

# Overexposed?

BY MALLORY CREVELING

*From meds to meat, what you need to know about antibiotics*

## A FEW STUBBORN BUGS



Picture this: You get a urinary tract infection (ugh, we know), head to the doctor and receive a prescription for an antibiotic. This Cillin/Mycin/whatever has worked in the past, but this time your symptoms don't go away. They get worse. Even after another round of antibiotics, you end up in the hospital—with a kidney infection. A possible reason your illness spiraled out of control? Antibiotic resistance, a health threat that affects at least 2 million people a year in the U.S. and leads to about 23,000 deaths due to now-hard-to-treat infections like UTIs and pneumonia. Antibiotics save countless lives, but these days more bacteria are mutating into “superbugs” and defying treatment. Understanding what we're up against and reducing unnecessary exposure are key to staying healthy.

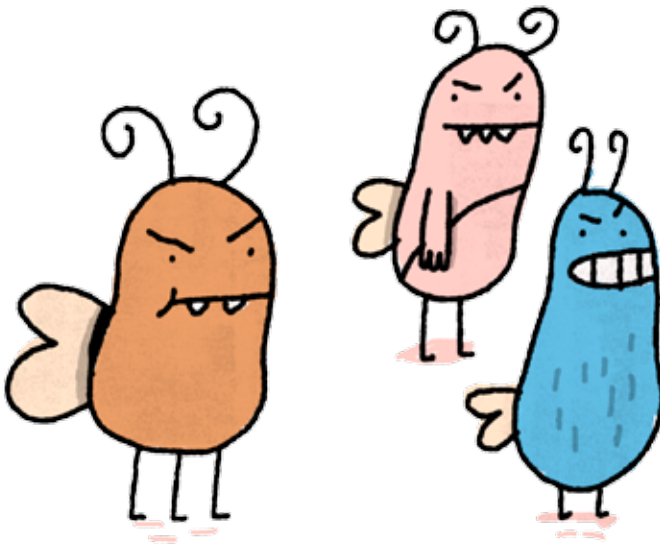
### What exactly is antibiotic resistance?

Simply put, it means your infection doesn't respond to certain first-line antibiotics—or worse, even stronger ones. It all starts with your body becoming vulnerable to a troublesome infection in the first place: Everyone has bacteria in and on their bodies, and while some of them help promote well-being, other types can cause disease. When you take an antibiotic, it usually kills the bacteria that are the source of your illness—along with other microorganisms. But some bugs aren't affected at all by the meds. They become stronger and start to tip your body's bacteria balance toward disease resistance, explains Adam Ratner, MD, infectious disease specialist and associate

*Most stubborn bugs come from somewhere else, such as a nursing home, a hospital, a gym or your food. While your body can fight back against these bugs, how quickly it does so depends on your immune system, the current mix of bacteria in your body and more.*

professor of pediatrics and microbiology at NYU Langone Medical Center. As more of those anti-Rx organisms thrive, so does the tolerance you build up against the treatment. In some cases, that means if you get sick, you'll need a second-line medicine that could cause severe side effects or might require hospitalization.

Scary but true: You could have drug-resistant germs lurking inside you right now, waiting for an opportunity to cause infection, explains Lauri Hicks, DO, director of the CDC's Office of Antibiotic Stewardship.



**Should I avoid taking antibiotics?**

No, sometimes they're necessary. But you should stop expecting them to be prescribed whenever you're sick. The vast majority of respiratory tract infections (such as colds, the flu and sinus infections) are caused by viruses. These infections are often treated with an antibiotic, but that won't help because antibiotics have no effect on viruses, says Jeffrey Gerber, MD, assistant professor of pediatrics and epidemiology at the University of Pennsylvania Perelman School of Medicine. Only very specific and much less common infections (such as

pneumonia, urinary tract and skin infections) are caused by bacteria, and these are the only types of infections that antibiotics can cure.

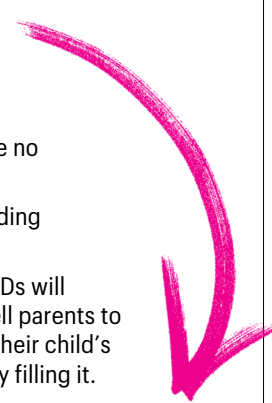
**What should I do if I get a prescription for antibiotics?**

"It never hurts to ask the doctor really pointed questions about your diagnosis," says Gerber. Request that your physician explain which germ you have and why an antibiotic would help. Also, if you receive a prescription with a long course (say, 14 days), ask whether a shorter one would also be effective.

# Take a Pass

Watch out for viral conditions that are often mistakenly treated with an antibacterial:

- Common colds
- Flu
- Most sinus infections
- Acute bronchitis—if you have no other health problems
- Most sore throats—not including strep, which requires testing
- Some ear infections. Many MDs will provide a prescription and tell parents to wait 48 to 72 hours to see if their child's pain improves before actually filling it.



"People have gone from seeing these drugs as special to casually saying, 'Oh, you probably have a cold. Let's get you some antibiotics just in case,'" laments Ratner.



# The Truth About Probiotics

Perhaps you've heard these pills and powders can help promote the growth of good bacteria in your gut, where many drug-resistant bacteria live. So it seems like they should help balance your microbiome to protect against illnesses too, right? Except for one thing: "We just don't know the right cocktail of bugs to put into our body," Gerber explains. While there have been some promising results with probiotics on antibiotic resistance, more research needs to be done.

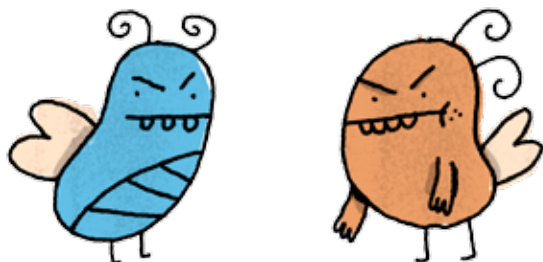


## Are antibiotics in meat a problem?

Yes, although research is still being done on just how troublesome they may be. Animals, including cows and chickens, are often fed antibiotics to increase their size and produce more meat—not necessarily to treat an illness, says Lance Price, PhD, director of the Antibiotic Resistance Action Center at George Washington University's Milken Institute School of Public Health. As a result, drug-repelling bacteria (those bad bugs that thrive when the good ones get eliminated) can enter your body and up your risk of resistance. One of the easiest ways to avoid this is, of course, buying meat labeled "raised without antibiotics." "This will also force the

industry to start raising animals with fewer antibiotics," Price notes. A better food supply equals healthier humans.

Practicing food safety will also help fend off resistance. Always cook meats and poultry to the proper temperature. (Go to [foodsafety.gov](http://foodsafety.gov) for an easy-to-use chart.) Wipe down all contaminated surfaces, use different cutting boards for raw meat and wash your hands before and after handling it. Also rinse produce, since animal waste is used as fertilizer and can get on fruits and veggies. Run them under cold water, scrubbing firm ones with a produce brush. Soak fruits and veggies with tough-to-reach spots (like broccoli or lettuce) in water for one to two minutes, then dry with a clean paper towel.



*"When bacteria are exposed to an antibiotic, they change to better protect themselves," says Hicks. "Several bugs are becoming very skilled at this and outsmarting us."*

## Superbugs on the Rise

While any of us could fall prey to these problematic germs, people with a suppressed immune system, the elderly and young children are even more at risk for having a serious infection, says Lauri Hicks, DO, director of the CDC's Office of Antibiotic Stewardship.

### *C. difficile*

Many people have this bacterium living harmlessly in their digestive tract, but when it grows out of control it can cause life-threatening diarrhea. Playing a role in about 15,000 deaths a year in the U.S., it often creates problems in people who've recently been on antibiotics. *C. difficile* is commonly found on surfaces in hospitals and nursing homes—so practice good hygiene if you find yourself visiting any of these facilities.

### CRE

Recently dubbed the "nightmare bacteria," they're resistant to nearly all antibiotics currently on the market. Healthy people normally don't have to worry about these bacteria, which are usually passed from person to person.

### *N. gonorrhoeae*

It causes gonorrhea, one of the most common drug-resistant infections reported in the U.S.

### Drug-resistant non-typhoidal salmonella

Cook your poultry, beef and eggs properly. This bug is responsible for 100,000 salmonella infections a year that don't respond to antibiotics.

### MRSA

You've likely heard of this staph bacterium that can cause skin infections and more serious bloodstream infections. While it used to be seen only in hospitals, it's become common in the wider community and is spread by skin-to-skin contact.

For more info on antibiotic resistance, go to [cdc.gov/getsmart](http://cdc.gov/getsmart).