

Chapter 19 Lesson 1: The Role of Medicines

Introduction:

This lesson discusses how drugs can be used to prevent disease, kill pathogens, and manage chronic conditions. The main way that medicines can prevent disease is through a process known as immunization, or vaccination. In the United States, children routinely receive vaccinations against common childhood diseases. The government oversees vaccination efforts through the National Vaccine Program. The website of the National Vaccine Program Office has fact sheets about vaccination and the diseases it can prevent.

Links to Explore:

Vaccine Fact Sheets

http://www.hhs.gov/nvpo/fs_toc.htm

Directions:

- Click on the link to go to the National Vaccine Program Office page.
 - Click on the following links and read the associated pages:
 - How Do Vaccines Work?
 - Vaccine-Preventable Childhood Diseases
 - What Would Happen If We Stopped Vaccinations
 - After reading these pages, answer the following questions:
1. Explain how the process of vaccination protects the body against disease.
 2. How does immunizing individual children help to protect the community as a whole?
 3. List three potentially fatal childhood diseases that can be prevented through vaccination.
 4. What are the economic costs of vaccine-preventable diseases?
 5. About what percentage of Americans used to contract measles before measles vaccination became widespread?
 6. What are the symptoms of tetanus?

Answers:

1. A child receives a vaccine containing a dead or weakened form of a disease-causing germ. The child's body then produces antibodies against the disease. If live germs enter the body, the antibodies will attack and destroy them.
2. It reduces sick people's exposure to germs that unvaccinated children might carry and slows down or stops outbreaks of disease.
3. Any three of the following:
 - Polio
 - Diphtheria
 - Tetanus (lockjaw)

- Pertussis (whooping cough)
 - Measles
 - Haemophilus influenzae type b (Hib)
4. Almost 100 percent
 5. Because of an aging population and increasing life expectancies
 6. Stiffness and spasms of the muscles that can close the throat and cause bone fractures, coma, and death

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.

Recommended Immunization Schedules for Persons Aged 0–18 Years

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5551a7.htm?s_cid=mm5551a7_e

National Immunization Program

<http://www.cdc.gov/nip/default.htm>

Vaccine Myths

<http://www.chop.edu/consumer/jsp/division/generic.jsp?id=81553>