When you’re sick, you want to do whatever you can to feel better. When antibiotics, like penicillin, were first discovered they were thought to be a cure-all.

We’ve learned over the years that antibiotics:

• Are not the answer for every illness.
• Only work for certain illnesses.

Most infections are caused by bacteria or viruses. Antibiotics only help with infections caused by bacteria, not those caused by viruses.

Viral infections include:
• Colds
• Influenza (flu)
• Other respiratory and stomach illnesses

Antibiotics will not work for these illnesses.

Bacteria cause infections such as:
• Strep throat
• Ear infections
• Sinus infections
• Pneumonia

For bacterial infections, your doctor:
• May decide antibiotics are the best treatment.
• Will ask you to follow the instructions and take all of the medicine to ensure the infection is treated.

Not finishing the medicine can cause even stronger bacteria to develop.

Bacterial resistance
Sometimes it’s hard to tell whether an illness is caused by a virus or bacteria. So what’s the harm in taking antibiotics just in case?

Using antibiotics when they are not needed causes some bacteria to become resistant to the antibiotic, which means that the medicine no longer works. The more antibiotics you take, the more you risk getting resistant bacteria that are stronger and harder to kill.

If bacteria become resistant, they can stay in your body and cause severe illnesses that cannot be cured with antibiotic medicines. These illnesses may require more complex treatment, and possibly a stay in the hospital.

Kaiser Permanente and the Centers for Disease Control and Prevention (CDC) are working hard to make people aware that taking antibiotics when they are not necessary is harmful.

How are infections treated?
Your body is amazing. It has a built-in defense mechanism (your immune system) that will successfully fight most infections on its own, especially ones caused by viruses. In most cases, even if you take no medicine your body will cure itself. Getting plenty of rest and drinking lots of clear fluids will help your body to recover.
You can reduce common symptoms by using over-the-counter medicine. For fever you can take acetaminophen (Tylenol) or ibuprofen (Motrin, Advil). Because antibiotics do not kill viruses, they will not work to treat most:
- Runny noses
- Coughs
- Diarrhea
- Upset stomachs
- Sore throats

**What about green or yellow nose mucus?**
We used to think that thick, yellow or green mucus was the tell-tale sign of a bacterial infection. Now we know that’s not actually true. Viral infections and allergies often cause thick yellow or green mucus for a few days. And as we’ve learned, antibiotics do not treat viral infections or allergies. Some people benefit from daily sinus rinses to clear out the mucus. A sinus rinse kit is available in the pharmacy without a prescription.

**Should I avoid taking antibiotics?**
The short answer is yes, unless you really need them. Taking antibiotics can cause side effects, such as:
- Diarrhea (which if severe, can be life-threatening)
- Rashes
- Vaginal (yeast) infections
It can also lead to antibiotic resistance. Use antibiotics only when your doctor recommends it and never take leftover antibiotics.

**How do I prevent illnesses?**
It’s best to prevent illnesses and infections whenever possible. Hand washing, staying home from work and school when you’re sick, and getting a flu shot every year can help prevent the spread of illnesses. Even so, most adults get 2 to 4 colds each year. Children average 5 to 6 colds per year, while infants and toddlers average 7 to 12 colds each year.

**When to call Kaiser Permanente**
Call us right away if your child is:
- 2 months or younger with a fever of 100.4°F or higher.
- 3 months or older with a fever of 100.4°F and has any of the below symptoms.

Call us right away if you or your child has one or more of these symptoms:
- Difficulty breathing, very sore throat, or trouble swallowing
- Fever over 100.4°F with a stiff neck, rash, or severe headache
- Cough for more than 3 weeks
- Deep cough with lots of mucus
- Runny nose (not allergies) for more than 2 weeks without getting better
- Severe ear pain, sudden hearing loss, or discharge from the ear
- Vomiting, diarrhea, or dehydration
- Severe pain, such as painful urination
- Confusion or lack of energy
- Red eyes with a mucus-like (pus) discharge (sometimes called pink eye)
- Feels better, then worse again

**Additional resources**
For more health information, tools, classes, and other resources:
- Visit kp.org/mydoctor (Northern California) or kp.org
- Contact your local Kaiser Permanente Health Education Center or Department

This information is not intended to diagnose or to take the place of medical advice or care you receive from your physician or other health care professional. If you have persistent health problems, or if you have additional questions, please consult with your doctor. If you have questions or need more information about your medication, please speak to your pharmacist. Kaiser Permanente does not endorse the medications or products mentioned. Any trade names listed are for easy identification only. Some photos may include models and not actual patients.

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