BetterSafe
WELCOA'S ONLINE BULLETIN FOR YOUR FAMILY'S SAFETY

Stop the Spread of SUPERBUGS

Help Fight Drug-Resistant Bacteria

For nearly a century, bacteria-fighting drugs known as antibiotics have helped to control and destroy many of the harmful bacteria that can make us sick. But in recent decades, antibiotics have been losing their punch against some types of bacteria. In fact, certain bacteria are now unbeatable with today's medicines. Sadly, the way we've been using antibiotics is helping to create new drug-resistant "superbugs."

Superbugs are strains of bacteria that are resistant to several types of antibiotics. Each year these drug-resistant bacteria infect more than 2 million people nationwide and kill at least 23,000, according to the U.S. Centers for Disease Control and Prevention (CDC). Drug-resistant forms of tuberculosis, gonorrhea, and staph infections are just a few of the dangers we now face.

Antibiotics are among the most commonly prescribed drugs for people. They're also given to livestock to prevent disease and promote growth. Antibiotics are effective against bacterial infections, such as strep throat and some types of pneumonia, diarrheal diseases, and ear infections. But these drugs don't work at all against viruses, such as those that cause colds or flu.

Unfortunately, many antibiotics prescribed to people and to animals are unnecessary. And the overuse and misuse of antibiotics helps to create drug-resistant bacteria.

How a Superbug is Born

Here's how that might happen. When used properly, antibiotics can help destroy disease-causing bacteria. But if you take an antibiotic when you have a viral infection like the flu, the drug won't affect the viruses making you sick. Instead, it'll destroy a wide variety of bacteria in your body, including some of the "good" bacteria that help you digest food, fight infection, and stay healthy. Bacteria that are tough enough to survive the drug will have a chance to grow and quickly multiply. These drug-resistant strains may even spread to other people.

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Over time, if more and more people take antibiotics when not necessary, drug-resistant bacteria can continue to thrive and spread. They may even share their drug-resistant traits with other bacteria. Drugs may become less effective or not work at all against certain disease-causing bacteria.

"Bacterial infections that were treatable for decades are no longer responding to antibiotics, even the newer ones," says Dr. Dennis Dixon, a National Institutes of Health (NIH) expert in bacterial and fungal diseases. Scientists have been trying to keep ahead of newly emerging drug-resistant bacteria by developing new drugs, but it's a tough task.

You can help slow the spread of drug-resistant bacteria by taking antibiotics properly and only when needed. Don't insist on an antibiotic if your health care provider advises otherwise. For example, many parents expect doctors to prescribe antibiotics for a child's ear infection. But experts recommend delaying for a time in certain situations, as many ear infections get better without antibiotics.

NIH researchers have been looking at whether antibiotics are effective for treating certain conditions in the first place. One recent study showed that antibiotics may be less effective than previously thought for treating a common type of sinus infection. This kind of research can help prevent the misuse and overuse of antibiotics.

Blocking Harmful Bacteria

- **Wash your hands often with soap and water, or use an alcohol-based hand sanitizer.**
- **If you're sick, make sure your doctor has a clear understanding of your symptoms. Discuss whether an antibiotic or a different type of treatment is appropriate for your illness.**
- **If antibiotics are needed, take the full course exactly as directed. Don't save the medicine for a future illness, and don't share with others.**
- **Maintain a healthy lifestyle—including proper diet, exercise, and good hygiene—to help prevent illness, thereby helping to prevent the overuse or misuse of medications.**

"Treating infections with antibiotics is something we want to preserve for generations to come, so we shouldn't misuse them," says Dr. Julie Segre, a senior investigator at NIH.

When antibiotics are needed, doctors usually prescribe a mild one before trying something more aggressive like vancomycin. Such newer antibiotics can be more toxic and more expensive than older ones. Eventually, bacteria will develop resistance to even the new drugs. In recent years, some superbugs, such as vancomycin-resistant Enterococci bacteria, remain unaffected by even this antibiotic of last resort.

Ideally, doctors would be able to quickly identify the right antibiotic to treat a particular infection. But labs need days or even weeks to test and identify the bacteria strain. Until the lab results come in, antibiotic treatment is often an educated guess.

While scientists search for ways to beat back these stubborn bacteria, you can help by preventing the spread of germs so we depend less on antibiotics in the first place. The best way to prevent bacterial infections is by washing your hands frequently with soap and water. It's also a good idea not to share personal items such as towels or razors. And use antibiotics only as directed. We can all do our part to fight drug-resistant bacteria.