

Choosing Wisely[®]

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Antibiotics

When you need them—and when you don't

Antibiotics are strong medicines that can kill bacteria. But we have overused antibiotics for many years. As a result, we now have bacteria that resist antibiotics. Resistant bacteria cause infections that are harder to cure and more costly to treat.

Antibiotic-resistant infections can strike anyone.

They can be passed on to others. For example, more and more healthy young people are getting skin infections from MRSA, a

bacteria that resists many common antibiotics. MRSA is spreading in households, daycare, schools, camps, dorms, gyms, team sports, and the military.

Try to protect yourself and your loved ones. Here's what you need to know to help prevent resistance:

Drug-resistant infections kill at least 23,000 children and adults in the U.S. every year.

Taking antibiotics makes you more likely to get a resistant infection in the future.

Sometimes you need antibiotics to prevent or treat an infection. But half of antibiotics prescriptions are not needed.

It is normal to have bacteria on your skin and in your body. Many bacteria are harmless. They can even keep you healthy. When you use an antibiotic, it kills most bacteria, including the friendly ones. But a few bacteria survive. These resistant bacteria can multiply and take over.

Antibiotics have side effects.

Each year, 14,000 Americans die from severe diarrhea caused by antibiotics. Other side effects include vaginal infections, nausea and vomiting. Serious allergic reactions include blistering rashes, swelling of the face and throat, and breathing problems. Some antibiotics can cause permanent nerve damage and torn tendons.

Resistant infections cost a lot.

Resistant infections usually need more costly drugs, more medical care or longer hospital stays. It costs over \$40,000 extra to treat a resistant bloodstream infection in one hospital patient. Resistant infections cost \$20 billion each year.



Do You Need Antibiotics?

People use antibiotics incorrectly for many common conditions. Medical organizations are alarmed about this problem and have listed some of these conditions below.

RESPIRATORY INFECTIONS

Children's sore throat, cough, runny nose

American Academy of Pediatrics

The problem: Different conditions need different treatments:

- Colds, flu and most other respiratory infections are caused by a virus. Antibiotics don't kill viruses.
- Bronchitis is usually caused by a virus or an irritant in the air like cigarette smoke.
- Strep throat is caused by bacteria. Symptoms include fever, redness and trouble swallowing. But most children with those symptoms do not have strep throat. Your child should get a strep test before taking antibiotics.

Consider antibiotics if:

- A cough doesn't get better in 14 days.
- The doctor diagnoses a bacterial illness, like strep throat.

Sinus infections (sinusitis)

American Academy of Allergy, Asthma & Immunology

The problem: Sinusitis is almost always caused by a virus. Symptoms include a stuffed-up feeling, a runny nose and pain in the face. Even when bacteria are the cause, the infections usually clear up on their own in about a week.

Consider antibiotics only if:

- You don't get better after 10 days.
- You get better and then worse again.
- You have a high fever and thick, colored mucus for three or more days in a row.

EAR INFECTIONS

Children's ear infections

American Academy of Family Physicians

The problem: Most ear infections improve on their own in two or three days, especially in children age two or older. Give your child over-the-counter pain relievers for a few days, and avoid antibiotics. Take your child to a doctor if symptoms aren't better in two to three days or they get worse at any time.

Get antibiotics right away for:

- Babies age six months or younger.
- Children from six months to two years old with moderate to severe ear pain.
- Children age two or older with severe symptoms.

Children with ear tubes

American Academy of Otolaryngology-Head & Neck Surgery

The problem: For children with ear tubes, antibiotic eardrops work better than oral antibiotics. Drops go straight through the ear tube into the middle ear—where most children's ear infections are. Drops are also less likely to cause resistant bacteria.

Consider oral antibiotics if the child:

- Is very ill.
- Needs antibiotics for another reason.
- Doesn't get better with eardrops.

Swimmer's Ear

American Academy of Otolaryngology-Head & Neck Surgery

The problem: Swimmer's ear is caused by water trapped in the ear canal. Usually, over-the-counter eardrops help as much as antibiotics, and they don't cause resistance. But if you have a hole or tube in your eardrum, check with your doctor first. Non-prescription eardrops could damage your hearing.

If you do need antibiotics:

- Antibiotic eardrops work better than oral antibiotics against swimmer's ear.
- Consider oral antibiotics if the infection spreads beyond the ear or you have other conditions, such as diabetes, that increase the risk of complications.



EYE INFECTIONS

Pinkeye

American Academy of Ophthalmology

The problem: Pinkeye is usually caused by a virus or allergy, so antibiotics don't help. Even bacterial pinkeye usually goes away on its own within 10 days.

Consider antibiotics for bacterial pinkeye if:

- You have a weak immune system.
- Pinkeye doesn't get better in a week without treatment.
- The eye is very swollen or painful or develops a thick, pus-like discharge.

Eye injections

American Academy of Ophthalmology

The problem: Injections are a common treatment for some eye diseases. After the injection, doctors often prescribe antibiotic eye drops to prevent infection. But the risk of infection is very low, because the eye is cleaned with a germ-killing solution before the injection. Antibiotics don't lower the risk, and they can irritate the eye.

Consider antibiotics if:

You have a bacterial eye infection with signs like redness, swelling, tearing, pus, and vision that is getting worse. Don't get an injection until the infection clears up.

URINARY TRACT INFECTIONS

Urinary tract infections in older people

American Geriatrics Society

The problem: Doctors often find bacteria in a routine urine test and prescribe antibiotics to people

with no symptoms of a urinary tract infection (UTI). But older people often have bacteria in their urine, with no UTI. The drugs are not helpful in those cases.

Consider antibiotics if:

- An older person has UTI symptoms, like pain or burning in urinating or a strong urge to go often.
- Older people without UTI symptoms should only be tested and treated for bacteria in their urine before certain procedures. These include prostate surgery or some procedures to remove kidney stones or bladder tumors.

SKIN INFECTIONS

Eczema

American Academy of Dermatology

The problem: Eczema causes dry, itchy, red skin. Doctors may try to control it with antibiotics. But antibiotics don't help the itching, redness, or severity. To control eczema, moisturize your skin and avoid things that irritate it. Ask your doctor about a medicated cream or ointment to relieve itching and swelling.

Consider antibiotics only if there are signs of a bacterial infection, such as:

- Bumps full of pus
- Cracks and sores that ooze pus
- Honey-colored crusting
- Very red or warm skin
- Fever

Surgical wounds

American Academy of Dermatology

The problem: Surgical wounds usually have a very low risk of infection. Antibiotics don't lower the risk. Most wounds heal just as well with petroleum jelly (Vaseline and generic).

Consider antibiotics only if:

- The wound is in an area of the body with a higher risk of infection, such as the groin.
- The wound actually shows signs of infection—such as redness, pain, swelling, warmth, pus, drainage, crusting or fever.

Steps to reduce use of antibiotics

Try to avoid infections in the first place. If you do get one, use antibiotics correctly. The following steps can help:

Wash your hands often

- Use plain soap and water.
- Wash for at least 20 seconds.
- Or use an alcohol-based hand sanitizer like Purell if soap and water are not available.
- Avoid antibacterial hand cleaners.
- Wash before preparing or eating food.
- Wash after using the bathroom, changing a diaper, sneezing, coughing, handling garbage and coming home from public places.
- Wash before and after treating a cut or wound or being near a sick person.

At home

- Don't share personal items like towels, razors, tweezers and nail clippers.
- Keep kitchen and bathrooms clean. You can clean surfaces with soap and water. Try to avoid products with added antibacterials.
- Don't put purses, diaper bags, or gym bags on the kitchen table or counter.
- Wash wounds with regular soap and water. Use over-the-counter antibiotic products such as neomycin (Neosporin and generic) or bacitracin only for cuts that look dirty.

At the gym

- Wipe exercise equipment with alcohol-based sprays or wipes.
- Put a clean towel over workout mats.
- Keep cuts and scrapes clean, dry and covered.
- Shower right after exercising, and use clean towels.

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Work with your doctor

- Don't push for antibiotics with your doctor. If you don't have a bacterial infection, ask how to relieve symptoms.
- Fight it off. If symptoms are mild and complications unlikely, ask if you can delay treatment for a few days.
- Get recommended vaccines and flu shots. Ask about vaccines for pneumonia and meningitis.
- Take antibiotics as prescribed. Don't skip doses or stop the medicine early.
- Don't use leftover antibiotics to treat an infection. Taking the wrong medicine allows bacteria to multiply.

In the hospital

- Don't get shaved with a razor before surgery. The nicks can attract bacteria.
- Make sure healthcare providers and visitors wash their hands with soap and water or an alcohol-based hand sanitizer.
- Visitors shouldn't touch surgical wounds or dressings.
- Ask every day if catheters or other tubes can be removed. They can lead to urinary tract or bloodstream infections.

