Breathing Emergencies

- Identify the causes of breathing emergencies.
- Identify conditions that cause respiratory distress and respiratory arrest.
- Identify signals of respiratory distress and respiratory arrest.
- Describe the care for a person in respiratory distress and respiratory arrest.
- Identify common causes of choking for adults and children.
- Describe the care for a conscious and unconscious choking adult, child, and infant.

Introduction

- The body requires a constant supply of oxygen for survival.
- When you breathe air into your lungs, the oxygen in the air is transferred to the blood.
- Breath in 21% oxygen, Exhale about 16% oxygen.

Introduction

- Without oxygen, brain cells can begin to die in 4 to 6 minutes.  
  Figure 6-1
- If someone is having trouble breathing or has stopped breathing, you should follow the emergency action steps: CHECK — CALL — CARE.
Airway Obstruction

- Airway obstruction is the most common respiratory emergency.
- There are two types of airway obstruction:
  1. Anatomical obstruction occurs if the airway is blocked by the tongue or swollen tissues of the mouth or throat.
  2. Mechanical airway obstruction occurs if the airway is blocked by a foreign object.

Breathing Emergencies

- A breathing emergency is any respiratory problem that can threaten a person’s life.
- There are two types of breathing emergencies:
  1. Respiratory distress - Breathing is difficult
  2. Respiratory arrest - Breathing has stopped
- Both conditions are life threatening.
- By recognizing respiratory distress and taking immediate action, you may prevent respiratory arrest.
Conditions that Cause Breathing Emergencies

- Choking (partially or completely obstructed airway);
- Illness;
- Chronic respiratory conditions, such as emphysema or asthma;
- Electrocution;
- Irregular heartbeat; heart attack;
- Injury to the head or brain stem, chest, lungs, or abdomen;
- Allergic reactions; anaphylaxis;
- Drug overdose; poisoning;
- Emotional distress; and drowning.

Causes in children and infants also include respiratory infections, such as croup and epiglottitis.

Causes of Respiratory Distress and Arrest

**Chronic Obstructive Pulmonary Disease (COPD)** is a long-term lung disease encompassing both chronic bronchitis and emphysema.

- A person has trouble breathing because of damage to the lungs.
- The airways become partially blocked and the air sacs in the lungs lose their ability to fill with air, making it difficult to breathe in and out.
- The most common cause of COPD is cigarette smoking.
- Breathing in other types of lung irritants, pollutants, dust or chemicals over a long period of time also can cause COPD.

Common signals of COPD include:

- Coughing up a large volume of mucus.
- Tendency to tire easily.
- Loss of appetite.
- Bent posture with shoulders raised and lips pursed to make breathing easier.
- A fast pulse.
- Round, barrel-shaped chest.
- Confusion (caused by lack of oxygen to the brain).
Emphysema
- Emphysema is a disease in which the lungs lose their ability to exchange carbon dioxide and oxygen effectively.
  - chronic
- Signals include—
  - Shortness of breath.
  - Restlessness.
  - Confusion.
  - Weakness.

Bronchitis
- A condition resulting in inflammation of the lining of the trachea, bronchi and bronchioles.
  - Many times the result of an infection but also the result of chronic smoking
- The inflammation causes a build-up of mucus that obstructs air passages.
- Chronic Bronchitis is a form of COPD where acute Bronchitis a short term disease from a viral infection

Signals include—
- Persistent cough that produces mucus.
- Tightness in the chest.
- Shortness of breath that worsens with activity.
  - Fatigue and Fever.
- Both may cause the victim to feel restless, confused and weak, and have ankle, foot and leg swelling.
- And both can lead to respiratory arrest
Hyperventilation

- A condition that occurs when someone breathes faster than normal.
  - Upsets the balance of CO\textsubscript{2} and O\textsubscript{2}.
- Often the result of fear and anxiety.
- Signals include:
  - Deep, rapid breathing.
  - Fear, apprehension, confusion or dizziness.
  - Fingers, toes or lips feel numb or tingly.

Allergic Reaction

- Anaphylactic shock, also known as anaphylaxis, is a severe allergic reaction.
  - Caused by allergens.
- Signals include:
  - Skin rash.
  - Tightness in the chest and throat.
  - Swelling of the face, neck and tongue.
  - Dizziness or confusion.
- Treated with epinephrine (EpiPen).

Children and Respiratory Distress

Common childhood illnesses that cause respiratory distress include:

- **Croup** is a viral infection that causes swelling of the tissues around the vocal cords, resulting in a cough that sounds like the bark of a seal.
- **Epiglottitis** is a bacterial infection that causes severe inflammation of the epiglottis, which can swell and completely block the airway.
- Signals of epiglottitis include:
  - Rapid onset of a high fever.
  - Sore throat and drooling from the mouth.
  - Swelling of the epiglottis that prevents the child from swallowing.
Infections of the respiratory system are more common in children and infants than adults. Signals of respiratory distress in children include—

- Agitation.
- Unusually fast or slow breathing.
- Drowsiness.
- Noisy breathing.
- Pale, ashen, flushed or bluish skin color.
- Increased breathing trouble.
- Altered level of consciousness.
- Increased heart rate.

Care for a child in respiratory distress includes—

- Allowing him or her to remain in the most comfortable position for breathing.
- Calling 9-1-1 or the local emergency number if the child’s breathing does not appear to improve or at the first signal that the child’s condition is worsening.
- Not attempting to place any object in the child’s mouth.
- A child with a blocked airway has a life-threatening emergency.

Signals of Respiratory Distress

- Trouble breathing.
- Breathing is slow or rapid.
- Breathes are unusually deep or shallow.
- Victim is gagging for breath.
- Victim is wheezing, gurgling or making high-pitched noises.
- Victim’s skin is unusually moist or cool.
- Victim’s skin has a flushed, pale, ashen or bluish appearance.
- Victim feels short of breath.
- Victim feels dizzy or light-headed.
- Victim feels pain in the chest or tingling in hands, feet or lips.
- Victim feels apprehensive or fearful.
Care for Respiratory Distress

- CHECK the scene and victim
- CALL 9-1-1 or the local emergency number.
- CARE for conditions you find.
  - Loosen any tight clothing.
  - Provide fresh air.
  - Make sure someone has called 9-1-1 or the local emergency number.
  - Check for other life-threatening conditions and monitor ABCs.
  - Interview the victim and any bystanders.
  - Calm the victim
  - Provide necessary medication

Asthma

- Asthma is a condition that narrows the air passages and makes breathing more difficult.
  - The CDC estimates that 23 million were affected by Asthma in 2008
  - 3rd ranking cause of hospitalization in those younger than 15
- Requires medication to relax the bronchiole muscles

Asthma Medications

- Long-Term Control Medications
  - Used to prevent or reverse inflammation in the airways and/or reduce sensitivity to triggers.
- Quick-Relief Medications
  - Used to stop an asthma attack (usually bronchodilators).
- Meds are usually inhaled (MDI, DPI, Nebulizers)
- Both can also use pill or liquid methods of administration, in addition Long-Term care uses an injection form.
Asthma Medications

The characteristic sign of asthma is wheezing when exhaling.

- Coughing after exercise, crying or laughing are other signals that an asthma attack could begin.
- Additional signals of an asthma attack include:
  - Trouble breathing or shortness of breath.
  - Rapid, shallow breathing.
  - Sweating.
  - Tightness in the chest.
  - Inability to talk without stopping for a breath.
  - Feelings of fear or confusion.

Call 9-1-1 or the local emergency number if the person’s breathing trouble does not improve in a few minutes after using the quick-relief medication.

Additional steps to take include:
- Remain calm. This will help the person to also remain calm and ease his or her breathing troubles.
- Help the person to sit comfortably.
- Loosen any tight clothing around the neck and abdomen.
- Assist the person with his or her prescribed quick-relief medication if requested and if permitted by state or local regulations.

Read Smart Moves (pg. 136-135)
Choking

- Choking occurs when the person's airway is partially or completely blocked by a foreign object, such as a piece of food or a small toy; by swelling in the mouth or throat; or by fluids, such as vomit or blood.

- Common causes of choking include—
  - Trying to swallow large pieces of poorly chewed food.
  - Drinking alcohol before or during meals.
  - Wearing dentures.
  - Eating while talking or laughing, or eating too fast.
  - Walking, playing or running with food or objects in the mouth.

Choking

- Choking is a common cause of injury and death in children younger than 5 years because young children put nearly everything in their mouths.

- Food is responsible for most choking incidents in children. Toys and household items also can be hazardous.

- The American Academy of Pediatrics (AAP) recommends the following:
  - No hard, smooth foods, such as raw vegetables, for young children
  - No peanuts until after age 7 years
  - No round or firm foods such as hot dogs and carrot sticks unless they are chopped into small pieces no larger than ½ inch.

Signals of Conscious Choking—Adult or Child

- A person with a complete airway obstruction is unable to cough, speak, cry or breathe, or may cough weakly and inefficiently or make high-pitched noises as he or she attempts to get enough air to sustain life.
  - The person may have a bluish skin color.

*The universal signal of choking.*
Care for Conscious Choking—Adult or Child

- If the person is coughing forcefully or wheezing, do not interfere with attempts to cough up the object.
- If the airway is obstructed, a combination of 5 back blows followed by 5 abdominal thrusts is an effective way to clear an airway obstruction.

Remember, you are dealing with a conscious person, so obtain consent first.
- Each back blow and abdominal thrust should be a separate and distinct attempt to dislodge the object.
- For a conscious child, use less force to avoid internal injury.
- Continue back blows and abdominal thrusts until the object is forced out, the person begins to breathe on his or her own, or the person becomes unconscious.

Special Considerations

- If a victim is obviously pregnant or is known to be pregnant or too large for you to give abdominal thrusts, give chest thrusts.
- If you are alone, you may have to give abdominal thrusts to yourself. This can be done by—
  - Leaning over a firm object and pressing your abdomen into it.
  - Making a fist and giving yourself quick, upward thrusts.
- Help a conscious choking adult or child who becomes unconscious to the floor. Call 9-1-1 or the local emergency number and give care.
Causes and Signals of Conscious Choking—Infant

- An infant can easily swallow small objects or small pieces of food which can then block the airway.
- Additional reasons for choking include—
  - The infant’s airway has not fully developed.
  - Infants are still developing eating skills.
  - An infant who cannot cough, cry or breathe has a completely obstructed airway.

Care for Conscious Choking—Infant

- If an infant cannot cough, cry or breathe, assume the airway is obstructed and perform 5 back blows followed by 5 chest thrusts.
- The infant’s head and neck must be supported at all times.

Unconscious Choking—Adult and Child

- A conscious person who is choking may become unconscious if giving back blows and abdominal thrusts do not work to dislodge the object.
- You may also discover a person who is already unconscious, and may not know whether the person is choking at first.
  - Unconsciousness is always a life-threatening condition. For an adult, call 9-1-1 or the local emergency number immediately.
  - If you are alone and the person is a child or infant, give 2 minutes of care first and then call 9-1-1 or the local emergency number.
Unconscious Choking – Adult and Child

- If a conscious choking adult or child becomes unconscious:
  - Carefully lower the person to the floor.
  - Call 9-1-1 or the local emergency number if not already done.
  - Open the mouth and look for an object.
  - If an object is seen, remove it with your gloved finger.
  - If no object is seen, open the person’s airway using the head-tilt/chin-lift technique and attempt 2 rescue breaths.
  - If the person’s chest rises and falls with each rescue breath, air is making it into the lungs.
  - If the chest does not clearly rise, begin a modified CPR technique.

Unconscious Choking – Adult and Child

- If you discover an unconscious person and are not sure if they are choking:
  - If during your check for other life-threatening conditions you find that an unconscious adult is not breathing, you should start CPR immediately with chest compressions.
  - If the chest does not clearly rise after the first rescue breath in the cycle, re-tilt the head and give another rescue breath to ensure the airway is open.
  - If that breath does not make the chest clearly rise, assume that the airway is blocked and use a modified CPR technique for unconscious choking.
  - For a child who you discover unconscious and not breathing, 2 rescue breaths are included in the initial check for life-threatening conditions. If the chest does not clearly rise after the first rescue breath, re-tilt the head and give another rescue breath to ensure the airway is open. If the chest still does not clearly rise, use a modified CPR technique to care for unconscious choking.

Unconscious Choking – Adult and Child

- Do not stop modified CPR except in one of these situations:
  - The object is removed and the chest clearly rises with rescue breaths (CPR may still be needed without the foreign object check).
  - The person starts to breathe on his or her own.
  - EMS personnel or another trained responder arrives and takes over.
  - You are too exhausted to continue.
  - The scene becomes unsafe.
- If the breaths make the chest clearly rise, quickly check for breathing. Care for the conditions you find including continuing CPR with 30 chest compressions if the person is not breathing.
### Unconscious Choking - Infant

- If you attempt rescue breaths but are unable to make the chest clearly rise, you must act quickly to get air into the infant.
- Care for an unconscious choking infant is very similar to the skill of infant CPR, with the exception that you look for a foreign object in the mouth between compressions and breaths.
- Chest compressions are used to help force air from the infant's lungs to dislodge the object.

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- When a conscious choking infant becomes unconscious:
  - Lower the infant to a table or floor.
  - Call 9-1-1 or the local emergency number.
  - Open the mouth and look for an object.
  - If no object, attempt 2 rescue breaths.
  - If the breaths go in, air is reaching the lungs. Continue with CPR if not breathing.
  - If the breaths do not go in, continue the sequence of giving 30 chest compressions, removing an object if you see it, then providing 2 rescue breaths, until you are able to get air in or EMS personnel arrive and take over.

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  - The object is removed and the chest clearly rises with rescue breaths (CPR may still be needed without the foreign object check).
  - The infant starts to breathe on his or her own.
  - EMS personnel or another trained responder arrives and takes over.
  - You are too exhausted to continue.
  - The scene becomes unsafe.
  - If the breaths go in and the chest clearly rises, check for breathing for no more than 10 seconds. Care for the conditions you find including continuing CPR with 30 chest compressions if the infant is not breathing.

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The primary way to correct an airway obstruction for a conscious adult or child is to use cycles of back blows and abdominal thrusts.

An unconscious adult, child, or infant needs oxygen to enter the body at any given time. If an airway is blocked the primary role is to clear the airway with modified CPR.

Back blows and chest thrusts, not abdominal thrusts, are used to clear an obstructed airway in a conscious infant.

You need to support the infant’s head properly throughout your efforts to clear the obstruction.

Questions?