

# Infection Prevention and You



## Antibiotic Use

There is no doubt that antibiotics save lives; however, misuse of antibiotics can result in resistant infections and deadly diarrhea. The Centers for Disease Control and Prevention (CDC) released a new report on improving antibiotic use among hospitalized patients, which includes recommendations and opportunities to improve the use of antibiotics as well as increase patient safety through the appropriate use and prescription of antibiotics.

### What is the problem?

Overuse and unnecessary use of antibiotics can lead to resistant infections and deadly diarrhea. Resistant infections are one of the most serious health threats in the United States and results when bacteria do not respond to the drugs that are designed to kill them. The misuse of antibiotics has emerged after many years of poor prescribing and inappropriate use of antibiotics allowing bacteria to become stronger and resist the effectiveness of the antibiotics. Treatment with inappropriate antibiotics can result in a continuation of the infection as well as stronger bacteria. A recent report from the CDC found that more than two million people in the U.S. become sick every year with antibiotic-resistant infections, and at least 23,000 die as a result.

### Who needs antibiotics?

Antibiotics are good and necessary tools in our arsenal for fighting illness and disease; however, they are among the most commonly prescribed drugs used for humans. Up to 50 percent of all antibiotics prescribed in the hospital are not needed or are not prescribed correctly— this is not even considering the number of people who receive antibiotics from their doctor's office or in clinics.

What happens when antibiotics are misused?

When bacteria are treated with inappropriate antibiotics, the bacteria become stronger and are able to resist the good work of antibiotics in fighting and preventing infections. These bacteria become so strong that they are able to resist many and sometimes all antibiotics. When this happens, healthcare providers are forced to use stronger antibiotics which may be toxic to the patient, more expensive, and still may not be able to do the job. Patients in these situations are more likely to die, and survivors are frequently faced with much longer hospital stays, delayed recuperation, and long-term disabilities.

### *Clostridium difficile* ...another problem!

Even with the appropriate use of antibiotics, for example patients with sepsis, a life-threatening infection throughout the body, antibiotics can put the patient at risk for *Clostridium difficile* infection (CDI), often referred to as deadly diarrhea. CDI causes at least 250,000 infections and 14,000 deaths each year in hospitalized patients.

### What is the best way to control CDI?

The most recent report from the CDC cites decreasing the use of antibiotics that are most associated with CDI can reduce the incidence of CDI by 26 percent. The antibiotics that are most closely associated with this deadly diarrhea include fluoroquinolones,  $\beta$ -lactams, and extended-spectrum cephalosporins.

# Infection Prevention and You

**The Solution: We need to outsmart antibiotic resistance – now!** This problem now has the President's attention so much so that the 2015 President's Budget is requesting \$30 million in annual funding for a project known as the Antibiotic Resistance (AR) Initiative. This initiative is part of the CDC's strategy to target antibiotic resistance. Successful implementation of the CDC's AR Initiative could result in a 50 percent reduction in healthcare-associated CDI saving 20,000 lives, preventing 150,000 hospitalizations, and cutting more than \$2 billion in healthcare costs!

## How can healthcare providers and hospitals help?

Hospitals can make healthcare safer by improving antibiotic prescribing and preserving the power of antibiotics through a strong antimicrobial stewardship program.

## What can you do to prevent antibiotic misuse?

- Be careful about directly requesting antibiotics.
- If antibiotics are prescribed, discuss with your provider how the medicine will help your current illness.
- Ask your doctor or healthcare provider if tests will be done to make sure that the right antibiotic is prescribed.
- Do not take antibiotics that have not been prescribed for you and your current illness. Remember – antibiotics are powerful drugs and could have negative side effects.
- Encourage your family and friends to use antibiotics wisely and to remember simple and effective germ-fighting steps such as hand hygiene.
- Be sure that everyone cleans their hands before touching you.
- If you have a catheter, ask each day if it is necessary.

## Additional resources

CDC Safe Healthcare blog – *C. diff* in our kids: A call to action <http://blogs.cdc.gov/safehealthcare/>

CDC – Antibiotic resistance threats in the United States <http://www.cdc.gov/drugresistance/threat-report-2013/>

APIC – Infection Prevention and You website <http://consumers.site.apic.org/>

CDC – Antibiotic Rx in hospitals <http://www.cdc.gov/vitalsigns/antibiotic-prescribing-practices/index.html>

Updated: 4/23/2014



Association for Professionals in  
Infection Control and Epidemiology

1275 K Street, NW, Suite 1000 • Washington, DC 20005 • [www.apic.org/patientsafety](http://www.apic.org/patientsafety)

Like us on Facebook [www.facebook.com/APICInfectionPreventionandYou](http://www.facebook.com/APICInfectionPreventionandYou)