What is Antibiotic Resistance?

According to the U.S. Centers for Disease Control and Prevention (CDC), antibiotic resistance occurs when all the bacteria that cause infection are not killed by the antibiotics taken to stop the infection. When antibiotics are overused, bacteria can develop new ways to fight off the medicine. These new, stronger bacteria survive and continue to multiply causing more harm. These bacteria, known as "super bugs," can make illnesses harder to cure and last longer. Stronger bacteria are called "resistant" because they resist antibiotics.

Misuse and overuse of antibiotics is a major concern. Each time you take an antibiotic unnecessarily or improperly, you increase your chance of developing resistant bacteria. So it is really important to take antibiotics only when necessary. Because of these resistant bacteria, some diseases that used to be easy to treat are now becoming nearly impossible to treat. Contributors to antibiotic resistance include:

- asking for antibiotics when they are not needed;
- failing to finish an antibiotic prescription;
- saving the unused medication and taking it later for another illness;
- taking antibiotics before symptoms arise simply to avoid getting sick.

Myth 1: Antibiotics are effective against both bacterial and viral infections.

The answer is no. Taking an antibiotic to avoid a sickness does not prevent you from getting ill. This action can cause the exact opposite. Antibiotics cannot cure every illness. Antibiotics are only effective against bacterial infections such as strep throat and sinusitis. They have absolutely no impact on viral infections such as the flu. You recover from viruses when the illness has run its course. Taking antibiotics "just in case" can cause harm and this very practice has contributed to the development of antibiotic-resistant strains of bacteria.

Understanding the difference between a bacterial and viral infection is one way to decrease the use of antibiotics and manage your health. Keep in mind, however, only your doctor can diagnosis your symptoms. The most common illnesses are listed below:

- Colds and flu are caused by viruses. They can't be cured with antibiotics. Symptoms can last two weeks or more and should be allowed to run their course.
- Coughs and bronchitis are almost always caused by viruses. However, if you have a lung condition or the illness lasts a long time, your infection may be caused by a bacteria. Your doctor may decide to try treatment with an antibiotic.



- Most sore throats are caused by viruses and don't need antibiotics. However, strep throat is caused by bacteria and usually requires treatment with antibiotics. A throat swab and a lab test are needed before your dowill prescribe an antibiotic for a sore throat.
- Ear infections often require the use of antibiotics. However, not all ear infections are bacterial infections.
- Sinus infections do not always indicate a bacterial infection. Even if you have a runny nose, or yellow/green mucus, you may not have a bacterial infection. Antibiotics should only be used for severe infections or those that last more than two weeks.

Myth 2: Antibiotics are the only cure for common colds, sore throats, coughs and aches and pains.

No, antibiotics are not effective against viral infections such as the flu. For decades, antibiotics have been prescribed by many physicians for every sniffle and sneeze, even when the source of the problem is a virus. Antibiotics have also been prescribed for ear and even sinus infections, many of which are not caused by bacteria at all.

Antibiotics are strong medicines that can cure many bacterial illnesses and infections. Antibiotics work by either killing bacteria or by inhibiting growth.