

# NIH News in Health

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## When Sadness Lingers Understanding and Treating Depression

It's normal to feel sad, down, or low at times. But these feelings can sometimes linger. They can get worse, too, eventually making it hard to do basic daily tasks. If you've had a depressed mood or a loss of interest or pleasure in most activities for at least two weeks, you may be experiencing depression.

Depression is a serious disorder. "It's not something that you can just 'push through,' or get through without help," says Dr. Kymberly Young, a mental health researcher at the University of Pittsburgh.

Depression isn't caused by a single thing. Some people's **genes** put them at risk for depression. Stressful situations may trigger depression. Examples include money problems, the loss of a loved one, or major life changes. Having a serious illness like cancer or heart disease can also lead to depression. And depression can make such illnesses worse.

People may experience depression during pregnancy or after giving birth. This is called perinatal depression. Others feel depressed during certain seasons, most often



in winter. This is called seasonal affective disorder, or SAD. Regardless of what's causing depression, treatments are available that can help many people feel better. And researchers are working on new options for those who need them.

**Treatment Options** • Depression can look different for different people. But there are some common symptoms (see the Wise Choices box). If you think you may be depressed, talk with your health care provider. Some infections or medical conditions can cause similar symptoms. Your provider can perform a physical exam and blood tests to look for possible causes.

If you have mild depression, your provider may recommend you first try counseling or talk therapy. "Therapy helps people learn how to get out of a hopeless state by viewing the world and themselves differ-

ently," says Dr. Michelle Craske, who studies depression at the University of California, Los Angeles.

Some lifestyle changes may help you feel better during treatment. Try to get some physical activity every day and eat regular, healthy meals. Avoid alcohol, nicotine, and drugs. Keep a regular sleep schedule. And stay connected to people who support you.

People with more severe depression may benefit from medication as well as therapy. "We have drugs that, in many people, work really well," says Dr. Todd

Gould, who tests new treatments for depression at the University of Maryland School of Medicine. Depression-fighting drugs and therapy sometimes work better together.

However, these drugs, called antidepressants, can take many weeks to start working. And there's no way to know if they'll work ahead of time. You may have to try more than one drug, or a combination of drugs, to find something that will work for you. For some people, these types of drugs can have serious side effects that may require close monitoring.

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### Definitions

#### Genes

Stretches of DNA you inherit from your parents that define features, like your risk for certain diseases.

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**Persistent Depression** • For certain people, depression persists despite counseling and medication. This is called treatment-resistant depression.

Brain stimulation therapies may help some people with treatment-resistant depression. These use electricity or magnets to directly change brain activity.

For people who don't feel better after trying at least two standard drugs, a drug called ketamine may be an option. Ketamine is usually injected into a vein. A type of ketamine that's been approved by the U.S. Food and Drug Administration to treat depression, called esketamine, is sprayed into the nose.

"There are two exciting aspects of ketamine treatment," says Gould. "One is that it's fast acting." It can make people feel better within hours. "The other is that it works in some people who don't respond to any other medications."

The downside of ketamine treatment is its side effects, Gould says. You may feel strange, woozy, or spaced out during treatment. Some people can even experience dissociation, which is an out-of-body experience.

Gould is testing compounds made by the body when it breaks down ketamine as potential new treatments.

"Our hope is that these compounds will have the same rapid antidepressant effect that ketamine does, but without the side effects," he says.

### Testing New Therapies •

Researchers have also been working on new types of talk therapy for depression. Craske's team is testing a type of therapy designed to help people focus on joy, excitement, and other positive moods.

"Standard treatments are better at reducing negative emotions than increasing positive emotions," she says. But people with depression often have the most trouble feeling positive things.

"We're trying to build your capacity to focus on and appreciate positive parts of your life," Craske says. "And in our early studies it's been remarkably effective."

Young and her team are using a technique called neurofeedback to help people with depression try to enjoy positive emotions and memories. The technique teaches people to directly control activity in different parts of their brain.

"Activity in certain brain areas is what allows you to use positive memories in a healthy way," Young says. Real-time imaging lets you watch blood flow to different brain areas. "We then teach you to make part of the brain more active when you're recalling positive memories." This activity makes the memories feel positive.

Craske and others are also interested in preventing depression before it develops. "That would mean starting at a very young age. But preventing the onset of depressed mood would have far more impact than treatment," she says.

Studies suggest that teaching skills like mindfulness may help

prevent depression in kids at high risk. Mindfulness helps you focus on the present and on what's going on inside and around you without judgment. Craske's team is testing an app to teach teens such skills to manage intense negative emotions.

If you're struggling with depression, don't be ashamed or embarrassed to seek help, says Young. "We've moved past the days of 'we don't talk about depression.'" ■



## Wise Choices Signs of Depression

Talk with your health care provider if you have any of these symptoms last for more than two weeks:

- Persistent sad, anxious, or "empty" mood.
- Feelings of hopelessness.
- Feelings of irritability, frustration, or restlessness.
- Feelings of guilt, worthlessness, or helplessness.
- Loss of interest or pleasure in hobbies and activities.
- Decreased energy, fatigue, or feeling "slowed down."
- Difficulty concentrating, remembering, or making decisions.
- Difficulty sleeping, early morning awakening, or oversleeping.
- Changes in appetite or unplanned weight changes.
- Aches or pains, headaches, cramps, or digestive problems without a clear physical cause that do not ease with treatment.
- Thoughts of death or suicide, or suicide attempts.
- If you or someone you know is thinking about hurting themselves, call or text the 988 Suicide & Crisis Lifeline at 988.

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**Web  
Links**

For more about depression, see "Links" in the online article: [newsinhealth.nih.gov/2022/11/when-sadness-lingers](https://newsinhealth.nih.gov/2022/11/when-sadness-lingers)

# Feeling Fatigued?

## Finding Possible Causes

Exhaustion seems to be on the rise. Fatigue is one of the symptoms most often reported by people with COVID-19, and their tiredness can linger. Add this to the many other causes of fatigue that existed before the pandemic—such as lack of sleep, mental health concerns, and health conditions like **anemia** or heart disease. Overall, it seems, we are one weary nation.

Fatigue can be helpful. It can be a warning sign that you need to ease up after strenuous exercise. Or it can make you rest if you get sick. But more often, fatigue creates problems. It can be an overwhelming and lasting feeling of exhaustion that makes it hard to do everyday tasks.



### Wise Choices

#### How Can I Feel Less Tired?

Healthy lifestyle changes may help you regain energy:

- **Eat a healthy diet.** Nutritious foods can give you energy to do things you enjoy.
- **Get physically active.** Experts recommend healthy adults get at least 150 minutes of moderate physical activity a week. Those with ME/CFS or Long COVID should talk with their health care provider before exercising.
- **Get enough sleep at night.** Adults need at least seven or more hours of sleep each night.
- **Quit smoking.** Smoking is linked to many conditions that can drain your energy. You can get free help at 1-800-QUIT-NOW or [smokefree.gov](http://smokefree.gov).
- **Limit alcohol.** Experts suggest no more than one drink per day for women and two for men.
- **Talk to a health care provider** if you've been tired for several weeks with no relief.

“There are different aspects of fatigue. It’s generally agreed that the sensation of fatigue can involve difficulty in starting or continuing an activity,” says Dr. Vicky Whittemore, who is involved in NIH’s fatigue-related research programs. “It can involve the perception that the effort to perform an activity is more than should be needed.”

Fatigue itself is not a disease. Rather, it’s a symptom. It can be caused by viral infections, certain medications, unhealthy eating, cancer and its treatments, depression or anxiety, and more.

Because it has so many possible causes, it can be hard for doctors to diagnose the origins of someone’s fatigue. This can make it difficult to develop an effective treatment plan. But your doctor can help you figure out where to start.

Making lifestyle changes can provide some people with relief (see the Wise Choices box for ideas). But these changes may not be enough for everyone. Certain health conditions can contribute to exhaustion. Some are treatable, such as a vitamin or mineral deficiency. But not much is known about other causes of fatigue.

One cause of debilitating fatigue is a serious disease called myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). ME/CFS causes long-lasting, severe exhaustion, along with flu-like symptoms (called post-exertional malaise). People with ME/CFS may also have sleep problems, pain, or “brain fog.” Brain fog is when you have trouble thinking or concentrating. Physical or mental activity can make ME/CFS symptoms worse.

Researchers have not yet found an effective way to diagnose or treat



ME/CFS. However, its symptoms overlap with those seen in people with Long COVID. Long COVID arises when COVID-19 symptoms last weeks or months after infection. Experts estimate that around 20% of individuals with Long COVID will also be diagnosed with ME/CFS.

These similarities create new opportunities for scientists to uncover the biology behind fatigue. So, NIH is bringing together researchers from different fields and is providing new funding to help scientists tackle the mysteries of these and other forms of fatigue.

“The study of Long COVID is bringing light to many issues that the ME/CFS community has been exploring for years,” Whittemore says. “I think this research will help us better understand fatigue and get at the underlying mechanisms.” ■



### Definitions

#### Anemia

A condition caused by low levels of red blood cells or hemoglobin in the blood. It can cause fatigue, dizziness, and headaches.



### Web Links

For more about fatigue, see “Links” in the online article: [newsinhealth.nih.gov/2022/11/feeling-fatigued](http://newsinhealth.nih.gov/2022/11/feeling-fatigued)





## Health Capsules

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

### Many Types of Exercise Can Lengthen Older Adults' Lives

Getting enough physical activity is vital for your health at any age. Guidelines recommend that adults get at least 150 minutes (or two and a half hours) of moderate exercise each week. But does it matter what types of activities you do?

A team of researchers asked this question about older adults. They looked at data from more than 250,000 participants in a national survey. People answered questions about their participation in seven different recreational activities.

These included running or jogging, swimming, racquet sports, golf, and walking. The survey also tracked cycling and other aerobic exercise. Participants were first surveyed in the 1990s. Their average age was 70 when they responded to the last survey.

The researchers examined the risk of death during the 12-year study. They compared how different levels and types of physical activity lowered that risk.

Older adults who got the

recommended amount of activity had a 13% lower risk of death compared with those who were inactive. Playing racquet sports or running showed the greatest risk reductions. But all activities provided benefit.

“The most important thing an inactive older adult can do to improve their health is find an activity that they enjoy and can stick with,” says NIH researcher Dr. Eleanor Watts, who led the study. ■

### Recognizing and Treating Childhood Ear Infections

Ear infections are a common reason for bringing kids to see a health care provider. The infections can strike at any age, but children are much more likely to get them than adults. In fact, five out of six children will have at least one ear infection by the time they're 3 years old.

Ear infections are usually caused by bacteria, or sometimes a virus. They often arise after a sore throat, cold, flu, or other breathing-related infection. The infection can cause swelling and fluid buildup behind the eardrum. This can lead to the most

common type of ear infection, called a middle ear infection or acute otitis media. Affected children may have ear pain (or earache), a fever, fussiness and crying, or trouble sleeping.

To diagnose an ear infection, a health care provider may look at the eardrum by using a lighted instrument called an otoscope. A similar instrument may blow a puff of air into the ear canal to check for fluid behind the eardrum. If a bacterial infection is found, the doctor may prescribe an antibiotic. Over-the-counter pain relievers or

eardrops may be recommended to help with fever and pain.

One of the best ways to prevent ear infections is to take steps to avoid getting colds or the flu. Encourage your family to wash hands often to prevent the spread of germs. Make sure your child gets the influenza (flu) vaccine each year, and ask your doctor about other vaccines that can help block infections. Limit your child's exposure to other kids if your child or their playmates are sick.

Learn more at [www.nidcd.nih.gov/health/ear-infections-children](http://www.nidcd.nih.gov/health/ear-infections-children). ■



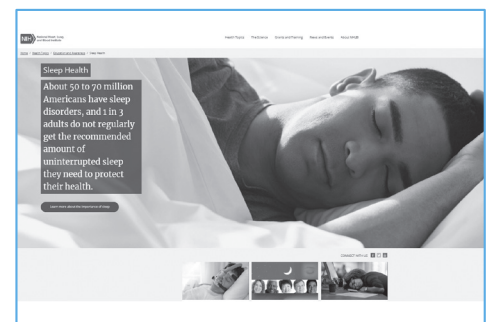
### Featured Website

Sleep Health

[bit.ly/3RGsAnT](http://bit.ly/3RGsAnT)

Sleep is essential to health and well-being, but many of us don't get the sleep we need. Learn about the science of sleep, read tips for

getting good sleep, and watch videos explaining common sleep disorders. You can also find out about the latest research.



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