_____EMS Departed (time): _____
EMS Unit #: _____

Follow-Up and/or Plan of Correction:
_____
_____

Nurse's Signature: _____Date_____
Nurse's Name (print):_____
Location (clinic, etc.) _____
Please add any additional information on the back of this form.
Send one copy with client, send one copy to the nursing director, give one copy to clinic manager, and retain original for DPH record.

QUALITY ASSURANCE TOOL: EMERGENCY SUPPLIES

	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:
CONTENTS OF EMERGENCY BOX						
Epinephrine 1:1000 (Adrenaline Chloride): 2 vials	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____
EpiPen: 4	Exp. Dates: 1. _____ 2. _____ 3. _____ 4. _____	Exp. Dates: 1. _____ 2. _____ 3. _____ 4. _____	Exp. Dates: 1. _____ 2. _____ 3. _____ 4. _____	Exp. Dates: 1. _____ 2. _____ 3. _____ 4. _____	Exp. Dates: 1. _____ 2. _____ 3. _____ 4. _____	Exp. Dates: 1. _____ 2. _____ 3. _____ 4. _____
EpiPen Jr.: 2	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____
Diphenhydramine IM (for Benadryl): 2 vials	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____
Naloxone: 5 vials (0.4 mg/mL single use vial)	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____	Exp. Dates: 1. _____ 2. _____
Syringes[1]: 1 ml: 2 and 3ml: 5 (min)						
5/8" needles: 5 (min)						
1"needles: 5 (min)						
1½"needles: 5 (min)						
10 ml syringes (5)						
Diphenhydramine oral liquid (for Benadryl): 1 (4 oz.) bottle	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____
Ammonia Inhalants x 10[2]	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____	Exp. Date: _____
Alcohol Pads						
Penlight (functioning)						
Tourniquet						
Emergency Standing Orders Inside Emergency Box						
All Drugs Properly Labeled						
Gloves						
OXYGEN						
Portable Oxygen: tank is > half full & works properly						
Oxygen Tubing						
Oxygen Mask: Adult						
Oxygen Mask: Pediatric						
AMBU BAGS						
Pediatric: 1 Disposable Adult: 1 Disposable	_____ _____	_____ _____	_____ _____	_____ _____	_____ _____	_____ _____
STORAGE OF DRUGS and AED						
Room Temp 59°-86° F						
AED: Location_____						

Enter date at column top & record initials in the underlying boxes to indicate that an inspection of the corresponding items has been conducted & is in compliance with specifications. Also enter expiration dates as requested

INITIALS: _____ SIGNATURE: _____

INITIALS: _____ SIGNATURE: _____

INITIALS: _____ SIGNATURE: _____

[1] Syringes can have needles preattached, in that case subtract the amount of needles needed.

[2] One full box of Ammonia Inhalants must be in ER box. An additional opened box (1) may be kept at clinic choice of location.

Signature Page

The preceding Management of Medical Emergemcies Standing Orders are approved for use by the Division of Public Health Registered Nurses and other Registered Nurses working under the direction of the Division of Public Health.

Effective through June 30, 2021

_____

Medical Director

June 20, 2020

_____

Date