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## What Medicines Are and What They Do

You're sitting in the doctor's office, feeling crummy and hardly able to swallow. You watch and listen as the doctor grabs her prescription pad and says to your parent, "The test came back, and he's got strep throat. I've seen a lot of kids with it this week. Give him this medicine, make sure he finishes all of it, and he should be well enough to go back to school soon." So you go home and start taking your medicine. Sure enough, you quickly get better.

But what was in the medicine? How did it work to make you better? And how did the doctor know to give you that medicine instead of one of thousands of others?

Medicines aren't really a mystery — keep reading and you'll learn more.

### A Rainbow of Medicine

One medicine might be a pink liquid, another medicine might come in a special mist, another might be a blue pill, and still another might come out of a yellow tube. But they're all used for the same purpose — to make you feel better when you're sick.

Most medicines today are made in laboratories and many are based on substances found in nature. After a medicine is created, it is tested over and over in many different ways. This allows scientists to make sure the medicine is safe for people to take and that it can fight or prevent a specific illness.

Many new medicines actually are new versions of old medicines that have been improved to help people feel better quicker.

### Medicines Can Replace What's Missing

Sometimes a part of the body can't make enough of a certain substance, and this can make a person sick. When someone has type 1 diabetes (say: dye-uh-BEE-tees), the pancreas (a body organ that is part of the digestive system) can't make enough of an important chemical called insulin, which the body needs to stay healthy.

If your body makes too much of a certain chemical, that can make you sick, too. Luckily, medicines can replace what's missing (like insulin) or they can block production of a chemical when the body is making too much of it.

Most of the time when kids get sick, the illness comes from germs that get into the body. The body's immune system works to fight off these invaders, but the germs and the body's natural way of germ

fighting, like getting a fever, can make a person feel ill. In many cases, the right kind of medicine can help kill the germs and help the person feel better.

## **Medicines Help in Many Ways**

People take medicines to fight illness, to feel better when they're sick, and to keep from getting sick in the first place.

When deciding which medicine to give a patient, a doctor thinks about what is causing the patient's problem. Someone may need to take more than one type of medicine at the same time — one to fight off an infection and one to help the person feel better, for example.

When it comes to fighting illnesses, there are many types of medicines. Antibiotics (say: an-ty-by-AH-tiks) are one type of medicine that a lot of kids have taken. Antibiotics kill germs called bacteria, and different antibiotics can fight different kinds of bacteria. So if your doctor found out that streptococcal bacteria were causing your sore throat, he or she could prescribe just the right antibiotic.

## **Pain Relievers and Symptom Soothers**

But while the antibiotic is starting to fight the bacteria, you might still feel achy and hot, so the doctor might tell your parent to also give you a pain reliever. Pain relievers can't make you well, but they do help you feel better while you're getting well.

You have taken other medicines that soothe symptoms if you've ever taken cold medicine to dry up your runny nose or sucked on throat drops for a scratchy throat. Cream that helps a bug bite stop itching is another example. Your cold had to go away on its own, just like the bug bite needed to heal on its own, but in the meantime, these medicines helped you feel less sick or itchy.

Many people also take medicines to control illnesses that don't completely go away, such as diabetes, asthma, or high blood pressure. With help from these medicines, people can enjoy life and avoid some of the worst symptoms associated with their illnesses.

Finally, there are important medicines that keep people from getting sick in the first place. Some of these are called immunizations (say: ih-myoo-nuh-ZAY-shunz), and they are usually given as a shot. They prevent people from catching serious illnesses like measles and mumps. There is even an immunization that prevents chickenpox, and many people get a flu shot each winter to avoid the flu. Although shots are never fun, they are a very important part of staying healthy.

## **Many Ways to Take Medicine**

What does medicine mean to you? Do you picture a pill or a spoonful of purple liquid? Those are two ways medicine can be given, but there are others. Medicines are given in different ways, depending on how they work best in the body.

A lot of medicines are swallowed, either as a pill or a liquid. Once the medicine is swallowed, the digestive juices in the stomach break it down, and the medicine can pass into the bloodstream. Your blood then carries it to other parts of your body.

But some medicines wouldn't work if the stomach's digestive juices broke them down. For example, insulin is given as a shot under the skin and then it can be absorbed into the bloodstream.

Other medicines would take too long to work if they were swallowed. When you get an IV in the hospital the medicine gets into your blood quickly. Other medicines need to be breathed into the lungs where they work best for lung problems, like some of the medicines used to treat asthma.

Still others work best when they are put directly on the spot that needs the medicine — like patting ointment on an infected cut or dropping ear drops into a clogged-up ear.

## **Mind Your Medicines**

So medicines sound like a pretty good thing, right? In many cases they are — as long as they are used correctly. Too much of a medicine can be harmful, and old or outdated medicines may not work or can make people sick. Taking the wrong medicine or medicine prescribed for someone else is also very bad news.

You should always follow your doctor's instructions for taking medicine — especially for how long. If your doctor says to take medicine for 10 days, take it for the whole time, even if you start to feel better sooner. Those medicines need time to finish the job and make you better!

Reviewed by: Mary L. Gavin, MD

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**Nemours.**

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# Smoking Notebook

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Name \_\_\_\_\_

**1. What is in cigarettes?**

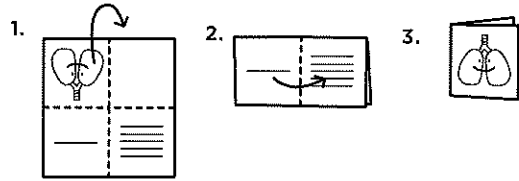
**2. What happens when someone smokes?**

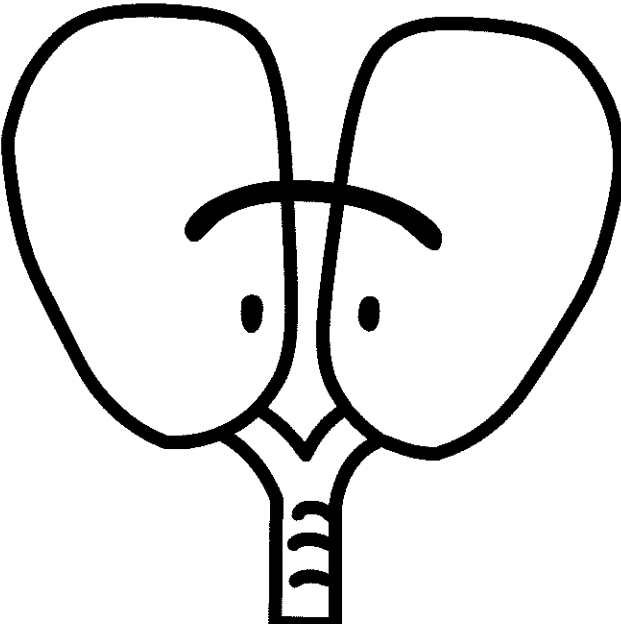
**3. What should you do if someone asks if you want to smoke?**



Do you know someone who smokes or someone who is trying to quit smoking? Make an encouraging card for them!

1. Write an encouraging message for someone to quit smoking.
2. Color the lungs on the cover of the card.
3. Follow the steps to fold up the card. Then, give the card to the person.





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Dear \_\_\_\_\_,

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