Inappropriate Use of Antibiotics

An antibiotic is a substance produced naturally by microorganisms or synthetically by chemists in a laboratory. Antibiotics are capable of inhibiting the growth of or killing bacteria (a particular class of germs). A Nobel Prize was awarded to Alexander Fleming for his discovery of penicillin in 1928. However, it wasn’t until 1941 that penicillin was successfully produced for commercial use, in time to treat infections in soldiers injured during World War II. Since then many new antibiotics have been discovered and produced. Most have a limited number of the types of bacteria that they can inhibit or destroy. Other antibiotics are broad spectrum, meaning they can destroy many types of bacteria. Antibiotics should be used only for bacterial infections and are not effective against the viruses that cause many illnesses including influenza and most upper respiratory tract infections, including the common cold, or fungal infections like those caused by yeast. The inappropriate use of antibiotics for these types of infections as well as the more frequent use of broad-spectrum antibiotics has caused the emergence of newer strains of bacteria that are resistant to many antibiotics. The August 19, 2009, issue of JAMA includes an article about use of antibiotics in acute respiratory illness.

What You Can Do

• Take antibiotics only when prescribed to you by a physician.
• Follow all directions when taking antibiotics and take the entire prescribed regimen even if you feel better before finishing them.
• Throw away any unused antibiotics; don’t save antibiotics for future use since partial and incomplete treatment regimens are ways that bacteria develop resistance to antibiotics.
• Do not share your medication and don’t take antibiotics prescribed for someone else; specific antibiotics are prescribed for specific bacteria, since all antibiotics are not able to cure all bacterial infections.

For More Information

• Centers for Disease Control and Prevention
  www.cdc.gov/drugresistance/community/know-and-do.htm
• American Academy of Pediatrics
  www.aap.org/advocacy/releases/aomqa.htm

Inform Yourself

To find this and other JAMA Patient Pages, go to the Patient Page link on JAMA’s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on coughs, cold, and antibiotics was published in the May 28, 2003, issue.