

NIH News in Health

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Understanding Anxiety Disorders When Panic, Fear, and Worries Overwhelm

Many of us worry from time to time. We fret over finances, feel anxious about job interviews, or get nervous about social gatherings. These feelings can be normal or even helpful. They may give us a boost of energy or help us focus. But for people with anxiety disorders, they can be overwhelming.

Anxiety disorders affect nearly 1 in 5 American adults each year. People with these disorders have feelings of fear and uncertainty that interfere with everyday activities and last for 6 months or more. Anxiety disorders can also raise your risk for other medical problems such as heart disease, diabetes, substance abuse, and depression.

The good news is that most anxiety disorders get better with therapy. The course of treatment depends on the type of anxiety disorder. Medications, psychotherapy ("talk therapy"), or a combination of both can usually relieve troubling symptoms.

"Anxiety disorders are one of the most treatable mental health problems we see," says Dr. Daniel Pine, an NIH neuroscientist and psychiatrist. "Still, for reasons we don't fully understand, most people who have these problems don't get the treatments that could really help them."



Definitions

Genes

Stretches of DNA, a substance you inherit from your parents, that define characteristics such as eye color and your risk for certain diseases.



One of the most common types of anxiety disorder is social anxiety disorder, or social phobia. It affects both women and men equally—a total of about 15 million U.S. adults. Without treatment, social phobia can last for years or even a lifetime. People with social phobia may worry for days or weeks before a social event. They're often embarrassed, self-conscious, and afraid of being judged. They find it hard to talk to others. They may blush, sweat, tremble, or feel sick to their stomach when around other people.

Other common types of anxiety disorders include generalized anxiety disorder, which affects nearly 7 million American adults, and panic disorder, which affects about 6 million. Both are twice as common in women as in men.

People with generalized anxiety disorder worry endlessly over everyday issues—like health, money, or family problems—even if they

realize there's little cause for concern. They startle easily, can't relax, and can't concentrate. They find it hard to fall asleep or stay asleep. They may get headaches, muscle aches, or unexplained pains. Symptoms often get worse during times of stress.

People with panic disorder have sudden, repeated bouts of fear—called panic attacks—that last several minutes or more. During a panic attack, they may feel that they can't breathe or that they're having a heart attack. They may fear loss of control or feel a sense of unreality. Not everyone

who has panic attacks will develop panic disorder. But if the attacks recur without warning, creating fear of having another attack at any time, then it's likely panic disorder.

Anxiety disorders tend to run in families. But researchers aren't certain why some family members develop these conditions while others don't. No specific **genes** have been found to actually cause an anxiety disorder. "Many different factors—including genes, stress, and the environment—have small effects that add up in complex ways to affect a person's risk for these disorders," Pine says.

"Many kids with anxiety disorders will outgrow their conditions. But

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most anxiety problems we see in adults started during their childhood," Pine adds.

"Anxiety disorders are among the most common psychiatric disorders in children, with an estimated 1 in 3 suffering anxiety at some point during childhood or adolescence," says Dr. Susan Whitfield-Gabrieli, a brain imaging expert at the Massachusetts Institute of Technology. "About half of diagnosable mental health disorders start by age 14, so there's a lot of interest in uncovering the factors that might influence the brain by those early teen years."



Wise Choices

Troubled by Anxiety?

If feelings of anxiety seem overwhelming or interfere with everyday activities:

- See your family doctor or nurse practitioner.
- The next step may be talking to a mental health professional. Consider finding someone trained in cognitive-behavioral therapy who is also open to using medication if needed. You may need to try several medicines before finding the right one.
- Consider joining a self-help or support group to share problems and achievements with others.
- Stress management techniques and mindfulness meditation may help relieve anxiety symptoms.

Whitfield-Gabrieli is launching an NIH-funded study to create detailed MRI images of the brains of more than 200 teens, ages 14-15, with and without anxiety or depression. The scientists will then assess what brain structures and activities might be linked to these conditions. The study is part of NIH's Human Connectome Project, in which research teams across the country are studying the complex brain connections that affect health and disease.

Whitfield-Gabrieli and colleagues have shown that analysis of brain connections might help predict which adults with social phobia will likely respond to cognitive behavioral therapy (CBT). CBT is a type of talk therapy known to be effective for people with anxiety disorders. It helps them change their thinking patterns and how they react to anxiety-provoking situations. But it doesn't work for everyone.

Of 38 adults with social phobia, those who responded best after 3 months of CBT had similar patterns of brain connections. This brain analysis led to major improvement, compared to a clinician's assessment alone, in predicting treatment response. Larger studies will be needed to confirm the benefits of the approach.

"Ultimately, we hope that brain imaging will help us predict clinical outcomes and actually tailor the treatment to each individual—to know whether they'll respond best to psychotherapy or to certain medications," Whitfield-Gabrieli says.

Other researchers are focusing on our emotions and our ability to adjust



Web Links

For more information on anxiety disorders, click the "Links" tab at:

<http://newsinhealth.nih.gov/issue/Mar2016/Feature1>

them. "We want to understand not only how emotions can help us but also how they can create difficulties if they're of the wrong intensity or the wrong type for a particular situation," says Dr. James Gross, a clinical psychologist at Stanford University.

We all use different strategies to adjust our emotions, often without thinking about it. If something makes you angry, you may try to tamp down your emotion to avoid making a scene. If something annoys you, you might try to ignore it, modify it, or entirely avoid it.

But these strategies can turn harmful over time. For instance, people with social phobia might decide to avoid attending a professional conference so they can keep their anxiety in check. That makes them lose opportunities at work and miss chances to meet people and make friends.

Gross and others are examining the differences between how people with and without anxiety disorders regulate their emotions. "We're finding that CBT is helpful in part because it teaches people to more effectively use emotion regulation strategies," Gross says. "They then become more competent in their ability to use these strategies in their everyday lives."

"It's important to be aware that many different kinds of treatments are available, and people with anxiety disorders tend to have very good responses to those treatments," Pine adds. The best way to start is often by talking with your physician. If you're a parent, talk with your child's pediatrician. "These health professionals are generally prepared to help identify such problems and help patients get the appropriate care they need," Pine says. ■

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Dizziness and Balance Problems in Kids

Spinning Sensations and Unsteadiness

Most people feel dizzy now and then. Kids, like adults, may occasionally feel lightheaded or unsteady. But if such feelings repeat or interfere with everyday life, it could be a sign of a balance disorder.

Most balance problems are temporary and easy to treat. But these problems may also signal a more serious condition that could have a lasting impact. Learn to recognize the signs of dizziness or balance problems that may warrant a trip to a doctor.

Experts have long suspected that dizziness and balance problems are often overlooked and untreated, but the scope of the problem wasn't fully understood. That's why NIH supported the largest national survey to date to uncover information about these disorders in children. The study included data on nearly 11,000 kids, ages 3 to 17.

The researchers found that more than 1 in 20 kids in the U.S. had a dizziness or balance problem, and only one-third of them received treatment in the previous year. "The findings suggest that dizziness and balance

problems are fairly common among children," says Dr. James F. Battey, Jr., a pediatrician and director of NIH's National Institute on Deafness and Other Communication Disorders.

Our sense of balance is a complex process. It's managed by signals between the brain, ears, eyes, and sensors in the joints and other body parts. This intricate system helps your body monitor and maintain its position as you move throughout the day, without you even having to think about it. But if any of these many sensory signals go wrong, it can weaken your sense of balance.

Balance disorders can make you stagger when walking. You might teeter or fall when trying to stand. Affected people might feel like they themselves or the world around them is spinning or moving—a condition known as vertigo. Other symptoms can include blurred vision, vomiting, diarrhea, confusion, and anxiety.

Common causes of balance problems in children range from ear infections, severe headaches, and certain medications to more serious **neurological disorders**, head or neck injuries, and genetic conditions. In many cases, the study's researchers found, an underlying cause wasn't reported.

Balance disorders can be difficult to recognize and understand. They can be especially hard to diagnose in young children. Kids may not know the right words to describe their symptoms. Affected children may talk about a "spinning feeling." They may say their tummy or head feels bad or weird. They may walk unsteadily or seem clumsy.



"Parents who notice dizziness and balance problems in their children should consult a health care provider to rule out a serious underlying condition," Battey says.

Your child's pediatrician will likely ask questions about when the symptoms first appeared, how long they last, how often they occur, and what medications the child is taking. Your child's eyes and ears will be examined, and hearing and balance may be tested. You may be referred to a specialist, such as an otolaryngologist—a doctor with expertise in the ear, nose, and throat.

Treatment will depend on the underlying cause. The good news is that most dizziness and balance problems in children are temporary and treatable. Still, it's important to check with a health professional if you notice any problems. ■



Wise Choices Tell Your Doctor

Dizziness and balance problems may be hard to spot in children. Younger kids may lack the vocabulary to describe their symptoms. Talk with a health care provider if your child:

- falls frequently.
- seems unsteady upon standing or walking.
- feels as if the room is spinning around him/her.
- feels as if moving when standing or sitting still.
- feels as if she's falling.
- feels lightheaded, or as if he might faint.
- says that vision becomes blurred.



Definitions

Neurological Disorders

Diseases that affect the body's nervous system, which is made up of the brain, spinal cord, and nerves throughout the body.



Web Links

For more about dizziness and balance, click the "Links" tab at:
<http://newsinhealth.nih.gov/issue/Mar2016/Feature2>



Health Capsules

For links to more information, see these stories online:
<http://newsinhealth.nih.gov/issue/Mar2016/Capsule1>

Researchers Find a Mechanism for Schizophrenia

Scientists uncovered a mechanism behind genetic variations previously linked to schizophrenia. The findings may lead to new clinical approaches.

Schizophrenia is a severe mental disorder that affects how a person thinks, feels, and behaves. It can cause hallucinations, delusions, and other mental problems, making the person seem to have lost touch with reality. The condition affects about 1 in 100 people.

Schizophrenia tends to run in families, so much research has focused on genetic variations that affect disease risk. Past studies have tied more than 100 genetic regions to schizophrenia risk. However, the specific genes and sequences that contribute to risk remained largely unknown.

To learn more, NIH-funded scientists examined the genetic region

with the strongest link to schizophrenia risk. They noted associations near the *C4* gene. This gene is needed to make a protein called C4, which plays a role in the immune system.

Human *C4* exists in different forms. The researchers first developed a way to distinguish these. They found that one form in particular, *C4A*, was produced at high levels in the brains of schizophrenia patients. Further experiments showed that the C4 protein is found at sites called synapses, where nerve cells connect.

These findings, along with evidence from other studies, suggested that C4 might work to promote a process in the brain called synaptic pruning. In people, this occurs in the late teens to early adulthood—the same period when schizophrenia symptoms begin.

Experiments in mice showed that C4 tags synapses for pruning. The higher the levels of C4, the greater the synaptic pruning.

“Normally, pruning gets rid of excess connections we no longer need, streamlining our brain for optimal performance. But too much pruning can impair mental function,” says Dr. Thomas Lehner, an NIH expert in genomics and mental health. “Interventions that put the brakes on this pruning-process-gone-awry could prove transformative.” ■

The Benefits of Walking

Thinking about adding more physical activity to your day? Walking can be a great way to get more active.

Walking is the most popular physical activity among adults, and it's easy to see why. It requires no special clothes or equipment, and it's free.

Regular walking can have many health benefits. It may lower your risk of high blood pressure, heart disease, and diabetes. It can strengthen your bones and muscles. It can help you maintain a healthy weight. It might also help lift your mood.

Make walking fun by going to places you enjoy, like a shopping

center or park. Bring along someone to chat with, or listen to some of your favorite music (but keep the volume low enough to hear the sounds around you).

Think about safety as you plan when and where to walk. Walk with others when possible, and take a phone and ID with you. Let someone know your walking time and route. If it's dark outside, wear a reflective vest or brightly colored clothing. And always be aware of your surroundings.

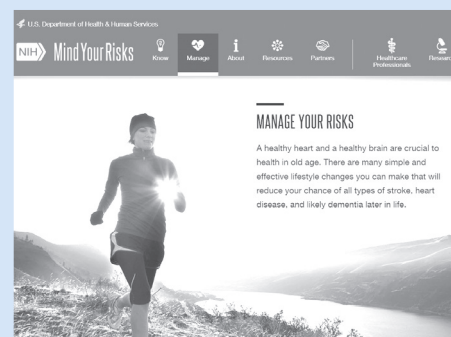
For more tips to help make walking a part of your daily routine, visit www.win.niddk.nih.gov/publications/walking.htm. ■



Featured Website Mind Your Risks

<https://mindyourrisks.nih.gov>

Many people with high blood pressure know they could be at risk for stroke and heart attack. New studies also link high blood pressure—especially in midlife (ages 45 to 65)—to an increased risk for dementia in later years. Don't take unnecessary risks. Learn how to keep blood pressure under control.



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