

DISRUPTED SPEECH

Why do we stutter?

Stuttering affects more people than you might think. Roughly 3 million Americans have this speech disorder that makes speaking smoothly difficult. Scientists are learning about what causes people to stutter, and genes tell a big part of the story.

"People with stuttering know exactly what they want to say. They're just unable to say it at the rate they would like," says Dr. Dennis Drayna, an NIH expert on the genetics of communication disorders.

Stuttering often involves speech sounds that are repeated or held for too long—often when starting words or sentences. It affects about 1 in 20 children. Most will outgrow the disorder on their own or with the help of a professional called a speech-language pathologist.

"However, about 20–25% of children who stutter will continue into adulthood," says Drayna. This condition is known as persistent developmental stuttering. Overall, about 1% of adults stutter, and it's much more common in men than women.

For those who stutter, communicating with others can be difficult. It can cause anxiety about speaking and lead them to avoid talking. This, in turn, can affect relationships, self-esteem, and quality of life.

It's common for people who stutter to be able to speak without

stuttering when in a low-stress environment. They may have no problem speaking fluently with a pet or baby, for example. Singing or speaking together in a group can also lessen stuttering. But stuttering often gets worse if they're feeling tired or anxious.

Researchers are still working to fully understand what causes stuttering. But they do know that it often runs in families. "It's 15 times more likely that a sibling of a person who stutters will stutter than a random person in the population," explains Drayna.

By studying families with multiple people who stutter, Drayna has identified several genes that can cause stuttering. Mutations in these genes have now been found in people around the world who stutter. These studies suggest that genes likely play a role for many people who stutter.

All the genes identified so far are involved in a process inside the cell called intracellular trafficking. This process helps direct things in the cell to their proper locations. Problems with intracellular trafficking have recently been recognized in other neurological disorders, like Parkinson's and Alzheimer's disease. But more research is needed to understand how it impacts speech and stuttering.

Scientists are also using brain imaging scans to better understand brain activity in people who stutter. This may help show why some children outgrow stuttering and hopefully lead to better treatments one day.

Does Your Child Stutter?

- Be patient and focus on what he or she is saying.
- Listen attentively when your child speaks and wait for him or her to say the intended word. Try not to finish sentences or fill in words.
- Avoid telling your child to "relax" or "slow down."
- Speak at a relaxed pace with your child and pause often. This can help reduce time pressures the child may be experiencing.
- Set aside some time each day to talk with your child when he or she has your undivided attention.
- Contact a speech pathologist if stuttering lasts over six months.

For now, treatment for stuttering involves therapy with a speech-language pathologist. Many of the current therapies aim to make speech smoother. Some work to change the thoughts that can bring on or worsen stuttering. Electronic devices are also available to help those who stutter manage their speech.

While stuttering can be an obstacle, there are many resources to help overcome it.

This article is reprinted from the National Institutes of Health's NIH News in Health. For more information, visit: https://newsinhealth.nih.gov/



TEENS TAKING CHARGE OF THEIR HEALTH

Becoming a teen means taking more responsibility for decisions about your body and health. It's important to understand how your body works and what it needs. That way, you can make smart choices about what you eat and how you keep active. Start by creating healthy habits now.

Eating a good diet is an important place to start. By choosing healthy foods and drinks, you can give your body the nutrients it needs. Nutritionists recommend filling half of your plate fruits and vegetables. Teens need more of certain nutrients like calcium found in milk, yogurt, and cheese—and vitamin D, found in dairy, fortified cereals, and tuna. It's a good idea to reduce added sugar from foods like cookies, candy, and soda.

Staying at a healthy weight is important, too. But extreme dieting isn't the answer to extra weight. Cutting out whole food groups or skipping meals can be unhealthy and won't result in long-term weight loss. Unhealthy dieting can also affect your mood and how you grow. Instead, try to make small changes you can stick to. NIH has online resources to help you reach and stay at a healthy weight.

Regular exercise is also key. Experts recommend teens get 60 minutes of physical activity each day. Three of those days should include a vigorous exercise like jogging or biking.

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GUT TROUBLES PAIN, GASSINESS, BLOATING, AND MORE

Everyone has pain or discomfort in their gut occasionally. Maybe you ate something that didn't agree with you. Or you had an infection that made you sick to your stomach for a few days.

But if pain and other gut symptoms go on for weeks or longer, something more serious might be wrong. Digestive system diseases and disorders are very common. Around 60 to 70 million people in the U.S. live with a digestive disease.

It's important not to ignore symptoms in your gut. Many digestive disorders are easiest to treat when they first develop.

Potential Causes

One of the most serious gut disorders is inflammatory bowel disease (IBD), although it's not very common. IBD occurs when immune system cells in the gut overreact to a perceived threat to your body. Often, that "threat" is the normal bugs that make up the microbiome—the microscopic creatures like bacteria,

fungi, and viruses—that live in your gut. This overreaction can damage the digestive (gastrointestinal or GI) tract.

The two main types of IBD are ulcerative colitis and Crohn's disease. "Crohn's can occur anywhere in the digestive tract, from the mouth to the anus," says Dr. Judy Cho, an IBD expert at Mount Sinai. Ulcerative colitis happens only in the large intestine.

These two diseases also differ in how deeply they can damage tissue. "Ulcerative colitis causes damage in the gut lining," explains Dr. Dermot McGovern, who studies IBD at Cedars-Sinai. "Crohn's disease can go all the way through the gut."

Severe cases of Crohn's can lead to narrowing of the intestines and even holes in the gut.

Other conditions can harm the lining of the stomach and lead to a type of inflammation called gastritis. The most common cause of gastritis is infection with bacteria called Helicobacter pylori. Other causes include the long-term use of some pain medications. If left untreated, gastritis can lead to painful ulcers.

Twelve percent of people in the U.S. have irritable bowel syndrome (IBS). "This is a very common disorder. It's characterized by abdominal pain, bloating, and changes in bowel habits," says Dr. Anthony Lembo, an IBS researcher at Beth Israel Deaconess Medical Center.

Researchers don't understand

exactly what causes IBS. It may have different causes in different people. Sometimes it involves problems with how the brain and gut work together.

Other things that can cause pain and discomfort in the GI tract are acid reflux or food sensitivities.

Pinpointing the Problem

It can be tricky to diagnose a digestive disease because they share a lot of symptoms, explains Cho. Symptoms of many gut conditions include pain, gassiness, bloating, and diarrhea.

"But for IBD, there are several redflag symptoms," she says. These are blood in the stool, weight loss, and signs of inflammation found in a blood test. A sign of IBD in children is failure to grow, Cho adds.



IBS can give some people diarrhea and others constipation. Some people go back and forth between the two.

Gastritis and food sensitivities can also cause long-term gut discomfort. To figure out what's causing gut troubles, doctors may need to run a variety of tests. These can include blood tests and a stool test to look for infection.

Some people may have an imaging test, such as a CT scan. Others may need to have an endoscopy. Endoscopy uses a long, flexible tube with a tiny camera on the end to look in the intestines or stomach.

Treating Pain and Discomfort

While symptoms for different gut disorders can be similar, treatments vary widely. For gastritis caused by bacterial infection, antibiotics are used to kill the germs. If medications are causing gastritis, switching to a different kind of drug will usually allow the stomach to heal.

Food sensitivities can be managed by changing your diet. A nutritionist can help you figure out what foods might be irritating your gut. Acid reflux can also often be improved by changes in your diet and medication.

Treatment isn't one-size-fits-all for IBS, Lembo explains, because it can have different causes. Some people can get some relief by adjusting their diet. (See the Wise Choices box for foods that can trigger gut symptoms.)

"We also tell patients to eat two to three meals a day, maybe have a snack or two. But don't eat all day long. Give your gut a chance to rest," he says.

And while stress doesn't cause IBS, it can trigger flare-ups of symptoms in many people, says Lembo. Stress

reduction strategies and cognitive behavior therapy—a type of talk therapy—can help some people manage symptoms of IBS.

IBD is harder to treat than most gut disorders. "It's impossible to cure IBD right now," says Cho. Treatments focus on stopping inflammation long enough to allow the gut tissue to heal, she explains.

Some medications used for IBD control inflammation. Other newer drugs suppress the immune system. But these newer drugs can have serious side effects and are usually only used when others don't work.

"Research has discovered that the earlier you use these medications, the more likely you are to respond," says McGovern. So, people with high-risk disease may get these drugs first now, he explains.

Looking for Better Treatments

Researchers are searching for new ways to prevent and manage gut disorders. Lembo, for example, is testing whether peppermint oil can help the gut muscles relax in people with IBS.

Existing treatments for IBD only work for about a third of people who try them. And even then, McGovern says, they may lose their effects over time.

Both Cho and McGovern are working to understand the genetics of IBD. This information could be used at all stages of the disease, explains Cho. For example, if a test could identify children at higher risk of developing IBD later in life, "theoretically it could be prevented," she says. Strategies could include giving anti-inflammatory drugs before IBD develops or changing the gut microbiome to prevent an immune attack.

"And what we're all interested in

Gut Trigger Foods

Not all people with gut disorders have problems with the same foods. But some foods that commonly cause gut discomfort include:

- Dairy products
- Caffeine
- Carbonated drinks
- Sugar, candy, and junk food
- Fruit juices
- Beans
- Cruciferous vegetables, like broccoli and cauliflower

is: Can we use some of these genetic signatures to identify new drug targets for IBD?" adds McGovern. That could also eventually help predict who would most likely benefit from a drug, he says.

One of the newest drugs being tested for IBD was based on a genetic discovery, Cho explains. "There's increasing precision in treatment," she says. "Using genetic knowledge to help choose therapies for IBD is something that I think is doable in the next five to 10 years."

For now, talk with your doctor if gut discomfort or pain are impacting your quality of life. Available treatments can help most people get their insides back in order again.

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To be eligible, applicants must be able to demonstrate how their scholarship funds will be used to help with their academic success. The Scholarship Committee will also review letters of recommendation, overall GPA, and the student's goals when awarding scholarships.

More information regarding the 2020-2021 scholarship program will soon be available on the member website at www.medsensemembers.com. Members will also be receiving emails announcing the beginning of the program.

For information regarding your membership and association services, call or write:

Membership Services Office Med-Sense Guaranteed Association 16476 Wild Horse Creek Road Chesterfield, MO 63017

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Consult your doctor before starting any exercise program.

