Chapter 36

Emergency Care

Lesson 36.1

- Define the key terms and key abbreviations in this chapter.
- Describe the rules of emergency care.
- Identify the signs of cardiac arrest and the emergency care required.
- Describe emergency care for heart attack.
- Describe emergency care for poisoning.
- Describe emergency care for hemorrhage, fainting, and shock.

Lesson 36.1 (Cont.)

- Describe emergency care for stroke.
- Explain how to care for a person during a seizure.
- Describe emergency care for concussions.
- Describe emergency care for burns.
- Perform the procedures described in this chapter.
- Explain how to promote PRIDE in the person, the family, and yourself.

Emergency Care

- First aid is the emergency care given to an ill or injured person before medical help arrives.
  - The goals of first aid are to:
    - Prevent death
    - Prevent injuries from becoming worse
- For emergencies in out-of-hospital settings
  - The Emergency Medical Services (EMS) system is activated.

EMS System

- To activate the EMS system, do one of the following:
  - Dial 911.
  - Call the local fire or police department.
  - Call the phone operator.
- Hospitals and other agencies have procedures for emergencies.
  - A Rapid Response Team (RRT) is called to the bedside when a person shows warning signs of a life-threatening condition.
    - The RRT's goal is to prevent death.

Basic Life Support for Adults

- When the heart and breathing stop, the person is clinically dead.
  - The American Heart Association's (AHA) Basic Life Support (BLS) procedures support breathing and circulation.
- Chain of Survival actions for the adult are:
  - Early access to emergency cardiovascular care
  - Early cardiopulmonary resuscitation (CPR)
  - Early defibrillation
  - Early advanced care

Sudden Cardiac Arrest

- Sudden cardiac arrest (SCA) or cardiac arrest is when the heart stops suddenly and without warning.
  - There are three major signs of SCA:
    - No response
    - No breathing (Agonal gasps mean “no breathing.”)
    - No pulse
  - The person’s skin is cool, pale, and gray.
  - The person is not coughing or moving.
  - If normal rhythm is not restored, the person will die.
- Respiratory arrest is when breathing stops but heart action continues for several minutes.
  - If breathing is not restored, cardiac arrest occurs.

Respiratory Arrest

- Breathing stops but heart action continues for several minutes
  - Respiratory arrest can occur from:
    - Problems affecting nerves, muscles, or areas of the brain that control breathing—amyotrophic lateral sclerosis (ALS), spinal cord injuries, stroke; drug or alcohol over-dose; drug side-effects
    - Lung disorders and problems—pneumonia, chronic obstructive pulmonary disease, pulmonary embolism, and chest injuries
    - Blocked airflow—choking, drowning, suffocation
    - Inhaling harmful substances—smoke, chemicals, fumes

Rescue Breathing

- Open the airway
- Give 1 breath every 5 to 6 seconds for adults.
- Give each breath over 1 second. The chest should rise when breaths are given.
- Check the pulse every 2 minutes. If no pulse, begin CPR.

Adult CPR

- Chest compressions
- Airway
- Breathing
- Defibrillation

Chest Compressions

- Chest compressions force blood through the circulatory system.
- Before starting chest compressions, check for a pulse.
  - Use the carotid artery on the side near you.
- Also look for signs of circulation and see if the person has started breathing or is coughing or moving.
- For effective chest compressions, the person must be on a hard, flat surface.
  - Hand position also is important.
- The AHA recommends that you:
  - Give compressions at a rate of 100 per minute.
  - Push hard, and push fast.
  - Push deeply into the chest.
  - Interrupt chest compressions only when necessary.

Airway and Breathing

- Airway
  - The respiratory passages (airway) must be open to restore breathing.
  - Tilting the head opens the airway.
- Breathing
  - The person is given breaths.
  - Before giving breaths, check for adequate breathing.
    - After opening the airway, take 5 to 10 seconds to check for adequate breathing.
  - When you start CPR, give 2 breaths first.
    - Then 2 breaths are given after every 30 chest compressions.
  - Mouth-to-mouth breathing is one way to give breaths.
  - Barrier device breathing is used for giving breaths whenever possible.

Defibrillation

- Defibrillation
  - Ventricular fibrillation (VF, V-fib) is an abnormal heart rhythm that causes SCA.
  - Defibrillation as soon as possible after the onset of VF increases the person's chance of survival.
- CPR is done only for cardiac arrest.
  - CPR is done if the person:
    - Does not respond.
    - Is not breathing.
    - Has no pulse.
  - CPR is done alone or with another person.
  - Hands-Only CPR is used to educate persons not trained in Basic Life Support.

Recovery Position

- The recovery position:
  - Is used when the person is breathing and has a pulse but is not responding.
  - Helps keep the airway open.
  - Prevents aspiration.
- Logroll the person into the recovery position.
  - Keep the head, neck, and spine straight.
  - A hand supports the head.
- Do not use this position if the person might have neck injuries or other trauma.

Choking

- Foreign bodies can obstruct the airway.
  - This is called choking or foreign-body airway obstruction (FBAO).
- Airway obstruction can be mild or severe.
- Abdominal thrusts are used to relieve severe airway obstruction.

Heart Attack

- Signs and symptoms:
  - Chest pain
  - Pain or discomfort in 1 or both arms, the back, neck, jaw, or stomach
  - Shortness of breath
  - Perspiration and cold, clammy skin
  - Feeling light-headed
  - Nausea and vomiting

Poisoning

- Common signs and symptoms:
  - Burns or redness around the mouth and lips
  - A chemical odor to the breath
  - Burns, stains, or odors on the person, on clothing, or around the person
  - Empty drug bottles or spilled drugs
  - Vomiting
  - Dyspnea
  - Drowsiness
  - Confusion

Poisoning (Cont.)

- Poison in the eyes—rinse the eyes with running water.
- Poison on the skin—remove clothing in contact with the poison. Rinse the skin with running water.
- Inhaled poison—leave the area. Get the person to fresh air at once.
- Swallowed poison—do not have the person try to vomit or give the person anything to cause vomiting. Do not give the person anything to eat or drink unless told to do so by the Poison Control Center.

Hemorrhage

- Hemorrhage is the excessive loss of blood in a short time.
  - If bleeding is not stopped, the person will die.
- You cannot see internal hemorrhage.
  - The bleeding is inside body tissues and body cavities.
  - Signs and symptoms include pain, shock, vomiting blood, coughing up blood, and loss of consciousness.
- If not hidden by clothing, external bleeding is usually seen.
  - Bleeding from an artery occurs in spurts.
  - There is a steady flow of blood from a vein.

Fainting

- Fainting is the sudden loss of consciousness from an inadequate blood supply to the brain.
- Common causes are:
  - Hunger, fatigue, fear, and pain
  - The sight of blood or injury
  - Standing in one position for a long time
  - Being in a warm, crowded room
- Warning signals are dizziness, perspiration, and blackness before the eyes.
  - The person looks pale.
  - The pulse is weak.
  - Respirations are shallow if consciousness is lost.

Shock

- Shock results when organs and tissues do not get enough blood.
- Causes are blood loss, myocardial infarction, burns, and severe infection.
- Signs and symptoms include:
  - Low or falling blood pressure
  - Rapid and weak pulse
  - Rapid respirations
  - Cold, moist, and pale skin
  - Thirst
  - Restlessness
  - Confusion and loss of consciousness as shock worsens

Anaphylactic Shock

- Some people are allergic or sensitive to foods, insects, chemicals, and drugs.
  - An antigen is a substance that the body reacts to.
- Anaphylaxis is a life-threatening sensitivity to an antigen.
  - It can occur within seconds.
- Anaphylactic shock is an emergency.
- The EMS system must be activated.
- The person needs special drugs to reverse the allergic reaction.

Stroke

- Stroke occurs when the brain is suddenly deprived of its blood supply.
  - Usually only part of the brain is affected.
- A stroke may be caused by:
  - A thrombus
  - An embolus
  - Hemorrhage if a blood vessel in the brain ruptures
- Signs of stroke depend on the size and location of brain injury.

Seizures

- Seizures (convulsions) are violent and sudden contractions or tremors of muscle groups.
- Seizures are caused by an abnormality in the brain.

Types of Seizures

- The major types of seizures are:
  - Partial seizure (Only part of the brain is involved.)
  - Generalized tonic-clonic seizure (grand mal seizure)
    - This type has two phases.
      - In the tonic phase, the person loses consciousness.
      - In the clonic phase, muscle groups contract and relax.
  - Generalized absence (petit mal) seizure
- You cannot stop a seizure.
  - You can protect the person from injury.

Concussions

- A concussion results from a bump or blow to the head or jolt to the head or body.
- Danger signs: Headache—gets worse or does not go away; stiff neck; weakness, numbness, or decreased coordination; nausea or vomiting more than once; slurred speech; very sleepy; drowsy; cannot be awakened; one eye pupil is larger than the other; convulsions or seizures; loss of consciousness

Burns

- Burns can severely disable a person.
- They can cause death.
- Most burns occur in the home.
- Infants, children, and older person are at risk.
- Some burns are minor; some are severe. Severity depends on:
  - Burn size and depth
  - The body part involved
  - The person’s age

Emergency Care for Burns

- Activate the EMS system.
- Do not touch the person if he/she is in contact with an electrical source.
- Remove the person from the fire or burn source.
- Stop the burning process.
- Apply cold or cool water (59°F to 77°F [15°C to 25°C]) until pain is relieved.
- Do not remove burned clothing.
- Remove hot clothing that is sticking to the skin.
- Remove jewelry and any tight clothing that is not sticking to the skin.
- Provide rescue breathing and CPR as needed.
- Cover burns with sterile, cool, moist coverings.
- Do not put oil, butter, salve, or ointments on burns.
- Do not break blisters.
- Cover the person to prevent heat loss.