

Class NOTES

8th Grade Disease Prevention

Chapter 18 Summary

Communicable Diseases

Lesson 1 Preventing the Spread of Disease

1. A **disease** is any condition that interferes with the proper functioning of the body or mind.
2. A **communicable disease** is one that can be passed to a person from:
 - a. Another person
 - b. Animal
 - c. Object
3. The agents that cause communicable diseases are **pathogens**, organisms so small they can only be seen through a microscope.
4. Pathogens are also known as **germs**. When germs enter the body and multiply, an **infection**, or a condition that causes harm, develops.
5. Types of pathogens:
 - a. **Virus**, the smallest of all pathogens that causes diseases like colds and flu.
 - b. **Bacteria**, which are one-celled organisms. Bacteria can be helpful in the digestive track, but harmful bacteria cause diseases like strep throat.
 - c. **Fungi**, organisms that are more complex than bacteria but cannot make their own food, cause conditions like athlete's foot.
 - d. **Protozoa** are one-celled organisms that are more complex than bacteria.
6. A **vector** is an organism, such as an insect, that transmits pathogens.
7. Ways to keep pathogens from spreading:
 - a. Proper hygiene
 - b. Practicing cleanliness

Lesson 2 The Body's Defenses against Infection

1. Body's natural barriers to protect against pathogens:
 - a. Tears
 - b. Saliva
 - c. Skin
 - d. Mucous Membranes
 - e. Stomach Acid
2. If a pathogen does get by one of your barriers, your body's **immune system**, which is a combination of body defenses made up of *cells*, *tissues*, and *organs* that fight off pathogens and disease, goes to work.
3. **Immunity** is your body's ability to resist the germs that cause disease.
4. When a pathogen invades the body:
 - a. Immune system's first response begins with **inflammation**, which is the body's response to injury or disease, resulting in swelling, pain, heat, and redness. If the pathogens multiply and spread, your body temperature may rise and cause a fever, making it difficult for the pathogens to reproduce.
 - b. Immune system's second response involves the **lymphatic system**, a secondary circulation system that helps the body fight pathogens and maintain its fluid balance.
5. The white blood cells in the lymphatic system are **lymphocytes**.
6. Lymphocytes react to the antigens or substances released by invading pathogens by producing **antibodies** that attach to the antigens, keeping them from harming the body.

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7. People are born with a natural immunity, and scientists have been able to model vaccines after this system. A **vaccine** is a preparation of dead or weakened pathogens that is introduced into the body to cause an immune response.
8. To keep your body healthy, keep your vaccinations up to date.

Lesson 3 Common Communicable Diseases

1. Every communicable disease has a **contagious period**, the length of time that a particular disease can be spread from person to person.
2. Communicable Diseases:
 - a. Common cold - occurs more than any other communicable disease.
 - b. **Influenza**, (another highly contagious disease) symptoms:
 - i. Fever
 - ii. Chills
 - iii. Fatigue
 - iv. Headache
 - v. Muscle Aches
 - vi. Respiratory problems
 - c. **Mononucleosis** is a *viral disease* characterized by a severe sore throat and swelling of the lymph glands in the neck and around the throat area.
 - d. **Hepatitis** (another *viral disease*) involves the liver and is characterized by yellowing of the skin and the whites of the eyes.
 - i. Hepatitis A is spread through contaminated food or water.
 - ii. Hepatitis B and C are most commonly spread through contact with contaminated body fluids.
 - e. **Tuberculosis** (a bacterial disease) usually affects the lungs, is spread through the air, and sometimes shows no symptoms.
 - f. **Pneumonia** when people have been infected with other diseases, they are more vulnerable to **pneumonia**, which is a serious inflammation of the lungs.
 - g. **Strep Throat** (another serious communicable disease) must be treated with antibiotics, is caused by the streptococcal bacteria.
 - i. Strep throat produces a red painful throat, fever, swollen lymph nodes in the neck, headaches, and nausea.

Lesson 4 Sexually Transmitted Diseases

1. **Sexually transmitted diseases** are infections that are spread from person to person through sexual contact.
2. Common STDs:
 - a. **Chlamydia**, a bacterial STD that may affect the reproductive organs, urethra, and anus
 - b. **Genital herpes**, a viral STD that produces painful blisters on the genital area; genital warts are growths or bumps in the genital area
 - c. **Trichomoniasis**, a disease that may have symptoms of discomfort during urination or genital discharge and irritation
 - d. **Gonorrhea**, a bacterial STD that affects the mucous membranes of the body
 - e. **Syphilis**, a bacterial STD that can affect many parts of the body and lead to death if untreated
 - f. **Pelvic Inflammatory Disease (PID)**, a general infection of the female reproductive organs
 - g. **HIV/AIDS**
3. The best way to avoid getting an STD is to abstain from sexual activity.

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Lesson 5 HIV/AIDS

1. **Human Immunodeficiency Virus (HIV)** is the virus that causes AIDS.
2. **Acquired Immunodeficiency Syndrome (AIDS)**, is a deadly disease that interferes with the body's natural ability to fight infection.
3. As the HIV virus attacks the body's T cells, the body can no longer fight pathogens and AIDS develops.
4. One symptom that signals the onset of AIDS is the presence of **opportunistic infection**, which is an infection that rarely occurs in a healthy person.
5. A person can be a carrier of HIV without having AIDS. A **carrier** is a person who appears healthy but is infected with HIV and can pass it on to others.
6. The HIV virus is spread from person to person through:
 - a. Contact with Body fluids of sperm
 - b. Contact with Fluid from the vagina
 - c. Blood
 - d. Breast Milk
 - e. Breast-feeding
 - f. Sexual activity with an infected person
 - g. Sharing needles
 - h. Spread from mother to child before or after delivery
 - i. The risk of getting HIV from a blood transfusion is extremely low

Chapter 19 Summary

Noncommunicable Diseases

Lesson 1 Causes of Noncommunicable Diseases

1. **Noncommunicable diseases** are diseases that cannot be spread from person to person.
 - a. **Chronic diseases**, those that are present either continuously or on and off over a long period of time.
 - b. **Degenerative disease**, a disease that causes breakdown in the body cells, tissues, and organs as it progresses.
2. Causes of Noncommunicable diseases:
 - a. Present at birth, all disorders that are present when a baby is born are called **congenital disorders**. Some congenital disorders are caused by **heredity**, the passing of traits from parents to their children.
 - b. Lifestyle behaviors
 - c. Exposure to dangerous substances

Lesson 2 Cancer

1. **Cancer** is a disease characterized by the rapid and uncontrolled growth of abnormal cells.
2. **Tumor** is a mass of abnormal cells
 - a. **Benign tumor** is a tumor that is not cancerous and does not spread to other parts of the body.
 - b. **Malignant tumor** is cancerous.
3. Although the causes of some types of cancers are unknown, scientists have identified certain risk factors.
4. **Risk factors** are characteristics or behaviors that increase the likelihood of developing a medical disorder or disease.
5. Some types of cancer are associated with exposure to **carcinogens**, substances that cause cancer.

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6. One way of diagnosing cancer is through a **biopsy**, the removal of a sample of tissue from a person for examination. The earlier cancer is found, the better the chance for successful treatment.
7. Common treatments of cancer:
 - a. Surgery
 - b. **Radiation therapy** - a treatment that uses X-rays or other forms of radiation to kill cancer cells.
 - c. **Chemotherapy**- use of powerful medicines to destroy cancer cells.
8. **Remission** - when cancer signs and symptoms disappear. Cancer that is in remission can sometimes return.
9. **Recurrence**- the return of cancer after a remission
10. By making healthful lifestyle choices, you can lower your risk of developing certain cancers.

Lesson 3 Heart and Circulatory Problems

1. **Heart disease** is any condition that weakens the heart or impairs the way it functions.
 - a. **Arteriosclerosis**, a group of disorders in which arteries harden and become more rigid, allowing less blood to flow through them.
 - b. **Atherosclerosis**, which occurs when fatty substances in the blood build up on the walls of the arteries.
2. **Blood pressure** is the force of the blood on the inside walls of the arteries.
3. **Hypertension** is a condition in which the pressure of the blood on the walls of the blood vessels stays at a level that is higher than normal. High blood pressure can lead to heart attack or a stroke.
4. **Stroke** is a serious condition that occurs when an artery of the brain breaks or becomes blocked.
5. **Heart attack** is a condition in which blood flow to a part of the heart is greatly reduced or blocked.
6. Common treatments for heart and circulatory problems:
 - a. Medications
 - b. Surgery
 - c. **Angioplasty** is a surgical procedure in which an instrument with a tiny balloon, drill bit, or laser attached is inserted into a blocked artery to clear a blockage.
7. You can reduce your risk factors for heart disease by choosing healthful lifestyle behaviors.

Lesson 4 Diabetes and Arthritis

1. **Diabetes** is a disease that prevents the body from converting food into energy. It is caused by problems with **insulin**, a protein made in the pancreas that regulates the level of glucose in the blood.
2. Types of Diabetes:
 - a. **Type 1 diabetes** a condition in which the immune system attacks insulin producing cells in the pancreas.
 - b. **Type 2 diabetes** a condition in which the body cannot effectively use the insulin it produces
3. Treatment for diabetes: (most people can keep diabetes under control and lead normal lives)
 - a. Medication
 - b. A healthful eating plan
 - c. Physical activity
4. **Arthritis** is a disease of the joints marked by painful swelling and stiffness.
 - a. **Osteoarthritis** a chronic disease that results from a breakdown in cartilage in the joints.
 - b. **Rheumatoid arthritis** is a chronic disease characterized by pain, inflammation, swelling, and stiffness of the joints.
5. Although there is no cure for arthritis, certain healthy behaviors can help to relieve pain and improve joint function.

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Lesson 5 Allergies and Asthma

1. **Allergy** is an extreme sensitivity to a substance.
2. Substances that cause allergic responses are called **allergens**.
 - a. Pollen, a powdery substance released by the flowers of some plants.
3. When someone comes into contact with an allergen, the allergen binds to white blood cells called **lymphocytes**.
4. Lymphocytes then release proteins called **histamines**.
5. **Histamines** are the chemicals in the body that cause the symptoms of the allergic reaction
6. Common symptoms of allergies:
 - a. Watery eyes
 - b. Sneezing
 - c. Skin rash or hives
7. **Hives** are raised bumps on the skin that are very itchy.
8. Basic way to cope with allergies:
 - a. Avoid the allergen, when possible
 - b. Medicines can help relieve allergy symptoms
 - c. **Antihistamines** are medicines that help control the effects triggered by histamines.
9. **Asthma** is a condition in which the small airways in the lungs narrow, making breathing difficult.
10. Asthma triggers:
 - a. Substances such as tobacco smoke
 - b. Air pollution
 - c. Animal dander
11. Basic way to cope with asthma:
 - a. Avoid asthma triggers
 - b. Managing stress
 - c. Taking medicine
12. Two types of Asthma medicine:
 - a. Relievers
 - b. Controllers
13. Bronchodilators are reliever medications used to relax the muscles around the air passages.