

Chapter 23 Lesson 1: Understanding Communicable Diseases

Introduction:

In this lesson, you learned about the different types of pathogens responsible for diseases, such as viruses and bacteria. Infections caused by bacteria can be treated with antibiotics prescribed by a doctor. However, many disease-causing bacteria are becoming increasingly resistant to existing antibiotics. This resistance makes them more and more difficult to treat. Learn more about this dangerous public health problem at the following Web site.

Links to Explore:

About Antibiotic Resistance

<http://www.cdc.gov/drugresistance/community/antibiotic-resistance.htm>

Directions:

- Click on the link and read the article.
 - Then answer the following questions.
1. How does antibiotic use promote the development of antibiotic-resistant bacteria?
 2. What are the two ways that bacteria can acquire antibiotic resistance?
 3. Why is it inappropriate to take an antibiotic when you have a viral infection?
 4. Suppose you have a bacterial infection and the doctor prescribes a ten-day course of antibiotics. By day seven you feel no symptoms of your illness. Should you stop taking the antibiotics? Why or why not?
 5. If you have a bacterial infection, is it safe to take leftover antibiotics from an earlier illness or to use an antibiotic prescribed for someone else? Why or why not?
 6. If a doctor determines that your illness is not caused by bacteria, what should you do to help control antibiotic resistance?

Answers:

1. Every time a person takes antibiotics, sensitive bacteria are killed, but resistant germs may be left to grow and multiply.
2. Through mutation of their genetic material and by acquiring pieces of DNA that code for the resistance properties from other bacteria
3. Antibiotics are not effective against viral infections, and the widespread use of antibiotics promotes the spread of antibiotic resistance.
4. You should take the full course of antibiotics. Otherwise the drug may not kill all the infectious bacteria, allowing the surviving bacteria to re-infect the body.
5. No, because these antibiotics may not be appropriate for your current symptoms. Taking the wrong medicine could delay getting correct treatment and allow bacteria to multiply.
6. Ask about ways to relieve your symptoms, but don't pressure the doctor to give you an antibiotic.

Additional Links to Explore:

Use the links below to gather additional information on the activity topic. When appropriate, have students extend their research to include important concepts contained in these Web sites.

Antibiotic Resistance: Frequently Asked Questions

<http://www.cdc.gov/drugresistance/community/faqs.htm>

The Problem of Antimicrobial Resistance

<http://www.niaid.nih.gov/factsheets/antimicro.htm>

Antibiotic Resistance

<http://www.doh.wa.gov/topics/antibiotics/default.htm>

When the Antibiotics Quit Working...

<http://whyfiles.org/038badbugs/>