mystery science

Grades K-5
Mini-Lesson: “Why do we get hiccups?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! Hiccups. You get them, I get them, but I got to wondering, do animals ever get hiccups? Well, see for yourself. Check out these video clips.

Someone named Dhara has a question about hiccups. Let's give her a call now.

[Video Call]
- Hi, Doug!
- Hi, Dhara!
- I have a question for you. Why do we get hiccups?
- That's a great question.

Hiccups are annoying, and kind of weird, right? We get used to the idea of hiccups, but I mean, think about it. If you were sitting there talking to someone but all of a sudden started saying an actual word, like "popsicles," and then as you're talking, you're just—"popsicles." What's so weird and frustrating about hiccups is the sound just suddenly comes out of you. It's something you have no control over.

You've probably noticed that sometimes hiccups happen after you eat or drink something too quickly. But sometimes, it seems like they happen randomly, for no reason at all. And everyone

seems to have a favorite trick they use to try to stop the hiccups. One person I talked to said she does a handstand in order to stop them, and that at least for her, it works every time.

Have you ever tried to stop the hiccups? What's something you've tried or heard about?

VIDEO 2

Well, maybe one of the most surprising things about hiccups is that there's no one way that's been proven to stop them. But why do they even happen? What is it that's happening in your body when you get hiccups?

The answer to this wasn't obvious until we had ways to study what's going on inside your body, things like X-ray machines and MRIs that allow us to see inside the body. It turns out that what's happening has to do with a muscle in your body.

When you think of muscles, you might think of the ones in your arms. But there's a muscle located in a surprising place, the bottom of your chest. It's called the diaphragm. It's a large muscle too. It actually forms a dividing wall between your chest, that's this part of your body, and your abdomen, or belly, the part of your body that contains these organs.

What does this muscle do? Muscles are things you can flex. You can cause them to tighten up or pull. And not just to show off how strong you are. You flex your muscles all the time, like when you go to lift something with your arms. In order to lift that thing, you have to flex your arm muscles, like your biceps, right here.

Like all muscles, your diaphragm is something you can flex too. You can cause it to tighten up or pull. But flexing your diaphragm isn't something you do to lift things. Instead, watch what happens when you flex your diaphragm.

Here I've made a little model of the human chest. Here's the chest itself, and inside there are your lungs. This straw represents your throat. Watch as I flex this diaphragm. Do you see that? Look what the lungs are doing here.

So you see, flexing your diaphragm causes your lungs to expand and contract. And this is how we breathe. Our lungs need us to constantly inhale, or pull in new air, and exhale, or push out old air that we're done with. But the lungs by themselves can't do this. That's what our diaphragm is for.

By using special tools like MRI machines and X-rays, scientists were able to discover exactly what happens when we get hiccups. It turns out, even though most of the time, you can control your diaphragm muscle and decide when to breathe in and out, sometimes the muscle goes out of control. It just suddenly flexes all on its own.

Normally when you breathe, you can try this yourself and feel it—the muscle flexes and relaxes, nice and slow. But when you get the hiccups, the diaphragm starts to behave weirdly. It does very sudden flexes. Flex, relax, like this. Flex, relax. Each time it flexes suddenly, it very quickly forces air out of your lungs, which rushes through your throat and makes that familiar "hic" sound when you hiccup. Why would your diaphragm do this?

Why would it just suddenly start flexing? That's maybe the most interesting thing of all about hiccups. And that's this—nobody knows.

Hiccups are truly a mystery. No one, not even scientists or doctors, has figured out why the diaphragm has these sudden movements or how to stop them from happening.

Luckily for most of us, when we do get the hiccups, they stop after a little while. But one man is not so lucky. According to the *Guinness Book of World Records*, Charles Osborne from the U.S. state of Iowa is said to have had the hiccups for nearly 68 years.

That's all for this week's question. Thanks, Dhara, for asking it!