

Antibiotics

Bacteria are single-cell organisms that can cause a number of different diseases. **Viruses** are extremely small infectious agents that also can cause many diseases. Antibiotics work only against bacterial infections and are completely ineffective against infections caused by viruses, such as the flu or the common cold.

The September 12, 2001, issue of *JAMA* includes an article about the overuse of antibiotics for sore throat.



DEVELOPMENT OF ANTIBIOTIC RESISTANCE

Some bacteria develop **resistance** to a previously effective antibiotic drug. Resistance occurs when bacteria develop a method of growth that cannot be interrupted by the antibiotic or when bacteria break down or inactivate the antibiotic. Antibiotics no longer work against diseases caused by bacteria that have developed resistance against them. Antibiotic resistance has become one of the world's most pressing public health problems.

Because overuse of antibiotics can cause bacteria to become resistant, and antibiotics cannot cure infections caused by viruses, antibiotics should be prescribed only for bacterial infections.

COMMON VIRAL ILLNESSES

These illnesses are usually caused by viruses and generally should **not** be treated with antibiotics:

- Acute bronchitis—cough, fever
- Common cold—stuffy nose, sore throat, sneezing, cough, headache
- Influenza (flu)—fever and chills, body aches, headache, sore throat, dry cough
- Pharyngitis (sore throat)—except for strep throat, which is caused by a type of bacteria
- Viral gastroenteritis—most cases of vomiting and diarrhea are caused by viruses

Sources: Agency for Healthcare Research and Quality, Alliance for the Prudent Use of Antibiotics, American Medical Association Complete Guide to Your Children's Health, American Medical Association Encyclopedia of Medicine, American Pharmaceutical Association, Centers for Disease Control and Prevention, Center for Drug Evaluation and Research, National Institute of Allergy and Infectious Diseases

FOR MORE INFORMATION

- Alliance for the Prudent Use of Antibiotics (APUA)
617/636-0966
www.healthsci.tufts.edu/apua
- Centers for Disease Control and Prevention
800/232-2522
www.cdc.gov/antibioticresistance
- Agency for Healthcare Research and Quality
800/358-9295
www.aHRQ.gov

INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page Index on JAMA's Web site at www.jama.com. A JAMA Patient Page on strep throat was published on December 13, 2000.

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