Chapter 6
Respiratory Emergencies

♦ KNOWLEDGE OBJECTIVES

1. List at least four signs and symptoms of respiratory distress.

2. Describe how to care for a casualty of respiratory distress.

3. Explain when to provide rescue breathing.

4. Describe how to provide rescue breathing for an adult, child, and infant.

5. List five causes of choking.

6. Describe how to care for a conscious casualty with an obstructed airway.

7. Describe how to care for an unconscious casualty with an obstructed airway.

8. Define the key terms for this chapter.

♦ SKILL OBJECTIVES

After reading this chapter and completing the class activities, you should be able to:

1. Demonstrate rescue breathing for an adult, a child, and an infant.

2. Demonstrate how to care for a conscious adult, child, and infant with an obstructed airway.

3. Demonstrate emergency care for an unconscious adult, child, and infant with an obstructed airway.

4. Make appropriate decisions about care when given an example of an emergency in which a person is having difficulty breathing.
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KEY POINTS

Asthma

Facts

♦ Narrowing of air passages.
♦ Common in children.
♦ Controlled by medication.

Triggered by

♦ Allergic reaction to pollen/food/ a drug/ insect stings.
♦ Emotional stress/physical activity.

Signs and symptoms

♦ Wheezing when exhaling.

Emphysema

Facts

♦ Lungs lose ability to exchange carbon dioxide and oxygen effectively.

Triggered by:

♦ Smoking; usually develops over many years.

Signs and symptoms

♦ Shortness of breath.
♦ Possible coughing, cyanosis, or high fever.
♦ Advanced cases: Restlessness, confusion, weakness.
**Bronchitis**

**Facts**
- Excessive mucous secretions and inflammatory changes to the bronchi.

**Triggered by**
- Exposure to irritants like cigarette smoke.

**Signs and symptoms**
- Shortness of breath.
- Coughing with sputum.
- Cyanosis.

**Hyperventilation**

**Facts**
- Rapid breathing causes upset in body's balance of oxygen and carbon dioxide.

**Triggered by**
- Fear/anxiety.
- Injury to head/severe bleeding/illness.
- Asthma.
- Exercise.

**Signs and symptoms**
- Shallow, rapid breathing.
- Dizziness.
- Numbness in fingers/toes.

**Anaphylactic Shock**

**Facts**
- Swelling of air passages restricts breathing.
- Also known as anaphylaxis.

**Triggered by**
- Severe allergic reaction to food/insect stings/a drug.

**Signs and symptoms**
- Skin rash.
- Tightness in the chest/throat.
- Swelling of the face/neck/tongue.
Care for Respiratory Distress

**General care**
- Emergency Action Principles.

**Specific care**
- Maintain normal body temperature.
- Have casualty rest in a comfortable position.
- Reduce heat and humidity.
- Administer supplemental oxygen.
- Summon more advanced medical care.
- Monitor vital signs.

**Key Points of Respiratory Arrest**
- Life threatening.
- Caused by illness, injury, or choking.
- Often preceded by respiratory distress.
- Body systems will progressively fail.

**Give Breaths**
- Adults: 1 every 5 seconds.
- Children: 1 every 3 seconds.
- Infants: 1 every 3 seconds.

**Airway Obstruction**

**Anatomical** - Throat blocked by anatomic structure.
- Tongue.
- Swelling of mouth and throat.

**Mechanical** - Throat blocked by foreign object.
- Food.
- Toy.
- Fluid.

**Airway Obstruction**

**Partial** - Casualty can still move air to and from the lungs; can cough, speak.

**Complete** - Casualty is unable to speak, breathe, or cough; no air movement.
♦ LEARNING ACTIVITIES

Matching

Match each term with its definition. Write its letter on the line in front of the definition.

Terms

a. Respiratory distress
b. Airway obstruction
c. Respiratory arrest
d. Aspiration
e. Head-tilt/chin-lift

Definitions

1. _____ A technique for opening the airway
2. _____ The condition in which breathing has stopped
3. _____ A blockage that prevents air from reaching the lungs, causing respiratory arrest or distress
4. _____ The condition in which breathing is difficult
5. _____ Taking blood, saliva, vomit, or other foreign matter into the lungs

Short Answer

Read each statement or question and write the correct answer or answers in the space provided.

1. List the four situations in which it is appropriate for you to stop rescue breathing.
   1. __________________________
   2. __________________________
   3. __________________________
   4. __________________________

2. List four common causes of choking.
   1. __________________________
   2. __________________________
   3. __________________________
   4. __________________________

3. List at least six signs and symptoms of respiratory distress.
   1. __________________________
   2. __________________________
   3. __________________________
   4. __________________________
   5. __________________________
   6. __________________________
CASE STUDIES

Read the case studies and answer the questions that follow.

Case 6.1

You are summoned to a home where you find a 3-month-old baby girl in her crib, struggling and cyanotic. You hear very high-pitched wheezes but do not see any rise and fall of the chest, or hear or feel any air going in and out at the mouth and nose. She is not crying.

1. If you suspect an obstructed airway, what will you do first to try to clear the obstruction from the airway?
   a. Give two slow puffs.
   b. Tilt her head back, and pull up on the jaw.
   c. Administer 5 chest thrusts using two fingers.
   d. Give 5 back blows.

2. Describe how you will position the infant initially to begin your emergency care?

3. T F When you deliver back blows or chest thrusts to this infant, her head should be kept higher than the rest of her body.

4. How would you find the correct hand position for delivering chest thrusts to this infant?

5. T F When you deliver rescue breathing to this infant, you should cover her nose and mouth with your mouth to give the puffs.

Case 6.2

At a scene where a car crashed into a utility pole, you find the driver unconscious on the ground. He is bleeding slightly, but not severely, from wounds on his forehead and left cheek, and does not appear to be breathing.

1. How should you first attempt to open his airway?
   a. Use the head-tilt/chin-lift to move his tongue away from the back of the throat.
   b. Pull his lower jaw forward by putting your thumb in his mouth and your fingers on the jaw.
   c. Lift his chin using a two-handed jaw thrust technique without tilting the head back.
   d. Turn his head to the side, and clear any blood and foreign matter from his mouth.
2. The preferred method of rescue breathing to use with this casualty is:
   a. Mouth-to-mouth
   b. Mouth-to-mouth and nose.
   c. Mouth-to-nose.
   d. Mouth-to-mask.

3. Describe what you would do if the casualty vomited during your attempts at rescue breathing.

   ____________________________________________
   ____________________________________________

4. T F You should check this casualty for a pulse as soon as you have brought the chin forward to clear the airway.

5. As you continue rescue breathing, how often would you recheck the pulse?

   ____________________________________________

6. At which point would you care for the bleeding injuries?
   a. Before calling for advanced medical help
   b. After you interview the casualty
   c. During the secondary survey
   d. As soon as you have begun rescue breathing
SELF-ASSESSMENT

Circle the letter of the best answer.

1. When giving back blows to a choking infant, the head should be
   a. Higher than the chest.
   b. Turned to the side.
   c. Lower than the chest.
   d. Resting on your thigh.

2. When performing rescue breathing, what should you do after giving the first 2 slow breaths?
   a. Reposition the head.
   b. Check for a pulse.
   c. Check for consciousness.
   d. Repeat the two breaths.

3. If the casualty's head is not tilted back far enough when you deliver breaths during rescue breathing, what will happen?
   a. Air will go into the casualty's stomach.
   b. Oxygen will not get to the casualty's tissues.
   c. Air will not reach into the casualty's lungs.
   d. The casualty's pharynx will rupture.

4. What should you do when a casualty is breathing rapidly and you are certain it is caused by emotion?
   a. Place the casualty on one side to ease breathing.
   b. Administer oxygen, if it is available.
   c. Ask the casualty to try to breathe slower as you are breathing.
   d. Assist the casualty in taking his or her prescribed medication.

5. When you provide rescue breathing to a casualty, you are
   a. Artificially circulating oxygenated blood to the body cells.
   b. Supplementing the air the casualty is already breathing.
   c. Supplying the casualty with oxygen necessary for survival.
   d. All of the above.

6. One sign of respiratory distress is
   b. Rapid or slow breathing.
   c. Constricted pupils.
   d. Ringing in the ears.
7. Which is a common cause of choking?
   a. Drinking alcohol before or during meals
   b. Wearing dentures
   c. Eating small pieces of well-chewed food
   d. a and b

10. Which first aid technique is used to provide oxygen to a casualty of respiratory arrest?
    a. Mechanical breathing
    b. Oxygen supplementation by mask
    c. Rescue breathing
    d. Abdominal thrusts

8. After discovering that your first 2 breaths are not causing the casualty's chest to rise, what should you do?
   a. Retilt the head and give breaths again.
   b. Begin rescue breathing.
   c. Give 2 more breaths with force.
   d. Do a finger sweep.

11. A blue skin colour that results from too little oxygen in the blood is:
    a. Hypoxia.
    b. Cyanosis.
    c. Anaphylaxis.
    d. Edema.

12. Where should you position your hands when giving abdominal thrusts to a conscious choking adult or child?
    a. In the middle of the abdomen well below the navel.
    b. On the center of the chest.
    c. In the middle of the abdomen just above the navel.
    d. None of the above.

9. Which would be included in your care for an unconscious choking child?
   a. Positioning on back
   b. Repeated abdominal thrusts until object is dislodged
   c. Doing a foreign body check
   d. a and c
13. The ideal rate for mouth-to-mouth ventilations for infants is:
   a. 1 breath every second.
   b. 1 breath every 3 seconds.
   c. 1 breath every 5 seconds.
   d. 2 breaths every 3 seconds.

14. Air will go into the casualty's stomach during rescue breathing if you:
   a. Breathe only until the chest rises.
   b. Make an inadequate seal.
   c. Fail to pinch the nose.
   d. Breathe too forcefully.

15. For which condition should you give rescue breathing?
   a. Respiratory distress.
   b. Cardiac arrest.
   c. Asthma.
   d. Respiratory arrest.

16. Which is the most dependable method of evaluating the effectiveness of rescue breathing?
   a. Assuring that your mouth is sealed securely against the casualty's mouth.
   b. Assuring that the casualty's nose is pinched securely shut.
   c. Breathing into the casualty's mouth for exactly 2 seconds.
   d. Seeing the casualty's chest rise with each breath you deliver.

17. After discovering that your first 2 breaths are not causing the casualty's chest to rise, what should you do?
   a. Summon more advanced medical personnel.
   b. Do a finger sweep.
   c. Give 2 more breaths with more force.
   d. Retilt the head and breathe again.
18. A person is trying to breathe but only making high-pitched noises. You should:

a. Lower the person to the floor, look in the mouth, give breaths and chest compressions.

b. Give abdominal thrusts until the object is dislodged or the person becomes unconscious.

c. Encourage the person to continue coughing to try to dislodge the object.

d. Open the airway using the head-tilt/chin-lift.

19. The condition in which the patient's skin, lips, or nail beds turn blue or gray due to a lack of oxygen is called

a. Cyanosis.

b. Rigor mortis.

c. Dyspnea.

d. Edema.

20. The correct number of chest compressions to be performed on an unconscious choking adult or child is

a. 5.

b. 10.

c. 15.

d. 20.

21. When breathing stops completely, the casualty is experiencing

a. Cardiac arrest.

b. Respiratory arrest.

c. Clinical death.

d. Biological death.

22. Which must you do to determine if a casualty requires rescue breathing?

a. Check for a pulse in the neck.

b. Look, Listen, and Feel for breathing.

c. Check for bluish or grayish skin colour.

d. Summon more advanced medical personnel.

23. You have decided to give rescue breathing to a casualty of respiratory arrest. Which technique should you use to keep the airway open?

a. Chin-lift.

b. Head-tilt/neck-lift.

c. Modified jaw thrust.

d. Head-tilt/chin-lift.
24. If the casualty's head is not tilted enough when you deliver breaths during rescue breathing, what may happen?

a. Air may go into the casualty's stomach.

b. Oxygen will not get to the casualty's tissues.

c. Air will go into the casualty's lungs.

d. The casualty's pharynx will rupture.

25. How can you minimize the amount of air forced into a casualty's stomach during rescue breathing?

a. Breathe slowly into the casualty when delivering breaths.

b. Do not pause between breaths unless absolutely necessary.

c. Press on the casualty's stomach while delivering breaths.

d. Breathe as hard as you can into the casualty.

26. When you give rescue breaths, how much air should you breathe into the casualty?

a. Enough to make the stomach rise.

b. Enough to make the chest rise.

c. Enough to feel resistance.

d. Enough to fill the casualty's cheeks.
Answers to Exercises
Unit 6-Respiratory Emergencies

Matching: (Pg. 96)
1. e
2. c
3. b
4. a
5. d

Short Answer:
1. The casualty begins to breathe; the casualty has no pulse; you begin CPR; another rescuer of equal or greater training takes over; you are too exhausted to continue. (Pg. 103)
2. Swallowing large pieces of poorly chewed food; drinking alcohol before meals; wearing dentures; eating while talking excitedly or laughing or eating too fast; walking, playing, or running with food or objects in the mouth. (Pg. 106)
3. Slow or rapid breathing; unusually deep or shallow breaths; gasping for breath; wheezing, gurgling, or making high-pitched noises; unusually moist skin; flushed, pale or ashen, or bluish skin; shortness of breath; dizziness or light-headedness; pain in the chest; tingling in hands and feet. (Pg. 103)

Case Study 6.1:
1. d (Pg. 113)
2. Faceup on your forearm; other arm on top of the infant to sandwich her; use thumb and fingers of top arm to hold her jaw; turn her over so you can deliver back blows. (Pg. 113)
3. F (Pg. 113)
4. Place the pad of your ring finger on the infant's breastbone just under the nipple line; Place the pads of the middle and index fingers on the infant's breastbone under the nipple line; Raise the ring finger off her chest. (Pg. 114)
5. T. (Pg. 106)

Case Study 6.2:
1. c (Pg. 105)
2. d (Pg. 102)
3. Turn the casualty's head and body to the side as a unit; wipe the mouth clean; reposition the casualty, moving him as a unit, and continue rescue breathing. (Pg. 104)
4. F (Pg. 110)
5. Once a minute. (Pg. 103)
6. c. (Pg. ??)
Self Assessment:

1. c (Pg. 114)
2. b (Pg. 102)
3. a (Pg. 103)
4. c (Pg. 100)
5. c (Pg. 102)
6. b (Pg. 103)
7. d (Pg. 98)
8. a (Pg. 110)
9. d (Pg. 113)
10. c (Pg. 102)
11. b (Pg. 99)
12. a (Pg. 112)
13. b (Pg. 106)
14. d (Pg. 103)
15. d (Pg. 101)
16. d (Pg. 102)
17. d (Pg. 110)
18. b (Pg. 107)
19. a (Pg. ??)
20. c (Pg. ??)
21. b (Pg. ??)
22. b (Pg. ??)
23. d (Pg. ??)
24. a (Pg. ??)
25. a (Pg. ??)
26. b (Pg. ??)
PRACTICE SESSION: *Rescue Breathing for an Adult or a Child*

- **Check for consciousness**
  - Tap and gently shake person.
  - Shout, "Are you OK?"

*If person does not respond...*

- **Check for breathing**
  - Look, listen, and feel for about 10 seconds.

*If not breathing or you cannot tell...*

- Position casualty on back. Roll person as a single unit while supporting the head and neck.
♦ Open the airway.
♦ Tilt head back and lift chin.
♦ Recheck breathing.
♦ Look, listen, and feel for about 10 seconds.

If person is not breathing...
♦ Keep head tilted back.
♦ Pinch nose shut.
♦ Seal your lips tightly around person's mouth.
♦ Give 2 slow breaths, each lasting about 1 1/2 seconds.
♦ Watch to see that the breaths go in.

☐ Check for pulse
♦ Locate Adam's apple.
♦ Slide fingers down into groove of neck on side closer to you.
♦ Feel for pulse for 10 seconds.
☐ Check for severe bleeding
  ♦ Look from head to toe for severe bleeding.

*If person has a pulse and is not breathing...*
  ♦ Do rescue breathing.

☐ Begin rescue breathing
  ♦ Maintain open airway with head-tilt/ chin-lift.
  ♦ Pinch nose shut.
  ♦ Give 1 slow breath every 5 seconds. (1 slow breath every 3 seconds for a child).
  ♦ Watch chest to see that your breaths go in.
  ♦ Continue for 1 minute-about 12 breaths (adult); about 20 breaths (child).

☐ Recheck pulse and breathing every minute
  ♦ Feel for pulse for about 10 seconds.
  ♦ Look, listen, and feel for breathing.

*If person has a pulse and is breathing...*
  ♦ Keep airway open.
  ♦ Monitor breathing.

*If person has a pulse but is still not breathing...*
  ♦ Continue rescue breathing.

*If person does not have a pulse and is not breathing...*
  ♦ Begin CPR.
PRACTICE SESSION: Rescue Breathing for an Infant

☐ Check for consciousness
  ♦ Tap and gently shake infant's shoulder.

If infant does not respond...

☐ Check for breathing
  ♦ Look, listen, and feel for about 10 seconds.

If not breathing or you cannot tell...
  ♦ Position infant on back. Roll infant onto back while supporting the head and neck.
- Open the airway and recheck breathing.
- Tilt head back and lift chin.

- Look, listen, and feel for about 10 seconds.

*If infant is not breathing ...*

- Keep head tilted back.
- Seal your lips tightly around infant's mouth and nose.
- Give 2 slow puffs, each lasting about 1 second.
- Watch to see that the puffs go in.
- **Check for pulse**
  - Locate brachial pulse.
  - Place fingers on the inside of upper arm midway between elbow and shoulder.
  - Feel for pulse for 10 seconds.

- **Check for severe bleeding**
  - Look from head to toe for severe bleeding.

- **Begin rescue breathing**
  - Maintain open airway with head-tilt/chin-lift.
  - Give 1 slow puff every 3 seconds.
  - Watch chest to see that your puffs go in.
  - Continue for 1 minute-about 20 breaths.
Recheck pulse and breathing every minute

- Feel for pulse for about 10 seconds.
- Look, listen, and feel for breathing.

If infant has a pulse and is breathing...

- Keep airway open.
- Monitor breathing.

If infant has a pulse but is still not breathing...

- Continue rescue breathing.

If infant does not have a pulse and is not breathing...

- Begin CPR.
PRACTICE SESSION: Care for a Conscious Adult or Child with an Airway Obstruction

□ Determine whether person is choking

Ask, "Are you choking?"

If person is choking...

□ Give abdominal thrusts

♦ Wrap your arms around person's waist.

♦ With one hand find the navel. With the other hand make a fist.

♦ Place thumb side of fist against middle of person's abdomen just above the navel and well below lower tip of breastbone.

♦ Grasp fist with your other hand.

♦ Press fist into person's abdomen with a quick upward thrust.

♦ Each thrust should be a separate and distinct attempt to dislodge the object.

□ Repeat abdominal thrusts until...

♦ Object is coughed up.

♦ Person starts to breathe or cough forcefully.

♦ Person becomes unconscious.

♦ More advanced medical personnel arrive and take over.
If breaths do not go in...

- **Retilt person's head and repeat breaths**
  - Tilt head farther back.
  - Pinch nose shut and seal your lips tightly around person's mouth.
  - Give 2 slow breaths, each lasting about 1 1/2 seconds.

If breaths still do not go in...

- **Give up to 5 chest compressions**
  - Place heel of 1 hand against middle of person's abdomen, just above the navel.
  - Place other hand directly on top of first hand.
  - Press into abdomen with quick separate and distinct thrusts.

- **Do finger sweep (simulate)**
  - Grasp both tongue and lower jaw between your thumb and fingers and lift jaw.
  - Slide finger down inside of cheek to base of tongue.
  - Attempt to sweep object out.
  - For a child, do a finger sweep only if you see the object.
Open airway and repeat 2 slow breaths

- Tilt head back.
- Pinch nose shut.
- Seal your lips tightly around person's mouth.
- Breaths should last about 1 1/2 seconds.
- Watch chest to see if your breaths go in.

If breaths go in...

- Check pulse and breathing.
- If person has a pulse, but is not breathing, do rescue breathing.
- If person does not have a pulse and is not breathing, do CPR.
- Check for and control severe bleeding.

If breaths do not go in...

- Retilt head and repeat breaths.

If breaths still do not go in...

- Repeat thrusts, finger sweep, and breathing steps until...
- Obstruction is removed.
- Person starts to breathe or cough.
PRACTICE SESSION: Care for an Unconscious Infant with an Airway Obstruction

☐ Check for consciousness

♦ Tap and gently shake infant's shoulder.

*If infant does not respond...*

☐ Check for breathing

♦ Look, listen, and feel for about 5 seconds.

*If not breathing or you cannot tell...*

♦ Position infant on back. Roll infant onto back while supporting the head and neck.

♦ Open the airway.

♦ Tilt head back and lift chin.

♦ Recheck breathing.

♦ Look, listen, and feel for about 5 seconds.

*If infant is not breathing...*

♦ Keep head tilted back.

♦ Seal your lips tightly around infant's mouth and nose.

♦ Give 2 slow puffs, each lasting about 1 1/2 seconds.

♦ Watch to see that the puffs go in.
If puffs do not go in...

- Retilt infant's head and repeat puffs.
  - Tilt infant's head farther back.
  - Seal your lips tightly around infant's mouth and nose.
  - Give 2 slow puffs, each lasting about 1 1/2 seconds.

If puffs still do not go in...

- Give 5 back blows
  - Position infant facedown on forearm.
  - Lower forearm onto thigh.
  - Infant's head should be lower than feet.

- Using the heel of your hand, give forceful back blows between infant's shoulder blades, 5 times.
- Each blow should be a separate and distinct attempt to dislodge the object.
□ Give 5 chest thrusts

- Position infant faceup on forearm.
- Lower forearm onto thigh.

- Locate position for chest thrusts.
- Using pads of two fingers, smoothly compress breastbone 1.2 to 2.5 cm (1/2 to 1 inch), 5 times.
- Each thrust should be a separate and distinct attempt to dislodge the object.

□ Do foreign-body check

- Grasp both tongue and lower jaw between your thumb and fingers and lift jaw.
- If object can be seen, slide little finger down inside of cheek to base of tongue.
- Attempt to sweep object out.
Open airway and repeat 2 slow puffs

♦ Tilt head back.
♦ Seal your lips tightly around infant's mouth and nose.
♦ Give 2 slow puffs, each lasting about 1 1/2 seconds.
♦ Watch to see if your puffs go in.

*If puffs go in...*

♦ Check pulse and breathing.
♦ If infant has a pulse, but is not breathing, do rescue breathing.
♦ If infant does not have a pulse and is not breathing, do CPR.
♦ Check and control severe bleeding.

*If puffs do not go in...*

♦ Retilt head and repeat puffs.

*If puffs still do not go in...*

♦ Repeat blows, thrusts, foreign-body check, and breathing steps until...
♦ Obstruction is removed.
♦ Infant starts to breathe, cry, or cough.
♦ More advanced medical personnel arrive and take over.