

Antibiotic Resistance and Diagnostic Tests: *What You Need to Know*

What Is Antibiotic Resistance?

Antibiotics are drugs used to treat infectious diseases. However, these drugs have been overused in people and animals for so long that they are becoming less effective. Antibiotic resistance means that an antibiotic is no longer effective against a certain type of bacteria. When this happens, doctors have to try other antibiotics to treat an infection. Unfortunately, antibiotic resistance is only getting worse. As a result, medical and public health professionals across the world are calling for an end to misuse and overuse of these drugs so antibiotics will continue to work when they are needed.

Why Should You Care?

Antibiotic resistance has led to a rapid increase in drug-resistant infections and is changing the practice of modern medicine. If current trends continue, doctors will be unable to treat common ailments such as urinary tract infections. Without effective antibiotics for prevention and treatment of infections, the success of organ transplantation, cancer chemotherapy and major surgery will be compromised. Antibiotic-resistant bacteria could turn even a simple cut or scrape into a life-threatening or deadly infection.

How Can We Fight Antibiotic Resistance?

There are several ways to fight antibiotic resistance including: changing the way antibiotics are used; reducing unnecessary uses of antibiotics in people and animals; and improving infection control efforts. Another important tool to help in the battle against antibiotic resistance are diagnostic tests that can identify the cause of an infection and, in turn, help improve prescribing decisions.



Taking antibiotics when they aren't needed is really bad for you. It weakens your immune system and kills your good bacteria, increasing the chances that you could get even sicker. Only take an antibiotic when absolutely necessary.

Antibiotics are only effective against bacterial infections, not viral ones. Antibiotics do not work against the common cold, influenza (flu), most sore throats and bronchitis, and some ear infections.



What Is a Diagnostic Test?

A diagnostic test is a medical procedure that can help healthcare professionals determine what infections require treatment with an antibiotic and those that do not. Diagnostic tests hold the potential to differentiate viral from bacterial infections as well as predict which antibiotic will be most effective. These tests also can help determine when antibiotics are no longer needed. Diagnostic tests continue to evolve and are providing more information in a shorter period of time, thereby allowing better decision-making by healthcare providers to improve patient care and combat antibiotic-resistant bacteria.

There are many innovative, safe and effective diagnostic tests available to doctors and clinicians today. ■



Why Taking Antibiotics If You Don't Really Need Them is Bad for You and Your Family

It's true that antibiotics can fight a wide range of germs that make you sick, but antibiotics aren't always the answer. Using them when they aren't needed is really bad for you and those around you. Here's why:



Kills your good bacteria, which could make you get even sicker



Could make you up to 10 times more likely to contract a potentially deadly infection



Could cause an allergic reaction that may require going to the emergency room



You could pass on resistant bacteria to the elderly or immunocompromised

What Can You Do?

- Ask your healthcare provider if a diagnostic test is available to determine whether you need an antibiotic or not.
- Never demand an antibiotic from your healthcare provider.
- Only take an antibiotic when you need it and finish the full course as directed by your doctor and pharmacist.
- Learn about antibiotic resistance and urge your friends and family to use antibiotics only when absolutely necessary.
- Urge Congress to support investments in the development of new diagnostic tests.



FACT:

Up to 50 percent of all antibiotics prescribed in outpatient settings are either unnecessary or are not effective as prescribed.¹

Treating Antibiotic-Resistant Infections is Expensive

The annual costs of treating antibiotic-resistant infections in the U.S. range as high as \$20 billion in direct healthcare costs, with additional costs to society for lost productivity as high as \$35 billion a year. In many cases, antibiotic-resistant infections lead to:



Prolonged and/or costlier treatments



Need for additional diagnostic testing



Extended hospital or rehabilitation stays



Additional doctor visits



Greater disability and death compared with infections that are easily treatable with antibiotics

This factsheet was created in partnership between:

AdvaMedDx

701 Pennsylvania Ave., N.W., Suite 800
Washington, D.C. 20004
Phone: 202-783-8700
Twitter: @AdvaMedDx
Facebook: /AdvaMedDx



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Vital Insights | Transforming Care

Antibiotic Resistance Action Center

Milken Institute School of Public Health
George Washington University
800 22nd St., N.W., Suite 7530
Washington, D.C. 20052
Phone: 202-994-9085
Twitter: @battlesuperbugs
Facebook: /BattleSuperbugs
Instagram: @battlesuperbugs

**Milken Institute School
of Public Health**
THE GEORGE WASHINGTON UNIVERSITY

**ANTIBIOTIC
RESISTANCE
ACTION CENTER**

*For more information, please contact:
Laura Rogers at laurarogers@gwu.edu*

Endnote

1 Antibiotic Resistance Threats in the United States, Centers for Disease Control and Prevention, accessed November 1, 2016 at <https://www.cdc.gov/drugresistance/pdf/ar-threats-2013-508.pdf>.
