

Chapter 31

Assisting With Emergency Care

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.

CPR for Adults

- Cardiopulmonary resuscitation (CPR) must be started at once when a person has SCA.
 - CPR supports breathing and circulation.
 - CPR involves four parts:
 - 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.
- Mouth-to–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.
 - See Chapter 9 for emergency care of the choking person.

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.

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