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Tension Headaches, Migraine, and More

When Headaches Disrupt Your Life

Headaches come in many forms. Where you feel the pain, what other symptoms you have, and how long headaches last can vary. For many people, headaches are an occasional nuisance. For others, they can be chronic and disabling.

Some headaches can be prevented with small lifestyle changes. Drinking enough water, avoiding headache triggers, managing stress, or improving sleep can sometimes be enough. Other headaches may require more intensive interventions.

NIH researchers are working to develop more options for people who aren't helped by current treatments.

Types of Headaches • There are many types of headaches. Understanding the type you're having can help you find the right treatment.

The most common is called a tension-type headache. These are often triggered by stress, which causes muscles in the neck, face, scalp, and jaw to tighten. Lack of sleep, dehydration, and poor posture can also lead to a tension-type headache.

The pain from a tension-type headache is usually mild to moderate and can be felt on both sides of the head. Some people have chronic tension-type headaches. These happen frequently and can last for hours to days, or even constantly.

"We define chronic headache as having more than 15 headache days per month. So, more days with headache than not," says Dr. Michael Oshinsky, a pain expert at NIH.

Other common headaches are those caused by migraine. Migraine isn't just a headache. It's a complex brain condition. Migraine headaches often occur on one side of the head. But they can also be on both sides. Migraine attacks can include nausea, vomiting, mood changes, extreme tiredness, and sensitivity to light, noise, and smells. Attacks can last for hours to days.

"Migraine is a disorder where the 'volume knob' of the nervous system has been turned up," explains Dr. K.C. Brennan, a migraine researcher at the University of Utah. "In people with chronic migraine, it stays turned up."

There are many other types of headaches. One that causes extremely painful, sudden attacks is the cluster headache. These attacks can happen around the same time each day or every other day for several weeks.

Some people, such as combat veterans, live with post-traumatic headaches. These are headaches that linger after a traumatic brain injury or a concussion. They can last long after the injury is healed. Other, rarer types of headaches can be caused by nerve problems in the head area.

Headaches can also be caused by other health conditions. Brain injury, stroke, seizures, infections, high blood pressure, and other conditions can all lead to headaches. These are called secondary headaches.

If you have headaches that disrupt your daily life, talk with your doctor. They can help you find relief or refer you to a specialist.

Some headaches may indicate a dangerous medical problem that needs immediate medical attention. See the Wise Choices box for signs to look for.

Trying Treatments • You can help take control of your headaches by keeping a headache diary. Track your symptoms, how often they happen, and what alleviates them.

"For at least a month, just note down when you have a headache, how you treated it, how long it lasted," Oshinsky says. You can also include facts like foods or drinks consumed, sleep patterns, stress

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levels, and changes in daily routines. This can help you identify what might have triggered the headaches so you can work to avoid them. Sharing your diary with your doctor can help them better understand the type of headaches you're having and suggest a treatment plan.

Over-the-counter pain relievers can help some people with occasional headache pain. Others may need to try prescription drugs.

But frequently taking painkillers for headaches may make things worse, Oshinsky explains. "If you use painkillers more than three or four times a week, once the drug is out of your system you can get a rebound headache," he says.

People with frequent or chronic headaches can try preventive treatments. These stop headaches from starting, rather than dulling the pain once they start. For example, a type of medication called CGRP drugs helps many people with migraine have fewer attacks.

But the available preventive treatments don't work for everyone. Researchers are looking for other ways to stop headaches from forming.

Brennan's team is studying a compound called glutamate. Glutamate is important for normal brain function and helps nerve cells communicate. But Brennan's team has found that it may sometimes also play a role in triggering migraines.

"We need to figure out how this unusual glutamate activity works, in what brain cell type, and under what conditions, in order to develop a more tailored approach to migraine treatment," he says.

Other treatments for headaches don't involve drugs at all. Some people get relief with a type of talk therapy called cognitive-behavioral therapy, or CBT. This includes learning coping strategies and ways to think differently about pain.

"There are changes in the brain after doing CBT, just like there are changes in the brain after using medications," says Dr. Hadas Nahman-Averbuch, who studies migraine pain at Washington University in St. Louis. Other people find relief using mind-body techniques such as mindfulness practice or biofeedback, she adds.

Small Heads, Big Aches • Headaches are common in kids, too. Often, headaches in children and teens can be treated by drinking more water, having a healthier diet, getting enough activity, and solving sleep problems. Always talk to a doctor before giving headache medicines to a child.

Sometimes, it can be difficult to figure out what kind of pain a child is feeling. "A very young child with a migraine headache will often point to their stomach first and say, 'my stomach hurts,'" Oshinsky says.

Migraine headaches often run in families. So parents who live with these headaches may want to be on the lookout for them in their kids, Oshinsky adds.

Puberty can trigger new or worsening migraine headaches in teens, especially girls, says Nahman-Averbuch. She and her team are studying how hormone changes may affect migraine pain. They want to develop tests to predict which teens at risk of migraine will develop headaches during puberty.

"If we can predict who will develop migraine, then maybe we can do something to prevent that from happening," Nahman-Averbuch says.

Regardless of your age, it may take time to figure out the best treatment for your headache pain. Your health care team can help you find what works. "We have lots of tools at our disposal now," Brennan says, "and we're developing more." ■

Wise Choices

Headache Warning Signs

A headache can be a sign of another serious medical problem. Seek medical care as soon as possible for:

- A sudden, severe headache, possibly with a stiff neck.
- A severe headache with fever, nausea, or vomiting that's not related to another illness.
- A headache with confusion, weakness, double vision, or loss of consciousness.
- A headache that gets worse over days or weeks, or changes in pattern or behavior.
- A headache after a brain injury.
- A headache with loss of sensation or weakness in a body part.
- Two or more headaches a week.
- A constant headache in someone who hasn't had headaches before, especially over age 50.
- Recurring headaches in children.
- New headaches in someone with a history of cancer or HIV/AIDS.

Web Links

For more about headaches and migraines, see "Find More Information" in the online article: go.nih.gov/NIHNiHSep25Headache

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Probing Aspirin's Benefits

Exploring its Role in Prevention

You've probably taken aspirin for pain or a fever. But some people take a low dose of aspirin every day. It can reduce the risk of **cardiovascular** events like heart attacks and strokes. Now, scientists are learning that aspirin's effects differ based on a person's age and overall health.

Aspirin helps prevent heart attacks and strokes by keeping platelets from clumping. Platelets are tiny pieces of cells that help slow or stop bleeding by forming blood clots. But preventing blood clots from forming can make bleeding more likely. That means the health benefits of daily aspirin don't always outweigh the risks.

Studies have shown that a daily low-dose aspirin doesn't benefit everyone. For example, one study looked at older adults who took aspirin regularly for five years. It found that older adults taking aspirin did not live any longer without a disability than those who did not take it. And, taking a daily aspirin led to more bleeding episodes.

Recently, experts stopped recommending low-dose aspirin for preventing cardiovascular problems in adults over 60. For adults aged 40 to 59, they recommend low-dose aspirin be based on a person's heart disease risk.

"If you don't have a condition that puts you at risk from clotting, then there's really no rationale for inhibiting platelets with low-dose aspirin," says Dr. Sean Patrick Heffron, a preventive cardiologist at NYU Langone Health. "There are some people for whom a reduction in clotting can really be a problem. For example, older people who are prone to falls."

But some people are at higher risk for getting a clot. These include those who have a heart stent or have had a heart attack in the past.

Excess weight raises the risk for heart problems. But it turns out low-dose aspirin doesn't work well for prevention as your weight goes up.

"The use of low-dose/baby aspirin in someone who hasn't had a heart attack may be beneficial, but only in those with a relatively low body weight," Heffron says. "Those who are of heavier body weight don't show that benefit."

Heffron's team has been trying to understand why that is. Experts thought that people who carry extra weight might need more aspirin to prevent clots. But Heffron's team showed that's not the case. Aspirin's effects on platelets were about the same regardless of a person's weight.

The team is now testing another use for aspirin: lowering inflammation. Inflammation is your body's natural response to injury or infection. But chronic inflammation can lead to health problems.

"Obesity leads to long-term inflammation that doesn't resolve," Heffron says. "That may keep a person with a heavier weight at elevated risk for a heart attack or stroke."

The team is looking at whether aspirin's ability to lower inflammation varies with a person's weight. Meanwhile, other research teams are exploring aspirin's potential to reduce the risk of certain cancers, preterm birth, and more.

"Aspirin deserves a lot more study," Heffron says. "While aspirin's use for cardiovascular disease may have fallen off in recent years, the potential for its use in other areas may be increasing. There's still a lot to learn for sure."

Be sure to talk with your doctor before taking aspirin regularly. ■

Definitions

Cardiovascular
Related to the heart and the vessels that circulate blood through the body.

Wise Choices

Heart Health Beyond Aspirin

Low-dose aspirin isn't the only way to keep your heart healthy.

- **Don't smoke or quit smoking.** Get free help at smokefree.gov, 1-800-QUIT-NOW (1-800-784-8669), or text QUIT to 47848.
- **Get physical activity regularly.** Experts recommend adults get at least 150 minutes of moderate-intensity activity per week.
- **Eat a heart-healthy diet.** Learn more at go.nih.gov/NIHNiHSep25Heart.
- **Stick to a healthy weight.** Carrying extra weight can increase the risk of certain health conditions.
- **Get enough quality sleep.** Aim for 7–9 hours of sleep a night.
- **Manage your stress.** For tips, visit go.nih.gov/NIHNiHSep25Stress.
- **See your doctor for regular health screenings,** including blood pressure and cholesterol.

Web Links

For more about aspirin and cardiovascular health, see "Find More Information" in the online article: newsinhealth.nih.gov/2025/09/probing-aspirins-benefits

Health Capsules

For links to more information, please visit our website and see these stories online.

Brain Scan Measures Aging Rate

Biologically speaking, some people age faster than others. Your aging rate can affect your health and disease risks. If you knew this rate, you might be able to work with your doctor to slow the aging process. A research team developed a way to measure aging based on a single brain scan.

The team drew on their earlier studies, where they devised a way to measure biological aging using blood tests. They tracked the health of more than 1,000 people from birth to age 45 and measured 19 factors related to health. These included heart function, metabolism, disease-fighting molecules, and more. Using these, they developed a measurement called the Pace of Aging. It shows how health functions dwindle over time.

Most of the study participants also had an MRI scan at age 45. In the new study, the team combined the Pace of Aging scores with the MRI scan data. They developed a new aging measurement, called Dunedin-PACNI, based on the brain scans alone. They then tested the new tool with data collected on thousands of people from other studies.

DunedinPACNI accurately predicted how quickly a person's ability to think and remember weakened with age. It also could predict a person's risk of future disease and death.

"We've captured how fast people are aging using data collected in midlife. And it's helping us predict diagnosis of dementia among people who are much older," explains Dr. Ahmad Hariri of Duke University. "We really think of it as hopefully being a key new tool in forecasting and predicting risk for diseases."

What Is Barrett's Esophagus?

A condition called Barrett's esophagus affects about 5% of adults nationwide. It causes the lining of the esophagus, the tube that carries food from your mouth to your stomach, to change. This raises the risk for getting cancer of the esophagus.

Doctors don't yet know what causes Barrett's esophagus. But some people are at increased risk. The condition is more common in the U.S. than in other countries. People are more likely to have it if they are age 50 or older. Tobacco use raises the risk. So does excess weight around the waist.

Barrett's esophagus itself has no symptoms. But many people with the condition also have gastroesophageal reflux disease (GERD). Symptoms of GERD can include heartburn, chest pain, or nausea. Some people with GERD have problems swallowing. Doctors usually diagnose Barrett's esophagus by using endoscopy. Endoscopy uses a small flexible tube to see inside the body.

Barrett's esophagus is often treated by using the same medications used to treat GERD. Other treatment options can include surgery.

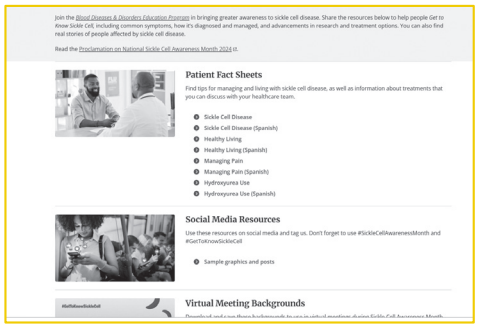
If you have GERD, managing your symptoms can help reduce damage to the esophagus. Your doctor may recommend dietary or other lifestyle changes. Learn more at go.nih.gov/NIHNiHSep25Barretts.

Featured Website

Sickle Cell Awareness

www.nhlbi.nih.gov/education/sickle-cell-month

Sickle cell disease is the most common inherited blood disorder in the U.S. It affects about 100,000 Americans. Get tips for managing the disease and creating a healthy lifestyle. Learn about treatments. Read inspiring stories from people living with sickle cell disease.



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