

# Chapter 33

## Common Health Problems

# Lesson 33.1

- Define the key terms and key abbreviations in this chapter.
- Describe cancer and how it is treated.
- Describe musculo-skeletal and nervous system disorders and the care required.

# Cancer

- A new growth of abnormal cells is a tumor.
- Tumors are benign or malignant.
  - Benign tumors:
    - Do not spread to other body parts.
    - Usually do not grow back when removed.
  - Malignant tumors (cancer):
    - Invade and destroy nearby tissue.
    - Can spread to other body parts.
    - Sometimes grow back after removal.
  - Metastasis is the spread of cancer to other body parts.
    - This occurs if cancer is not treated and controlled.

# Cancer Risk Factors

- The National Cancer Institute describes these risk factors:
  - Growing older
  - Tobacco
  - Sunlight (includes sun, sunlamps, and tanning booths)
  - Ionizing radiation (x-rays, radon gas, radioactive fallout)
  - Certain chemicals and other substances
  - Some viruses and bacteria
  - Certain hormones
  - Family history of cancer
  - Alcohol
  - Poor diet, lack of physical activity, and being over-weight

# Cancer Treatment

- Cancer is the second leading cause of death in the United States.
- If detected early, cancer can be treated and controlled.
- Surgery, radiation therapy, and chemotherapy are the most common treatments.
  - Surgery removes tumors.
  - Radiation therapy destroys cancer cells.
    - Cancer cells and normal cells are destroyed.
  - Chemotherapy involves giving drugs that kill cancer cells and normal cells.

# The Person's Needs

- Persons with cancer have many needs. They include:
  - Pain relief or control
  - Rest and exercise
  - Fluids and nutrition
  - Preventing skin breakdown
  - Preventing bowel problems—constipation from pain-relief drugs; diarrhea from some cancer treatments
  - Dealing with treatment side effects
  - Psychological and social needs
  - Spiritual needs
  - Sexual needs

# Musculo-Skeletal Disorders

- Arthritis means joint inflammation.
  - Osteoarthritis (degenerative joint disease) occurs with aging, being over-weight, and joint injury.
    - Signs and symptoms include:
      - Joint stiffness with rest and lack of motion
      - Pain with weight-bearing and joint motion
    - Pain can be constant or occur with lack of motion.
    - Treatment involves pain relief, exercise, rest and joint care, weight control, and a healthy life-style.
    - A healthy life-style is needed.
    - Falls are prevented.
    - Some people need joint replacement.

# Rheumatoid Arthritis

- Rheumatoid arthritis (RA) is a chronic inflammatory disease.
  - It causes joint pain, swelling, stiffness, and loss of function.
  - It is more common in women than in men.
  - It generally develops between the ages of 20 and 50 years.
  - It occurs on both sides of the body.
  - Fatigue and fever are common.
  - Treatment goals are to relieve pain, reduce inflammation, and slow down or stop joint damage.
- Arthroplasty is the surgical replacement of a joint.



# Fracture

- A fracture is a broken bone.
  - A closed fracture (simple fracture) means the bone is broken but the skin is intact.
  - In an open fracture (compound fracture), the broken bone has come through the skin.
  - For healing, bone ends are brought into and held in normal position (reduction or fixation).
    - Closed reduction or external fixation (bone is not exposed)
    - Open reduction or internal fixation requires surgery.
  - After reduction, movement of the bone ends is prevented with a cast, traction, splints, walking boots, or external fixators.
  - Fractured hips are common in older persons.

# Osteoporosis

- The bone becomes porous and brittle.
- Bones are fragile and break easily.
- Risk factors
  - Older persons of all ethnic groups
  - Women after menopause
  - Low levels of dietary calcium
  - Family history of the disease
  - Being thin or having a small frame
  - Eating disorders
  - Tobacco use
  - Alcoholism
  - Bedrest, immobility, and lack of exercise

# Osteoporosis (Cont.)

- Back pain, gradual loss of height, and stooped posture occur.
- Fractures are a major threat.
- Doctors often order:
  - Calcium and vitamin supplements
  - Estrogen for some women
- Other preventive measures include:
  - Exercising weight-bearing joints
  - Strength-training (lifting weights)
  - NO SMOKING
  - Limiting alcohol and caffeine
  - Using back supports and walking aids as needed
  - Using good body mechanics

# Loss of Limb

- An amputation is the removal of all or part of an extremity.
- Common causes include:
  - Severe injuries
  - Tumors
  - Severe infection
  - Gangrene (a condition in which there is death of tissue)
  - Vascular disorders
- The person is fitted with and learns to use a prosthesis.
- The person may have phantom limb pain.

# Nervous System Disorders

- Stroke is a disease that affects the arteries that supply blood to the brain.
  - Stroke, brain attack, or cerebrovascular accident (CVA) is the third leading cause of death in the United States.
  - It is a leading cause of disability in adults.
  - The two major types of strokes are:
    - A blood vessel in the brain bursts.
    - A blood clot blocks blood flow to the brain.
  - Stroke can occur suddenly.
  - The person may have warning signs.

# Stroke

- Sometimes warning signs last a few minutes.
  - This is called a transient ischemic attack (TIA).
- The effects of stroke include:
  - Loss of face, hand, arm, leg, or body control
  - Hemiplegia
  - Changing emotions
  - Difficulty swallowing (dysphagia)
  - Aphasia or slowed or slurred speech
  - Changes in sight, touch, movement, and thought
  - Impaired memory
  - Urinary frequency, urgency, or incontinence
  - Loss of bowel control or constipation
  - Depression and frustration

# Parkinson's Disease

- Parkinson's disease is a slow, progressive disorder with no cure.
  - The area of the brain that controls muscle movement is affected.
  - Persons over the age of 50 years are at risk.
  - The following signs and symptoms become worse over time:
    - Tremors
    - Rigid, stiff muscles in the arms, legs, neck, and trunk
    - Slow movements
    - Stooped posture and impaired balance
    - Mask-like expression
  - Other signs and symptoms develop over time.

# Multiple Sclerosis

- Multiple sclerosis (MS) is a chronic disease.
  - The myelin (which covers nerve fibers) in the brain and spinal cord is destroyed.
  - Nerve impulses are not sent to and from the brain in a normal manner.
  - There is no cure.
  - Symptoms usually start between the ages of 20 and 40 years.
  - A person's risk increases if a family member has MS.
  - Signs and symptoms depend on the damaged area.
  - The progression of MS varies among persons.
  - Persons with MS are kept active as long as possible and as independent as possible.



# Amyotrophic Lateral Sclerosis

- Amyotrophic lateral sclerosis (ALS) attacks the nerve cells that control voluntary muscles.
  - Commonly called Lou Gehrig's disease, it is rapidly progressive and fatal.
  - ALS usually strikes between 40 and 60 years of age.
  - Motor nerve cells in the brain, brainstem, and spinal cord are affected.
  - The disease usually does not affect the mind, intelligence, or memory.
    - Sight, smell, taste, hearing, and touch are not affected.
    - Usually bowel and bladder functions remain intact.
  - ALS has no cure.
  - Some drugs can slow disease progression.

# Traumatic Brain Injury

- Traumatic brain injury (TBI) occurs when a sudden trauma damages the brain.
  - Brain tissue is bruised or torn.
  - Spinal cord injuries are likely.
  - Common causes are:
    - Motor vehicle crashes
    - Falls
    - Firearms
    - Assaults
    - Sports and recreation injuries
  - If the person survives TBI, some permanent damage is likely.
    - Disabilities depend on the severity and location of the injury.

# Cognitive Disabilities

- Disabilities include:
  - Cognitive problems
  - Sensory problems
  - Communication problems
  - Behavior or mental health disorders
  - Stupor (An unresponsive state; the person can be briefly aroused.)
  - Coma (The person is unconscious, does not respond, is unaware, and cannot be aroused.)
  - Vegetative state (The person is unconscious and unaware of surroundings.)
  - Persistent vegetative state (PVS) (The person is in a vegetative state for more than 1 month.)

# Spinal Cord Injuries

- Spinal cord injuries can permanently damage the nervous system.
  - Common causes are stab or gunshot wounds, motor vehicle crashes, falls, and sports injuries.
  - Problems depend on the amount of damage to the spinal cord and the level of injury.
    - With lumbar injuries, sensory and muscle function in the legs is lost (paraplegia).
    - With thoracic injuries, sensory and muscle function below the chest is lost (paraplegia).
    - With cervical injuries, sensory and muscle function of the arms, legs, and trunk is lost (quadriplegia or tetraplegia).
  - If the person survives, rehabilitation is necessary.

# Lesson 33.2

- Describe cardiovascular and respiratory disorders and the care required.
- Describe digestive, urinary, and reproductive disorders and the care required.
- Describe endocrine, immune system, and skin disorders and the care required.
- Explain how to promote PRIDE in the person, the family, and yourself.

# Cardiovascular Disorders

- Cardiovascular disorders are leading causes of death in the United States.
  - Problems occur in the heart or blood vessels.

# Hypertension

- With hypertension, the resting blood pressure is too high.
  - The systolic pressure is 140 mm Hg (millimeters of mercury) or higher.
  - Or the diastolic pressure is 90 mm Hg or higher.
    - Such measurements must occur several times.
  - Pre-hypertension is when:
    - The systolic pressure is between 120 and 139 mm Hg.
    - Or the diastolic pressure is between 80 and 89 mm Hg.

# Hypertension (Cont.)

- Causes include:
  - Narrowed blood vessels
  - Kidney disorders
  - Head injuries
  - Some pregnancy problems
  - Adrenal gland tumors
- Signs and symptoms develop over time.
- Hypertension can lead to stroke, hardening of the arteries, heart attack, heart failure, kidney failure, and blindness.
- Life-style changes and certain drugs can lower blood pressure.



# Coronary Artery Disease

- With coronary artery disease (CAD), the coronary arteries become hardened and narrow.
  - The most common cause is atherosclerosis.
  - The major complications of CAD are angina, myocardial infarction, irregular heartbeats, and sudden death.
  - The goals of treatment are to:
    - Relieve symptoms.
    - Slow or stop atherosclerosis.
    - Lower the risk of blood clots forming.
    - Widen or bypass clogged arteries.
    - Reduce cardiac events.

# Angina

- Angina (pain) is chest pain.
  - It is from reduced blood flow to part of the heart muscle (myocardium).
    - It occurs when the heart needs more oxygen.
  - Chest pain is described as a tightness, pressure, squeezing, or burning in the chest.
  - Pain can occur in the shoulders, arms, neck, jaw, or back.
  - Pain in the jaw, neck, and down one or both arms is common.

# Angina (Cont.)

- Rest often relieves symptoms in 3 to 15 minutes.
- Besides rest, a nitroglycerin tablet is placed under the tongue when angina occurs.
- Things that cause angina are avoided.
- Doctor-supervised exercise programs are helpful.
- Chest pain lasting longer than a few minutes and not relieved by rest and nitroglycerin may signal a heart attack.
  - The person needs emergency care.

# Myocardial Infarction

- With myocardial infarction (MI), blood flow to the heart muscle is suddenly blocked.
  - Part of the heart muscle dies.
  - Sudden cardiac death (sudden cardiac arrest) can occur.
  - MI also is called heart attack, acute myocardial infarction (AMI), and acute coronary syndrome (ACS).
  - MI is an emergency.
  - If the person survives, medical or surgical procedures to open or bypass the diseased artery may be needed.
    - Cardiac rehabilitation is needed.

# Heart Failure

- Heart failure (congestive heart failure [CHF]) occurs when the heart is weakened and cannot pump normally.
  - Blood backs up and tissue congestion occurs.
  - When the left side of the heart cannot pump blood normally, blood backs up into the lungs.
    - Respiratory congestion occurs.
  - When the right side of the heart cannot pump blood normally, blood backs up into the venous system.
    - Feet and ankles swell. Neck veins bulge.
  - A very severe form of heart failure is pulmonary edema.

# Heart Failure (Cont.)

- Treatment involves:
  - Drugs to strengthen the heart and reduce the amount of fluid in the body
  - A sodium-controlled diet
  - Oxygen
  - Semi-Fowler's position to promote breathing
- I&O, daily weight, elastic stockings, and range-of-motion exercises are part of the care plan.

# Respiratory Disorders

- The respiratory system brings oxygen ( $O_2$ ) into the lungs and removes carbon dioxide ( $CO_2$ ) from the body.
  - Respiratory disorders interfere with this function and threaten life.
- Chronic obstructive pulmonary disease (COPD)
  - Two disorders are grouped under COPD.
    - Chronic bronchitis
    - Emphysema
  - Cigarette smoking is the most important risk factor.
  - Not smoking is the best way to prevent COPD.
  - COPD has no cure.

# Chronic Bronchitis

- Chronic bronchitis occurs after repeated episodes of bronchitis.
  - Bronchitis means inflammation of the bronchi.
  - Smoking is the major cause.
  - Smoker's cough in the morning is often the first symptom.
  - Treatment involves:
    - The person must stop smoking.
    - Oxygen therapy and breathing exercises are often ordered.
    - Respiratory tract infections are prevented.
    - If one occurs, the person needs prompt treatment.



# Emphysema

- In emphysema, the alveoli enlarge and become less elastic.
  - They do not expand and shrink normally.
    - Some air is trapped in the alveoli when exhaling.
    - The person develops a barrel chest.
  - Smoking is the most common cause.
  - The person has shortness of breath and a cough. Sputum may contain pus.
  - Breathing is easier in the orthopneic position.
  - Treatment includes:
    - The person must stop smoking.
    - Respiratory therapy, breathing exercises, oxygen, and drug therapy are ordered.

# Asthma

- With asthma, the airway becomes inflamed and narrow.
  - Extra mucus is produced.
  - These symptoms are mild to severe:
    - Dyspnea
    - Wheezing and coughing
    - Pain and tightening in the chest
- Asthma usually is triggered by allergies.
- Sudden attacks (asthma attacks) can occur.
- Asthma is treated with drugs.
- Severe attacks may require emergency care.

# Influenza

- Respiratory infection caused by viruses
- Signs and symptoms of flu include:
  - High fever (100° to 102°) for 3 to 4 days
  - Headache
  - General aches and pains
  - Fatigue and weakness that can last 2 to 3 weeks
  - Chest discomfort
  - Cough
  - Stuffy nose, sneezing, and sore throat may occur

# Pneumonia

- Pneumonia is an inflammation and infection of lung tissue.
  - Affected tissues fill with fluid.
  - Bacteria, viruses, and other microbes are causes.
  - The person is very ill.
  - Treatment involves:
    - Drugs for infection and pain
    - Increased fluid intake
    - Intravenous therapy and oxygen as needed
    - Semi-Fowler's position to ease breathing
    - Rest
    - Standard Precautions
    - Isolation precautions, depending on the cause

# Tuberculosis

- Tuberculosis (TB) is a bacterial infection in the lungs.
  - TB is spread by airborne droplets with coughing, sneezing, speaking, singing, or laughing.
  - Risk factors are:
    - Close, frequent contact with an infected person
    - Being in close, crowded areas
    - Age
    - Poor nutrition
    - HIV (human immunodeficiency virus) infection

# Tuberculosis (Cont.)

- Chest x-rays and TB testing can detect the disease.
- Treatment includes:
  - Drugs for TB
  - Standard Precautions and isolation precautions
  - The person must cover the mouth and nose with tissues when sneezing, coughing, or producing sputum.
    - Tissues are flushed down the toilet, placed in a biohazard bag, or placed in a paper bag and burned.
  - Hand-washing after contact with sputum is essential.

# Digestive Disorders

- Vomiting means expelling stomach contents through the mouth.
  - It signals illness or injury.
  - Vomitus (emesis) is the food and fluids expelled from the stomach through the mouth.
  - Aspirated vomitus can obstruct the airway.
  - Vomiting large amounts of blood can lead to shock.

# Diverticular Disease

- Many people have small pouches in their colons.
  - Each pouch is called a diverticulum.
  - The condition of having these pouches is called diverticulosis.
  - The pouches can become infected or inflamed (diverticulitis).
- Risk factors are being older than 60 years, a low-fiber diet, and constipation.
- Treatment involves:
  - The doctor orders needed dietary changes.
  - Sometimes antibiotics are ordered.
  - Surgery is needed for severe disease, obstruction, and ruptured pouches.



# Inflammatory Bowel Disease

- Crohn's disease
- Ulcerative colitis
- Signs and symptoms include:
  - Diarrhea
  - Abdominal pain and cramping
  - Fever
  - Bleeding—bright red blood in the toilet, dark blood in the stools, or occult blood
  - Appetite: loss of
  - Weight loss

# Hepatitis

- Hepatitis is inflammation of the liver.
  - It can be mild or cause death.
  - Some people do not have symptoms.
  - Treatment involves rest, a healthy diet, fluids, and no alcohol.
  - Protect yourself and others.
    - Follow Standard Precautions and the Bloodborne Pathogen Standard.
    - Isolation precautions are ordered as necessary.
    - Assist the person with hygiene and hand-washing as needed.

# Hepatitis (Cont.)

- Hepatitis A is spread by the fecal-oral route.
- Hepatitis B is caused by the hepatitis B virus (HBV).
  - It is present in the blood and body fluids of infected persons.
  - It is spread by:
    - IV drug use and sharing needles
    - Accidental needle-sticks
    - Sex without a condom, especially anal sex
    - Contaminated tools used for tattoos or body piercings
    - Sharing a toothbrush, razor, or nail clippers with an infected person

# Hepatitis (Cont.)

- Hepatitis C is spread by blood contaminated with the hepatitis C virus.
  - A person may have the virus but no symptoms.
    - The person can still transmit the disease.
  - The virus is spread by:
    - Blood contaminated with the virus
    - IV drug use and sharing needles
    - Inhaling cocaine through contaminated straws
    - Contaminated tools used for tattoos or body piercings
    - High-risk sexual activity
    - Sharing a toothbrush, razor, or nail clippers with an infected person

# Hepatitis (Cont.)

- Hepatitis D occurs only in people infected with hepatitis B.
  - It is spread the same way as HBV.
- Hepatitis E is spread through food or water contaminated by feces from an infected person.
  - It is spread by the fecal-oral route.
  - This disease is not common in the United States.

# Cirrhosis

- Liver condition caused by chronic liver damage
- Causes:
  - Alcohol abuse
  - Chronic hepatitis B and C
  - Extra fat on the liver
  - Obesity

# Cirrhosis (Cont.)

- Signs/symptoms
  - Weakness and fatigue
  - Loss of appetite and weight loss
  - Nausea
  - Ascites
  - Edema
  - Itching
  - Spider-like blood vessels on the skin
  - Jaundice

# Urinary Disorders

- The kidneys, ureters, bladder, and urethra are the major urinary system structures.
- Urinary tract infections (UTIs) are common.
  - Common causes are:
    - Catheters
    - Poor perineal hygiene
    - Immobility
    - Poor fluid intake
  - UTIs are common healthcare-associated infections.



# Prostate Enlargement

- The prostate is a gland in men.
  - It surrounds the urethra.
- As the man grows older, the prostate enlarges.
  - This is called benign prostatic hyperplasia (BPH).
- The enlarged prostate presses against the urethra.
  - This obstructs urine flow through the urethra.
- Treatment includes:
  - Drugs to shrink the prostate or stop its growth
  - Microwave and laser treatments to destroy the excess prostate tissue
  - Surgery to remove tissue

# Renal Calculi

- Renal calculi are kidney stones.
  - Risk factors include bedrest, immobility, and poor fluid intake.
  - Stones vary in size.
  - Treatment involves:
    - Drugs for pain relief
    - Increasing the person's fluid intake
    - Straining all urine
    - Surgical removal of the stone if necessary
  - Some dietary changes can prevent stones.

# Kidney Failure

- Kidney failure
  - The kidneys do not function or are severely impaired.
  - Waste products are not removed from the blood.
  - The body retains fluid.
    - Heart failure and hypertension easily result.
  - Renal failure may be acute or chronic.
  - The person is very ill.

# Reproductive Disorders

- Reproductive structures and functions can be affected by aging and many injuries, diseases, and surgeries.
- Sexually transmitted diseases (STDs) are spread by oral, vaginal, or anal sex.
  - STDs occur in the genital and rectal areas, ears, mouth, nipples, throat, tongue, eyes, and nose.
  - Using condoms helps prevent the spread of STDs.
  - Some STDs are also spread through:
    - Skin breaks
    - Contact with infected body fluids (blood, semen, saliva)
    - Contaminated blood or needles

# Endocrine Disorders

- The endocrine glands secrete hormones that affect other organs and glands.
- Diabetes is the most common endocrine disorder.
  - The body cannot produce or use insulin properly.
    - Without enough insulin, sugar builds up in the blood.
  - The three types of diabetes are:
    - Type 1 occurs most often in children, teenagers, and young adults.
    - Type 2 can occur at any age.
    - Risk factors are being over 45 years of age, being over-weight, lack of exercise, and hypertension.
  - Gestational diabetes develops during pregnancy.

# Diabetes

- Diabetes must be controlled to prevent these complications:
  - Blindness
  - Renal failure
  - Nerve damage
  - Damage to the gums and teeth
  - Heart and blood vessel diseases
- Risk factors include:
  - A family history of the disease increases risk.
  - For type 1, whites are at greater risk than non-whites.
  - Type 2 is more common in older and over-weight persons.
  - African-Americans, Native Americans, and Hispanics are at risk.

# Treatment

- Type 1 is treated with daily insulin therapy, healthy eating, and exercise.
- Type 2 is treated with healthy eating and exercise.
  - Many persons with type 2 take oral drugs.
  - Some need insulin.
  - Over-weight persons need to lose weight.
- Types 1 and 2 involve controlling blood pressure, cholesterol, and the risk factors for CAD.
- Good foot care is needed.
- Blood glucose is monitored for:
  - Hypoglycemia (low sugar in the blood)
  - Hyperglycemia (high sugar in the blood)

# Immune System Disorders

- The immune system:
  - Protects the body from microbes, cancer cells, and other harmful substances.
  - Defends against threats inside and outside the body.
- Immune system disorders occur when there is a problem with the immune response.
- Autoimmune disorders can occur.
  - The immune system causes disease by attacking the body's own normal cells, tissues, or organs.



# AIDS & HIV

- Acquired immunodeficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV).
  - It attacks the immune system.
  - The virus is spread through body fluids.
  - The virus is transmitted mainly by:
    - Unprotected anal, vaginal, or oral sex with an infected person
    - Needle and syringe sharing among IV drug users
    - HIV-infected mothers before or during childbirth
    - HIV-infected mothers through breast-feeding
  - Some persons infected with HIV do not have symptoms for many years.
    - They carry the virus and can spread it to others.

# AIDS

- Persons with AIDS are at risk for pneumonia, TB, Kaposi's sarcoma (a cancer), and nervous system damage.
- AIDS has no vaccine and no cure at present.
- You may care for persons with AIDS or those who are HIV carriers.
  - Follow Standard Precautions and the Bloodborne Pathogen Standard.
- Persons 45 years old and older also get AIDS.
  - They get and spread HIV through sexual contact and IV drug use.
  - Aging and some diseases can mask the signs and symptoms of AIDS.
  - Older persons are less likely to be tested for HIV/AIDS.

# Skin Disorders

- There are many types of skin disorders.
- Shingles
  - Shingles (herpes zoster) is caused by the same virus that causes chicken pox. The virus lies dormant in nerve tissue. (Dormant means to be inactive.) The virus can become active years later.
  - The person has a rash with fluid-filled blisters on one side of the body. Burning or tingling pain, numbness, and itching can occur.