# **Guided Lecture Notes, Chapter 10, Communicable Disease**

Learning Objective 1. List the different types of microbes that cause disease and discuss the conditions that are essential for their survival and growth. (Refer to PowerPoint slide 3.)

### Explain the term microbe

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 2. Define the terms *normal flora* and *pathogen*. (Refer to PowerPoint slides 4 to 16.)

* Explain the terms normal flora, pathogen, and opportunistic microbe.
* Describe how microbes are classified as bacteria, viruses, fungi, and parasites (Refer to Table-10-1).
* Describe types of bacteria and how are they classified according to their shapes, the way they arrange themselves in the colony, and the way they stain (react to a particular dye).
* List the names of bacteria when classified according to their shapes.
* Explain the terms colonies, aerobic, and anaerobic.
* List the names of bacteria classified according to their existence in colonies, pairs of bacteria (indicated by the prefix diplo-), chains of bacteria (indicated by the prefix strepto-), or grape-like clusters of bacteria (indicated by the prefix staphylo-).
* Explain the naming convention used when identifying bacteria.
* Explain the concept of endospores in relation to bacteria and how they adapt.
* Explain the common illnesses caused by bacteria. Mention that bacteria are the most common causes of infection in the health care setting. Give examples of illnesses caused by bacteria, such as tetanus (lockjaw), botulism (food poisoning), strep throat, some bladder infections, skin infections, pneumonia, reproductive and urinary infections, Rocky Mountain fever, and Typhus.
* Explain the term virus and how host cells are used to spread infections.
* List some of the illnesses caused by viruses, such as the common cold, flu, COVID-19, fever blisters (caused by herpes simplex virus), chicken pox (caused by varicella zoster virus), hepatitis (caused by hepatitis virus), and AIDS (caused by human immunodeficiency virus [HIV]).
* Point out to students that viruses cannot be cured by antibiotics, but that some antiviral drugs are effective for some viruses.
* Explain the different types of fungi and the illnesses caused by them, such as ringworm (caused by Tinea corporis), athlete’s foot (caused by Tinea pedis), thrush (a yeast infection in the mouth), or candidiasis (a vaginal yeast infection).

### Explain the term parasite and give examples of illnesses caused by parasites, such as scabies (mites) and pediculosis (lice).

### Other types of parasites: helminths (pinworms, tapeworms, roundworms) and protozoa (malaria, amebic dysentery).

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 3. Explain the defense mechanisms the body uses to help keep us from getting sick. (Refer to PowerPoint slides 17 to 24.)

### Discuss the immune system, nonspecific defense mechanisms (Refer to Figures 10-2, 10-3), and specific defense mechanisms.

### Define the term antibodies and how a person develops antibodies.

### Explain that an antibiotic is a drug that is able to kill bacteria or make it difficult for them to reproduce and grow.

### Explain that antibiotics do not work on viral infections.

### Describe how certain bacteria have become resistant to antibiotics.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 4. Define the term *infection* and describe the chain of events required for infection to occur. (Refer to PowerPoint slides 2, 25 to 27.)

### Discuss communicable and contagious infections.

### Discuss an Infection.

### Discuss different types of Infections.

### Discuss the chain of infection.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 5. List factors that can make a person more likely to get an infection. (Refer to PowerPoint slide 28.)

### Discuss the factors that make a person a more susceptible host and describe why this can happen:

* + - Very young or very old age.
    - Poor general health
    - Stress and fatigue
    - Indwelling medical devices (Refer to Figure 10-5)

### Explain that if any of the six elements in the chain of infection is not present, the chain is broken, and this helps prevent infection (Refer to Figure 10-6).

### Have learners refer to learning activities located at the end of the chapter.