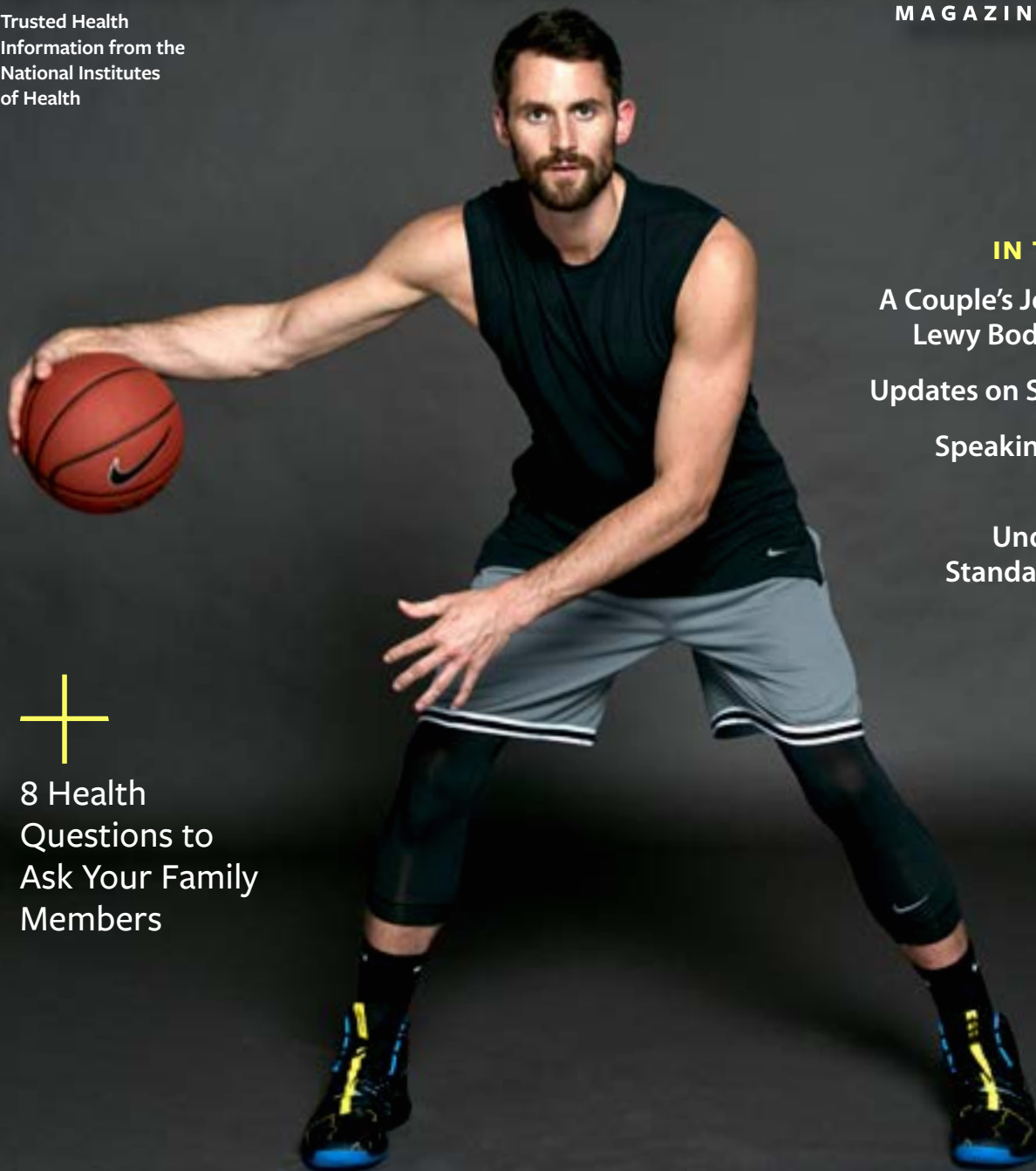


FALL 2019

NIH MedlinePlus

MAGAZINE

Trusted Health
Information from the
National Institutes
of Health



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COVER STORY

Basketball star **Kevin Love** on anxiety and removing stigma around

MEN'S MENTAL HEALTH

In this issue

Did you know that more than 31% of U.S. adults experience an anxiety disorder at some point in their lives, according to the National Institute of Mental Health (NIMH)?

For our fall issue cover feature, Cleveland Cavaliers basketball player Kevin Love opens up about his own struggles with anxiety and his path to managing the condition. He talks about the special challenges facing men with mental health conditions and explains what he's doing to combat that stigma as an athlete and advocate.

We also spoke with the National Basketball Players Association's Mental Health Program Director William Parham, Ph.D., about their new program to help players stay healthy both on and off the court and with leading researchers from NIMH to get the latest, need-to-know information on anxiety conditions.

Also in this issue, we provide research updates from around the National Institutes of Health on conditions including stuttering, sleep apnea, and Lewy body dementia, a serious but lesser known disease that is the second most common form of dementia.



William Parham, Ph.D. (center) is the first-ever director of the National Basketball Players Association's Mental Health Program. Also pictured are Antonio Davis, Keyon Dooling, Michele Roberts, Garrett Temple, and Chris Paul.

Finally, as you gather with loved ones this season, make sure to take a look at our helpful list of health questions to ask your family. Discussing medical conditions or diseases may help determine if you have a high risk.

We hope you enjoy our fall issue and wish you a happy and healthy holiday season.

NIH MedlinePlus MAGAZINE

WHO WE ARE

The National Institutes of Health (NIH) is the **nation's premier medical research agency**, with 27 different institutes and centers. The National Library of Medicine (NLM) at NIH is a leader in research in biomedical informatics and data science research and the world's largest medical library.

NLM provides **free, trusted health information** to you at medlineplus.gov and in this magazine. Visit us at magazine.medlineplus.gov

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Basketball player Kevin Love explains how he manages anxiety and depression.

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health

NEWS,
NOTES,
& TIPS
FROM NIH

The 411 on standard lab tests

Learn why they are ordered and what common terms mean

HEALTH TIPS October marks Health Literacy Month, which focuses on better understanding and managing our individual health.

In recognition of Health Literacy Month, we've put together an overview of common lab tests with information from MedlinePlus and NIH.

What is a lab test?

When you see your health care provider, they may order a lab test. This test could be a small sample of your blood, urine, body fluids, or body tissues (like cells) to see if you have any health conditions or diseases.

In general, health care providers perform blood or urine lab tests to either help find out if you do or do not have a certain condition or disease—often before any symptoms appear.

Make sure to inform your provider and lab technician about medications you take and if you feel sick that day. Some tests, such as a blood glucose test, may require you to fast for 12 hours before the test to get more accurate results.

Common lab tests include:

- **Complete blood count:** Checks your overall health and is often given during the yearly checkup. Testing your red and white blood cell count can show if you have an infection (high white blood cell count) or anemia (low red blood cell count).
- **Blood cholesterol test:** Measures cholesterol levels. Cholesterol is a wax-like substance found in our bodies. In high amounts, it can clog arteries and lead to health issues. This test can help you better understand your risk for heart disease, stroke, and other problems caused by narrowed or blocked arteries.
- **Blood glucose test:** Measures the amount of sugar in your blood. It can monitor or detect diabetes, a condition in which your blood sugar levels may be too high.
- **TSH test:** Measures the amount of thyroid stimulating hormone (TSH) in your blood. TSH is produced by the pituitary gland, which releases hormones into your blood. Along with other tests, it can help detect thyroid problems like hypothyroidism (underactive thyroid) or hyperthyroidism (overactive thyroid).
- **Pap test (or Pap smear):** Detects or prevents cervical cancer by analyzing a small sample of cells from a woman's cervix. The test may happen at a checkup with a primary care provider or with a gynecologist, a doctor who focuses on reproductive health.



Understanding ALS

Most cases occur randomly without any risk factors

BY THE NUMBERS ALS—short for amyotrophic lateral sclerosis—is a rare but serious disease that attacks nerve cells in the brain and spinal cord. It’s also known as Lou Gehrig’s disease, after the New York Yankees player who had the disease.

The disease affects voluntary muscle movement. That can mean anything from chewing, walking, running, or talking.

ALS symptoms get worse over time.

Early symptoms may include muscle weakness or stiffness. But as more muscles are affected, people lose their strength and the ability to speak, eat, move, and even breathe.

While there isn’t a cure for ALS, there are treatments that can make living with the condition somewhat easier. Those can include a combination of medication, physical and speech therapy, and nutritional and breathing support.

Researchers supported by NIH’s National Institute of Neurological Disorders and Stroke and several other institutes and centers are working hard to learn more about the disease and find answers to help people with ALS.

Making sense of it all

You received your lab results. Now what?

Your health care provider should contact you to confirm your results look normal or to let you know if any tests require follow-up. They are trained to interpret data and results from these tests. If you don’t hear back from your medical office, make sure to follow up.

Here are a few common terms you might see:

- **Normal or negative:** This means nothing has changed, and there are no concerning substances found in your blood or urine test.
- **Abnormal or positive:** This means that the provider found something in your blood or urine that needs further analysis.
- **Inconclusive or uncertain:** This means that your medical provider needs more information (usually more tests) to find out what’s going on.
- **False positive:** Your test results show that you have a certain condition, but you don’t really have it.
- **False negative:** Your test results show that you do not have a certain condition, but you really do have it.

Next steps

Your provider will determine next steps once they review your lab results. Those might be a change in medication or diet or more tests to look into any potential problems.

Remember, if you don’t understand the wording or the numbers in your test results, ask your health care provider.

The more you understand, the better you can take care of yourself and your family. ■

SOURCE: MedlinePlus



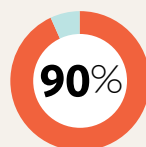
ALS affects **5 out of every 100,000** people worldwide.

Between **16,000–17,000** Americans have ALS.



About **10 percent** of all ALS cases are inherited.

ALS most commonly develops between the ages of **55 and 75**.



90 percent or more ALS cases occur randomly **without any risk factors**.

SOURCE: National Institute of Neurological Disorders and Stroke



Commonly prescribed antidepressants and how they work

SSRIs are prescribed most often

TREATMENT OVERVIEW Antidepressants are among the most searched medications on the internet. But there is a lot of information out there to sift through.

We've pulled together some basic information from MedlinePlus and the National Institute of Mental Health on common types of these medications.

What are they?

Antidepressants are prescribed for mood conditions such as depression and anxiety, as well as for pain and sleeping troubles. You may have to try a few different ones before you and your provider find the best one for you.

How do they work?

Antidepressants can help balance chemicals in our brains. This can lead to improved moods, concentration, and sleep. It may take a few weeks (often four to six) for these medications to fully work.

Selective serotonin reuptake inhibitors (SSRIs) are the most prescribed type of antidepressant and include:

- Fluoxetine
- Paroxetine
- Citalopram
- Escitalopram
- Sertraline

Serotonin and norepinephrine reuptake inhibitors (SNRIs) are similar to SSRIs. Common ones include venlafaxine and duloxetine.

Bupropion works differently than SSRIs or SNRIs. It also treats seasonal affective disorder and helps people stop smoking.

Older antidepressant medications include tricyclics, tetracyclics, and monoamine oxidase inhibitors (MAOIs). They are prescribed less often than other medications because they tend to cause more side effects. However, they work better for some people.

A recent survey found that antidepressant use was twice as common among women than men.

— Centers for Disease Control and Prevention

Possible side effects:

- Nausea and vomiting
- Sleepiness
- Weight gain
- Sexual problems
- Diarrhea

Next steps

If you or someone you know thinks they have depression, talk to your health care provider as soon as possible. Antidepressants, talk therapy, or a combination of the two may help. ■

SOURCES: MedlinePlus; National Institute of Mental Health

8 health questions to ask your family members

Your family medical history may help you reduce risk and get help early



HEALTH TIPS It's the time of year when many families gather for the holidays, which means it's also a great time to learn about your family health history.

Discussing medical conditions or diseases among family members may help determine if you have a high risk for a disease.

That's because our genes, which we inherit from our birth mother and father, are important in determining our health. For example, sickle cell disease—a blood disorder—is caused by gene mutations that come from a parent.

But just because your parents or other family members have a condition doesn't mean you have it now or will in the future. That's why learning about your health history and risk and sharing that information with a doctor is important.

A family medical history can:

- Show early warning signs of a condition or disease
- Provide health care providers with information so they can recommend treatment, and assess and possibly reduce risk
- Help improve family members' lifestyles to potentially reduce risk

How to collect a family medical history

There are different ways to collect family health information. You can choose one family member to collect all the health information from various relatives or have each relative fill out their own health record. You can also create a checklist that is organized by medical condition.

If a family member does not want to discuss their health issues around other people, ask to have a private conversation. Try to remind them of the importance of having a family health history.

But remember that health can be difficult to discuss. Listen carefully and try to be as respectful and patient as possible.

For adopted children or children of sperm or egg donations, health records may be available from the original adoption or donation agencies. Genetic testing can also help determine certain conditions.

What are good health questions to ask your family? Here are a few you can start with:

1. What is your ethnic background?
2. Where do you live?
3. Where were you born?
4. How old were you or your relative when they developed the medical condition(s)?
5. How many people in your family have had the same conditions or diseases?
6. Have you or any of your family members been tested for genetic mutations (cell changes)?
7. How old were your deceased relatives when they died, and how did they die?
8. What diseases or medical conditions have you had? ■

SOURCES: MedlinePlus; Genetics Home Reference

Speaking up

about stuttering

“Stuttering gets no respect as a disorder,” says stuttering expert Dennis Drayna, Ph.D. “People think of it as a mild condition. They don’t see that it can have a profound negative impact on the lives of those who have it.”

He should know. Stuttering runs in his own family, including his sons, brother, and uncle.

As a senior researcher with NIH’s National Institute on Deafness and Other Communication Disorders, he spent more than two decades researching this puzzling condition and identifying mutations in several genes that are linked to it.

Stuttering, a speech condition that causes people to repeat or stumble over certain sounds, syllables, or words, is unique, Dr. Drayna says.

It’s not like other communication or speech disorders.

“They don’t have problems with grammar, syntax, articulation, or pronunciation,” he says. “They know exactly what they want to say, they just can’t say it at the rate they would like.”

It’s why Dr. Drayna feels that calling stuttering a speech disorder is an incomplete description.

“In many circumstances, even severe stutters can speak very fluently,” he notes. “If you ask them to recite the pledge of allegiance with others, or sing, their speech is often fine.”

There’s a saying among those in the stuttering community that no one stutters when they talk to their dog, Dr. Drayna adds. Maybe it’s because people know the dog isn’t judging them, he says.



Dennis Drayna, Ph.D., is a scientist emeritus with NIH’s National Institute on Deafness and Other Communication Disorders.

What causes stuttering?

Stuttering isn’t caused by stress or anxiety, but they can make it worse.

“A mild stutter can become severe when the person has to give a speech to 500 people. Raising anxiety levels tends to decrease fluency,” Dr. Drayna says.

Stuttering also runs in families. Studies have found that 60% of those who stutter also have a family member who stutters.

“That’s why the genetic approach seemed to be the only entree into solving this problem when I started more than 20 years ago,” Dr. Drayna says.



4 common myths and facts about stuttering

“There’s a great deal of misunderstanding about stuttering,” says Dennis Drayna, Ph.D., a scientist emeritus with NIH’s National Institute on Deafness and Other Communication Disorders and an expert on the genetics of stuttering.

Here are some common misconceptions and facts:

Myth: It’s a psychological problem caused by anxiety, stress, or nervousness.

Truth: While anxiety or stress may worsen stuttering, it doesn’t cause it. Stuttering often starts in childhood. As children grow older, many become anxious and ashamed after they experience negative reactions from people around them. Treatment for stuttering often includes counseling to help deal with other people’s damaging reactions.

Myth: A person who stutters just needs to relax and calm down before they speak.

Truth: Telling a person who stutters to “just relax” or “calm down” makes it worse because it increases the pressure on them to speak normally. “It creates a vicious cycle,” says Dr. Drayna. Stuttering doesn’t happen because people are scared of speaking in public, he says. It is likely linked to subtle changes in the brain, and in at least some cases, to mutations in specific genes.

Myth: People who stutter are not smart.

Truth: Stuttering has nothing to do with intelligence. Just because a person has trouble speaking doesn’t mean they are confused about anything. They know what they want to say, but there’s a glitch in their ability to produce smooth speech. Stuttering has affected scientists, actors, writers, and politicians, many of whom have achieved great things.

Myth: It’s OK to finish a person’s sentence for them if they’re stuttering.

Truth: “Finishing a sentence for a person who stutters is the worst thing you can do. It’s demeaning—worse than telling someone just to relax,” says Dr. Drayna. “Would you tell someone walking with a brace on their leg to just walk better?” The precise causes of stuttering are still poorly understood, but at least some cases are linked to genes that control functions within the brain’s cells. Until a cure is found, speech therapists can often provide techniques that control or reduce stuttering.

Back then, the data about genetic factors was skimpy. In the last 15 years, the data has grown a lot, he says.

What the data says

Dr. Drayna’s research group found mutations in four genes linked to stuttering. All of these genes control what is called intracellular trafficking—how important molecules inside a cell move around in various pathways.

Unfortunately, the genes’ mutations mean the gene products don’t do a very good job of directing traffic. So that slows down cell functioning and somehow affects the speech process.

“We can find a mutation in one of these genes in about 20% of people who stutter,” he says, which is a large amount for a disorder with a complex inheritance pattern such as stuttering. Dr. Drayna’s group has since found two more genes that also seem to be linked to stuttering.

Does that mean people could be tested for a stuttering gene?

“The answer is yes, but it might not be very helpful to them,” Dr. Drayna says. In his studies, not everyone who had a stuttering gene in fact stuttered, especially the females. Males who stutter outnumber females by four to one.

Striving for better treatment

Dr. Drayna, who has since retired from NIH and continues to serve as a scientist emeritus, hopes that researchers will one day understand enough about what is happening at the cellular and molecular level so that a better therapy for stuttering can be developed.

In the meantime, he encourages those who stutter to seek out a speech therapist for help.

“Stuttering can be a difficult condition to treat, but many speech-language pathologists (SLPs) are highly skilled and have lots of tools.” Dr. Drayna recommends seeking an SLP who specializes in stuttering. ■

Stuttering: What you need to know

Stuttering is a complex speech condition that can cause a person to get stuck trying to say certain sounds, syllables, or words.

People who stutter know exactly what they want to say, but they have trouble producing a normal flow of speech. Sometimes they repeat certain sounds. They may also experience an interruption, called a block, when they can't say the word or sound they want to use.

How many people stutter?

About 3 million Americans stutter, and stuttering affects four times as many males as females.

When does it happen?

Developmental stuttering is most common. It occurs in children between the ages of 2 and 6, as they develop their language skills. It can last from a few weeks to many years—even into adulthood. About 75% of children recover from stuttering.

Neurogenic stuttering is rarer and can be caused by a stroke or serious head or brain injury.

What causes stuttering?

The exact cause of stuttering is not well understood, but genetic factors are clearly involved. About 60% of people who stutter also have a family member who stutters.

Researchers with the National Institute on Deafness and Other Communication Disorders (NIDCD) have identified mutations in four different genes that are linked to stuttering that persists throughout life.

How is it diagnosed?

Stuttering is usually diagnosed by a speech-language pathologist, a health care professional who tests and treats individuals with voice, speech, and language disorders.

How is it treated?

There currently is no cure for stuttering. Speech-language pathologists can use a variety of treatments specialized for children, teens, and adults.

Antidepressants and anti-anxiety drugs may also be prescribed. But a study funded by NIDCD found drug therapy largely ineffective in controlling stuttering long term.

Electronic devices that fit into the ear canal and slightly alter the sound of a person's voice can be used on a short-term basis. In addition, many people find success through a combination of speech therapy and support groups. ■

3 million
Americans stutter

Starts at ages
2–6 yrs

75%
of children
recover from
stuttering

60%
also have a
family member
who stutters

Tips for helping a child who stutters

Speaking slowly and listening carefully are first steps

Although there is currently no cure for stuttering, there are treatments that can be customized to a child's age and other factors.

Seeking early treatment is important. It may prevent developmental stuttering (when a child is young) from becoming a lifelong problem.

Health professionals generally recommend that a child be evaluated if he or she has stuttered for three to six months. They also recommend an evaluation if there is a family history of stuttering or related communication disorders.

Treatment often involves teaching parents ways to support their child as they develop their language skills.

Parents are often encouraged to:

- Listen attentively when the child speaks. Be patient. Try not to interrupt or finish a child's sentences. Focus on the content of the message rather than how it is said.



- Speak in a slightly slowed and relaxed manner. This can help reduce the time pressure the child may be experiencing.
- Provide a relaxed home environment that allows many opportunities for the child to speak. This includes one-on-one time with a parent.
- Be less demanding on the child to speak in a certain way or to perform verbally for people. This is especially important if such pressure upsets the child or causes them more difficulty in speaking. ■

Why do so many of my family members stutter?

NIH research in west African family and community helps identify stuttering gene

Joe Lukong had a simple question. The answer he got would change his life.

What Joe wanted to know was, why did he and so many members of his large, extended west African family all stutter? Siblings, aunts, uncles, nephews, cousins—the list went on and on. “Is it possible there could be a genetic link?” he wondered.

As it turned out, there definitely was a link.

The genetic information gathered from Joe’s family allowed NIH researchers to discover another gene linked to stuttering.

Searching for answers

It was 2002, when Joe, then 37, was living in a small rural town in the African country of Cameroon.

He wanted to find out more about his stuttering condition—and find answers for his family. So he decided to participate in an online research symposium where stuttering experts offered to answer people’s questions about the disorder.

When one of the experts saw Joe’s question about his family, they forwarded it to Dennis Drayna, Ph.D., at NIH’s National Institute on Deafness and Other Communication Disorders (NIDCD).

The fourth gene

Dr. Drayna, who was studying the genetics of stuttering, quickly realized

that Joe’s huge family could be critical to discovering more genes that could be causing the disorder.

Shortly after, Dr. Drayna and his team traveled to Cameroon. There they took blood samples from more than 150 people, including 50 in Joe’s family who stuttered.

The Lukong family, says Dr. Drayna now, “allowed us to find the fourth gene” linked to stuttering.

Participating in the research had a huge effect on Joe’s life too.

Getting help and confidence

It helped him understand stuttering better. It also gave him access to free speech therapy and the confidence to help others who stutter.

“You have to understand, I grew up in a small rural town,” Joe says. “In our school, teachers were not sure how to deal with people with speech problems. They would laugh at them and then the students would follow.”

As for speech therapists, there were only a few in the entire country and only in the bigger cities.

Joe said he tried to hide his stuttering “because I feared people would have a negative impression of me.”

But after the NIDCD research, he helped organize a stuttering conference that helped more than 100 people in Cameroon get speech therapy.

“It helped me realize I wasn’t alone. It helped me let go of my fear of stuttering,” he says.



Joe Lukong (far back center in baseball cap) connected with NIH researchers through an online stuttering forum.

Joe, his wife, and son now live in Minnesota, where he works with people with mental disabilities.

His advice to those who stutter: “Don’t let it keep you from achieving your goals. The people who really matter will care what you have to say, not how you say it.” ■

Find Out More

► **MedlinePlus: Stuttering**
<https://medlineplus.gov/stuttering.html>

► **National Institute on Deafness and Other Communication Disorders: Stuttering**
<https://www.nidcd.nih.gov/health/stuttering>

► **Speaking of Science Podcast: Genetics of Stuttering**
<https://irp.nih.gov/podcast/2019/04/dr-dennis-drayna-genetics-of-stuttering-and-communication-disorders>

► **ClinicalTrials.gov: Stuttering**
<https://clinicaltrials.gov/ct2/results?cond=stuttering>

REACHING GREAT HEIGHTS

with anxiety and depression

How NBA star Kevin Love is normalizing the conversation around men's mental health

Kevin Love has achieved a lot in 31 years. He's a five-time National Basketball Association (NBA) All-Star. He won an NBA championship with the Cleveland Cavaliers in 2016.

He's also a basketball world champion and a U.S. Olympic gold medalist.

But he has experienced challenges. He lives with depression and anxiety and has suffered from panic attacks. He even had one during an NBA game.

Recently, he opened up about his mental health and shared his story with the public. By speaking out about his own experiences, he has sparked a movement to raise awareness about mental health—especially for men and athletes. He talked to NIH MedlinePlus magazine about his journey.

Your panic attack during an NBA game was a turning point for you. Can you tell us about that?

It's a really scary thing to feel something happening to your body and have no idea what's going on. Especially in the middle of an NBA game in front of thousands of people.

In that moment, my heart was racing. I couldn't catch my breath. I thought I was having a heart attack. Even after it was over, I didn't know that I had had a panic attack. I thought there was something physically wrong with me and it wasn't until everything tested out OK physically that I realized there was something else going on that I needed to address.

What has been helpful for you in dealing with your anxiety and depression?

I work with a therapist and I am one of the people whom medication has helped. I know people have different outlooks when it comes to medication. It's a very personal decision, but for me it has helped a lot.



“We need to share our stories and make sure people know they are not alone.” – Kevin Love

Taking care of my total health has also been a really effective tool. I try to meditate regularly and get enough sleep. Exercise is a great way that I let off steam and feel good about myself, and not just because I’m an athlete. I’m also very focused on my diet and eating well.

What advice do you have for other men and boys who might experience similar issues?

I encourage everyone to speak their truth. One saying I always default to is “nothing haunts you like the things you don’t say.” When I was younger, I held it in because I was afraid of what my friends and family would say and what the people around me would think. I was worried what my teammates and other people on the court would think of me, too.

Now, I feel more comfortable in my own skin than I ever have. It’s really important to know that others are going through it too and that a lot of good can come through your experience.

Could you talk about fighting the stigma attached to mental health/mental illness, particularly among men?

Mental health is not something that has traditionally been talked about among men. We’re taught that we’re supposed to bury our feelings and not be vulnerable.

If you look at the past, things like melancholy, depression, anxiety, and mood disorders were actually seen as endearing or as something that could lead to great things. I read a book about President Abraham Lincoln called “Lincoln’s Melancholy” that talks about his depression and the role it played in driving him to greatness. It was eye-opening for me. It really wasn’t until the 20th century that mental illness was looked at as devastating.

So to change that, we need to keep talking about it more, especially as men. We need to share our stories and make sure people know they are not alone. There is a vast community that empathizes with them and understands what they are dealing with.

Since you began speaking out, have you heard from other men or boys who are facing these challenges?

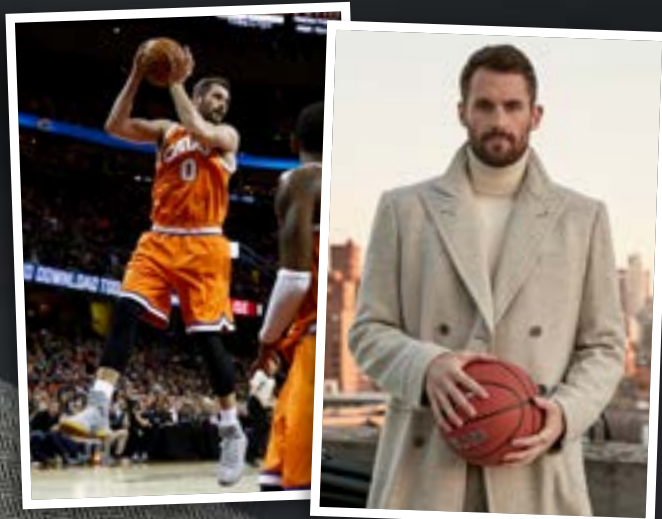
Absolutely. I have heard from guys who are going through something themselves and from guys who have a loved one or family member who is suffering and they want to help. It just goes to show that everyone really is going through something. A lot of people feel alone.

Anxiety and depression are extremely isolating, so I am glad I can be a part of helping people feel supported and encouraged.

What is next for Kevin Love?

When I decided to share my story, I didn’t realize how many people it would resonate with or what a lightning bolt of a topic it would become. Or that I would actually find my life’s work. Basketball is my career now and for the foreseeable future. But there is so much to be done in this space, it will keep me busy for a long time.

I launched the Kevin Love Fund. Its goal is to help normalize the conversation around mental health. We really want to focus on inspiring people to live their healthiest lives while providing tools for both physical and emotional well-being. ■



New NBPA program focuses on mental health

Director William Parham wants to help athletes and fans

William Parham, Ph.D., was recently named the National Basketball Players Association's first director of mental health and wellness. He is leading an effort to provide players more access to mental health professionals and self-management tools. He shared his vision with NIH MedlinePlus magazine.

What is the goal of this new initiative?

My goal is to change the narrative. There is a misguided belief among a lot of people that if you start talking about a person's personal challenges, it will open up "Pandora's box" and compromise performance. The opposite is true. Addressing issues can improve performance. You can reach untapped potential.

How do you hope to accomplish this?

We will provide a directory of mental health practitioners in each city where there is an NBA team that can help players seeking mental health assistance.

We are also developing a mental health literacy campaign. This will encourage athletes to better understand how to manage their mental health. Part of this will be a series of podcasts that share real stories of athletes who have successfully managed their mental health and wellness. We want to put positive modeling in front of players.

Why do men have a tough time talking about mental health challenges?

The experiences of stigma, shame, guilt, embarrassment, and—at the extreme—self-blame are very real and common emotional reactions that can hinder men in coming forward with mental health challenges.

At an early age, many of us, including athletes, learn that sharing deeply personal and revealing information carries a price. When you add the dimension of gender, men haven't been given permission to be vulnerable.

For NBA players there is the added dimension of celebrity, which can make it more difficult to share what's on their minds. You also have to factor in cultural and racial differences. All these factors collectively incentivize men to "stay strong," "keep it tight," and "man up." And they do. As a result, many stay silent about the real issues and struggles they contend with every day.

"When athletes talk about real issues and show that they can be successful, that's huge emotional medicine that will help kids and fans of all ages."

— William Parham, Ph.D.



William Parham, Ph.D. (center) was recently named the National Basketball Players Association's first director of mental health and wellness. Also pictured are Keyon Dooling and Garrett Temple.

What message do you want to send to boys and men about their mental health?

I would say that mental health and wellness is a key part of the human condition. It is also a critical part of a person's fundamental identity. And therefore it should be celebrated and embraced, not avoided.

Everyone in the world has baggage. The only two questions are: How many pieces of luggage are you carrying? And what is packed inside?

What role can professional athletes play in advancing us forward?

Professional athletes are role models. When athletes talk about real issues and show that they can be successful, that's huge emotional medicine that will help kids and fans of all ages. ■



Daniel Pine, M.D., is a leading mental illness researcher at the National Institute of Mental Health.

Daniel Pine, M.D., studies how differences in our brains can affect our mental health. Through their work at the National Institute of Mental Health, Dr. Pine and his team want to know how anxiety develops over our lifetime and how we can best treat it. He spoke to NIH MedlinePlus magazine about his current research and about the need to reduce stigma—especially for men with anxiety.

Why did you decide to study mental health?

I'm very interested in how the brain works. I'm also interested in how we can use that information to improve how we treat anxiety conditions.

In terms of behaviors that relate to danger, we respond similarly to other mammals. If we want to use what we know about the brain to help people in the area of behavior, studying responses to danger, like fear and anxiety, is a good place to start.

I also decided to study mental health because I'm moved by both the suffering that people experience when they have problems with fear and anxiety and by the courage that people like Kevin Love have to come forward, speak about it, and encourage others to get help.

What's new in anxiety research?

Exploring how our reactions and childhood may contribute to mental illness

Tell us about your current research.

We are researching three main areas. The first involves changes with age and how problems with fear and anxiety manifest. Most of these problems have roots in childhood and adolescence. They're quite common, but most kids grow out of them. We are trying to understand why some kids do and others don't.

Next are the differences between fear and anxiety and how they relate to differences in the brain. This is related to reactions we have that can be quite rapid, like when you pull your hand off a hot stove. Your reaction happens before you're aware of it. We are not completely aware of how this response to danger happens. If we can better understand why people have the reactions they do, we can help them overcome their problems.

Finally, we are working to understand how our treatments for fear and anxiety actually work. This will help us develop better, more effective methods to treat people who suffer from anxiety disorders.

What new findings have you discovered?

We have had the most success in research that looks at attention. This includes discoveries about what people notice and how the brain determines what we should monitor in more or less detail. That information is giving us ideas for potential new treatments.

"We need to treat mental health disorders as real health problems and encourage people to open up and discuss them."

— Daniel Pine, M.D.

Could you talk about the stigma around men's mental health?

Society says it's not tough or masculine for men to have feelings and reactions to stressful events. People don't like to recognize how serious and significant problems are in the area of men's mental health. But they're every bit as important as any physical health problem.

We need to treat mental health disorders as real health problems and encourage people to open up and discuss them.

What advice do you have for people concerned about their own mental health?

If you have a medical professional that you trust and are comfortable speaking to, seek out their help and talk about your experiences. It could be a primary care physician, a nurse, or a pediatrician. ■



Anxiety: What you need to know

Negative childhood events and family history could increase risk

Most of us experience anxiety at some point in our lives. You might feel anxious when taking a test, crossing a busy street, or making an important life decision.

But for people with an anxiety disorder, these feelings usually last longer and are more intense. They often worsen over time and interfere with everyday life.

Anxiety disorders are the most common form of mental illness and affect more than 25 million Americans. There are a variety of anxiety disorders, though many share similar symptoms and methods of treatment.

Who experiences it?

Anxiety disorders are common in both men and women. However, women are more likely to experience them. Both genetic and environmental factors contribute to the risk of developing an anxiety disorder. There are a number of risk factors for anxiety disorders. Those include a stressful or negative event early in childhood or adulthood and a family history of anxiety or mental illness.

What are the symptoms?

- Feeling restless, wound up, or on edge
- Trembling or shaking
- Being easily fatigued
- Difficulty concentrating
- Irritability
- Muscle tension
- Feelings of doom
- Irrational worries about objects or situations
- Difficulty controlling feelings of worry
- Problems falling or staying asleep

How is it diagnosed?

Your primary care provider will perform a mental health screening. This is an exam of your emotional health. It includes questions about your symptoms and how long you've had them. If necessary, they can refer you to a mental health specialist, such as a psychologist or psychiatrist. These professionals specialize in diagnosing and treating mental health problems.

How is it treated?

Anxiety disorders are treatable with psychotherapy, medication, or both. Treatment helps most people lead normal, productive lives.

Psychotherapy methods include:

- Cognitive behavioral therapy, which teaches people different ways of thinking, behaving, and reacting to triggering situations.
- Cognitive therapy, which helps people identify, challenge, and neutralize unhelpful or distorted thoughts.
- Exposure therapy, which helps people confront fears so they can participate in activities they have avoided.

Medication can help relieve anxiety symptoms, but does not cure anxiety disorders:

- Anti-anxiety medications may reduce the symptoms of anxiety, panic attacks, or extreme fear and worry.
- Antidepressants can improve the way your brain uses certain chemicals that control mood or stress.
- Beta-blockers can relieve the physical symptoms of anxiety, such as rapid heartbeat, shaking, trembling, and blushing. ■

Removing the stigma from men's mental health

After struggling with addiction and mental illness, Kevin Delano isn't afraid to share his feelings



Kevin Delano has struggled with addiction and bipolar disorder and now encourages men to speak out about their mental health.

When 46-year-old Kevin Delano was in his early teens, he knew he was different. He was depressed. He constantly had racing thoughts in his head.

Kevin describes his depression or "down cycles" as wearing a heavy piece of clothing.

"It's as if you're wearing a big, woolen cape that's been soaked in water," Kevin says. "It's warm, heavy, and holds you down."

Kevin experienced "up cycles," too. He would feel excited about new ideas and reaching goals. But then he would spiral down into a depression again.

Kevin didn't know it yet, but he was experiencing symptoms of bipolar disorder. Bipolar disorder is a mental health condition that causes intense highs and lows, along with anxiety, irritability, and often a loss of touch with reality.

Kevin says in addition to the ups and downs, he always had voices in his head that would tell him that he was worthless or that no one cared about him.

"I couldn't get my mind to quiet down," Kevin says.

At age 16, Kevin attempted suicide. For more than two decades after that, he was addicted to drugs and alcohol.

Now, more than 25 years later, Kevin is sober, sees a mental health professional, goes to therapy, and receives treatment for both his bipolar disorder and past addictions.

Wearing a mask

Kevin had feelings of anxiety and depression for almost half his life

before he sought help. In part, he kept them secret because he didn't want others to know.

He was worried that his friends, especially his male friends, might see him as weak or emotional.

Opening up

Kevin says his life changed for the better following his diagnosis and treatment for bipolar disorder and addiction. For one, he doesn't feel ashamed of his feelings anymore.

"I'm an open book when it comes to talking about my mental health," he says.

He wishes more people, especially men, would seek help when they have feelings of depression or anxiety.

"I think a lot of men think that if they tell someone they have a mental health issue, it's a sign of weakness," he says.

In reality, Kevin says that we all benefit by talking to people, listening to what others have to say, and getting therapy to work through issues, regardless of our gender.

Giving back

Kevin still sees the stigma around mental health at recovery meetings and at his job.

"Men, especially older men, still think they aren't supposed to talk about their feelings," he says. "They keep a stiff upper lip, keep their heads down, and keep to themselves."

He works to reduce this stigma through talking to other men and volunteering. He helps out at a nonprofit organization for families of addicts and those with mental health issues.

"Family members need to know that these issues are not your fault," Kevin says. "Nothing you did or didn't do caused this."

Kevin also sets an example at home. He tells his 8-year-old son that talking about feelings and asking for help are OK.

For those who have or think they may have a mental illness, he offers this advice: "Be honest. Listen to yourself and listen to others. If you think there is something wrong, tell someone about it and get some help." ■

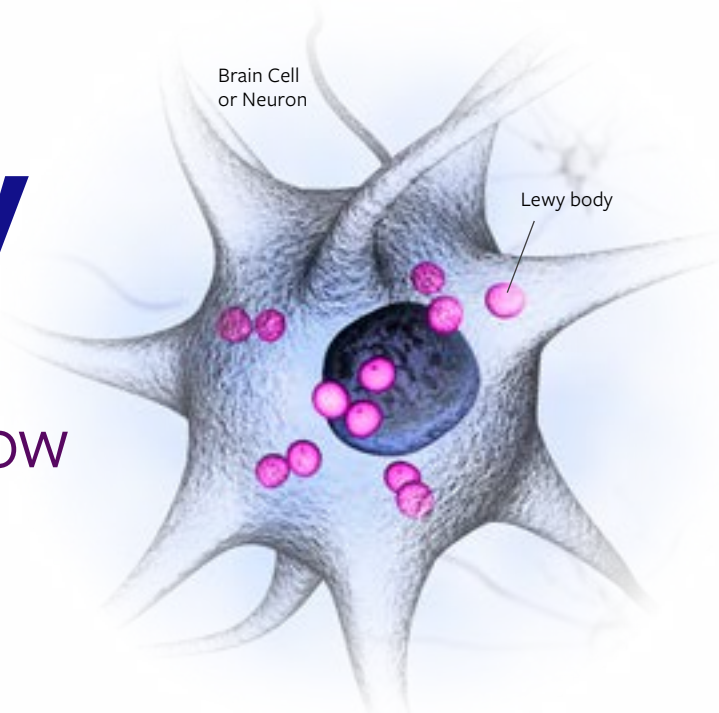
Find Out More

- ▶ **MedlinePlus: Anxiety**
<https://medlineplus.gov/anxiety.html>
- ▶ **National Institute of Mental Health: Anxiety**
<https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>
- ▶ **National Institute of Mental Health: Men and Mental Health**
www.nimh.nih.gov/health/topics/men-and-mental-health/index.shtml
- ▶ **ClinicalTrials.gov: Anxiety**
<https://clinicaltrials.gov/ct2/results?cond=anxiety>

Lewy body dementia:

What you need to know

The disease affects more than 1 million people in the U.S.



Lewy body dementia (LBD) is one of the most common types of dementia—but also one of the least well-known.

The disease affects more than 1 million people in the U.S. The comedian Robin Williams and All-Star baseball player Bill Buckner had the disease when they died.

Dementia is not a normal part of aging. It can cause memory loss, trouble with everyday tasks, and other cognitive issues that can interfere with your daily life.

What causes LBD?

LBD is a disease associated with abnormal deposits of protein in our brains.

These deposits, called Lewy bodies, affect chemicals in our brains that help control thinking, movement, behavior, and mood.

What are the symptoms?

The most common symptoms of Lewy body dementia include changes in memory, thinking, movement, behavior, and sleep. Symptoms can appear slowly or without warning and will worsen over time.

People with the condition may not have every symptom in the early stage. People who think they or a loved one may have LBD symptoms should try to keep a list of them and share the list with their health care provider.

How is LBD diagnosed?

Diagnosing LBD can be hard, because early symptoms might seem like those of Alzheimer’s disease or a mental illness. Alzheimer’s is another type of dementia that causes a decline in memory and thinking skills.

Some people with LBD are first diagnosed with Parkinson’s disease. People with Parkinson’s experience tremors and problems with walking and using their hands.

A doctor can diagnose LBD by discussing symptoms with the patient, family members, or caregivers.

There are also tests that can support an LBD diagnosis:

- An imaging scan, such as a PET scan, can detect changes in a person’s brain.
- A heart test called a myocardial scintigraphy can show if there is less activity in a person’s heart nerves.
- A sleep study can confirm a sleep behavior disorder linked to LBD.

Treatment

There is no cure for LBD, but medicine, therapy, or both can help with the symptoms.

Some options include:

- Medicines that can help thinking, movement, and cognitive issues
- Physical therapy to help with movement
- Speech therapy, which may help with swallowing and speaking problems
- Occupational therapy, which can help teach new ways to do everyday activities
- Support groups and talk therapy
- People with LBD may require help in their daily life in the early stage of the disorder. Caregiver education and support is an important part of the care plan.

People with LBD and their families should work with their health care providers for the best treatment path for their lifestyle and symptoms.

Two types of Lewy body dementia



Main difference is when thinking and movement symptoms occur

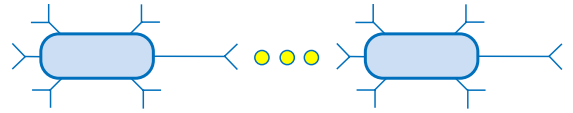
There are two types of Lewy body dementia (LBD): dementia with Lewy bodies and Parkinson's disease dementia. Dementia is a loss of mental functions that is severe enough to affect your daily life.


The main difference between the two is when the start of thinking and movement symptoms occur.

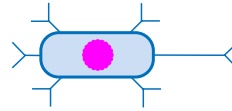
Dementia with Lewy bodies first causes problems with mental functioning similar to Alzheimer's disease. Those can include feeling less alert, trouble focusing or doing everyday tasks, and memory loss. Unlike Alzheimer's, it later causes certain movement issues, visual hallucinations, and sleep problems.

Parkinson's disease dementia is a complication of Parkinson's disease. A person with Parkinson's disease starts with symptoms like slowed movement, muscle stiffness, tremors, and a shuffling walk. Later, some people have a decline in mental functioning that becomes dementia.

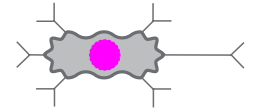
Neurons  use a chemical called dopamine  to send messages to each other.



Neurons with Lewy bodies  may work less well or may die.



Parkinson's is due to the death or loss of neurons that release dopamine.



Movement symptoms

Movement symptoms happen when Lewy bodies are found in the brain stem and other movement control areas (such as the basal ganglia).

Basal ganglia

- Speech troubles
- Movement issues
- Tremors

Brain stem

- Sleep disturbances
- Changes in alertness

Dementia symptoms

Symptoms of dementia show up when Lewy bodies are found in the outer layer of the brain (cerebral cortex), and in the brain's mood and memory centers (amygdala and hippocampus).

Cerebral cortex

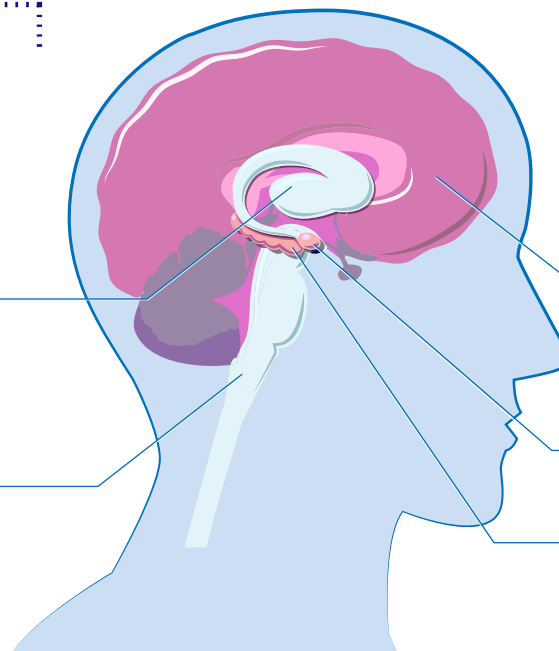
- Hallucinations
- Thinking and logic impairment

Amygdala

- Mood changes

Hippocampus

- Memory impairment



SOURCES: MedlinePlus; National Institute on Aging

Searching for words and answers:

A couple's Lewy body dementia experience

*Volunteering and support
groups offer hope*

Randal G. was always a strong public speaker. "I was a person used to giving an hour-long presentation to 400 people with minimal notes. Everything flowed," Randal says.

But in 2011, when he was 55 years old, something changed. During a speech for his consulting business, he couldn't find the right words to say. He also couldn't keep track of a project he was leading for work, which wasn't like him.

It turns out, these were early signs of Lewy body dementia (LBD). The disease causes people to forget things, lose their balance, and have trouble moving and thinking. Over time, it causes serious mental and physical decline.

More signs

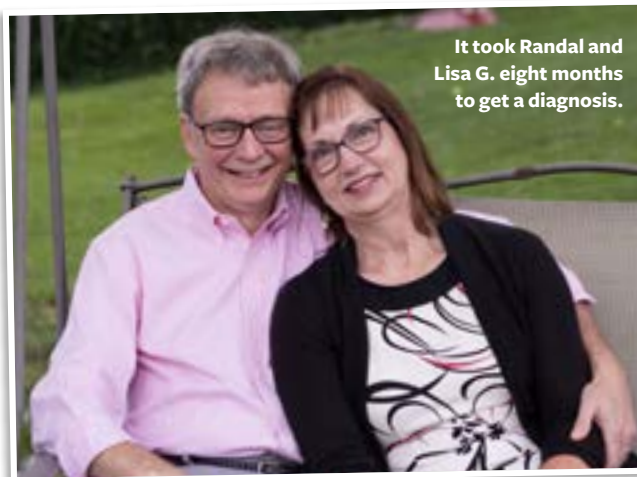
In the following months, Randal and his wife, Lisa, noticed more changes.

He had tremors in his hands that he couldn't control. He forgot how to do everyday things.

When Lisa's car had a flat tire, she called Randal, her go-to car guru. But he didn't know how to help.

"It was a real shock, and I had a bit of anger, because I felt let down," she says. Was depression causing him to lose focus at work? Were the tremors a sign of Parkinson's disease?

As his symptoms worsened in 2013, Randal and Lisa went to his primary care doctor to find out what was wrong. He ended up visiting three different doctors over eight months before he was diagnosed.



Treatment for LBD

Randal now takes medications to control the tremors in his hands and to slow the disease's effects on his thinking and concentration.

He also goes to physical therapy regularly, which helps with his balance. He gets massage therapy and Botox injections for muscle tightness in his legs.

To help him solve everyday problems, like using a computer mouse or eating, Randal sees an occupational therapist.

Life with LBD

Randal and Lisa say it's been a challenge coping with Lewy body dementia. The symptoms get worse, but not in a predictable way.

"Some days I can load and unload the dishwasher with no problem at all," Randal says. "But some days I can deal with the bowls and the silverware, but can't deal with other things"

Those kinds of ups and downs are hard for a person with Lewy body dementia.

"I believe it's also difficult for the caregiver," Randal says.

One way Randal copes with LBD is by staying active.

For several years, he volunteered two days a week in a community garden. He also helped farmers set up their booths at a local farmer's market.

For people who think they might have LBD, Lisa recommends that their loved ones take detailed notes of behavior and other changes, as well as the dates they happen. She says it helped with her husband's diagnosis.

"Active doesn't have to mean physically active. What is most important is that you are doing something and you can feel like you are valuable."

— Lisa G., caregiver

Helping others

Another way that Randal copes is helping other people with Lewy body dementia.

He volunteers for medical studies and undergoes regular MRIs and other tests to help expand researchers' knowledge about the disease. Randal also participates in online and in-person support groups.

Randal and Lisa have shared their experiences with members of the LBD community and the Lewy Body Dementia Association, a nonprofit organization established to support people with LBD and their families, increase public awareness, and raise money for research.

Their advice for other families with LBD is to try and work around your changing symptoms, as hard as it may be, and ask for help when you need it. Staying active is also key.

"Active doesn't have to mean physically active, or leaving your home," Lisa says. "It can be, but the situation changes with the disease. What is most important is that you are doing something and you can feel like you are valuable." ■

5 patient tips for coping with Lewy body dementia

Randal G. is a 63-year-old man living with Lewy body dementia (LBD). He shared lessons to help others adjust to life with the condition. His tips have been edited for space.

- 1 Find ways to work around changing symptoms**

Living with LBD means that as soon as you settle into a new normal, the sand will shift under your feet. You will find new or worsening symptoms and you will have to find a new normal. It will be frustrating. It will be painful. It will be hard. But it helps to remember that there are people available to help you.
- 2 Try to be active and social**

Staying active and participating in hobbies you love can help you feel more like yourself. Look for activities that include other people. There are many online and in-person support groups and volunteer groups where you can contribute and meet others. Try to find something that helps someone else.
- 3 It's OK to ask for help**

In fact, it is better to accept help from everyone you care about sooner rather than later. A wise man once taught me that for everyone who wants to give help, there has to be someone to receive it. Now it's our turn to receive.
- 4 Give space**

There will be some friends or people who, for their own reasons, can't handle your new reality. Try to forgive them.
- 5 Welcome new friends**

There are also people who can embrace your new reality, such as people you meet in support groups. Embrace their kindness with gratitude.

Lewy body dementia research seeks a *faster* and earlier *diagnosis*

Researchers work to better understand chemical changes in the brain

Imagine driving and forgetting where you're going. Or feeling tremors in your hands when you try to pick up something. Imagine seeing someone or something that's not there.

These are possible signs of Lewy body dementia (LBD), a complicated memory and movement disease affecting more than 1 million Americans.

LBD is associated with abnormal brain deposits of a protein called alpha-synuclein. The deposits are also called Lewy bodies. When they build up, they can lead to problems with memory, thinking, movement, behavior, and mood.

Though scientists are learning more about how the disease works, they still have many questions.

Why does this protein build up? How does it cause symptoms? How can we make earlier diagnoses so people can get help sooner?

Researchers supported by NIH's National Institute on Aging (NIA) and National Institute of Neurological Disorders and Stroke (NINDS) are trying to answer these questions.

Better diagnosis

David Irwin, M.D., is one of these researchers.

Dr. Irwin is a neurologist, or doctor who specializes in nervous system disorders. In addition to caring for patients with dementias, he researches the disease at the University of Pennsylvania.



David Irwin, M.D., investigates the chemical changes that happen in Lewy body dementia patients' brains.

Dr. Irwin's team wants to better understand the chemical changes that dementias like LBD cause. For example, he says there is evidence that Lewy bodies can harm a person's other brain cells.



“A lot of work is being done to help sort out the association between what we see under the microscope, these Lewy bodies, and what we see clinically.”

— David Irwin, M.D.

“What sets that into motion is not clear,” he says. “That’s why a lot of work is being done to help sort out the association between what we see under the microscope and what we see in patients’ lives.”

To study these and other changes, Dr. Irwin’s team looks at brain tissue of LBD patients who have died.

“The goal of my lab is to work backwards and take human tissue and develop biomarkers, or tests, for these diseases,” Dr. Irwin says.

Once health care providers have better tests, they can diagnose and treat LBD patients earlier. Today it can often take a person three or more doctor’s visits to get a clear diagnosis.

Building awareness

Building awareness for health care providers is another reason researchers’ work is so important.

For example, LBD patients could have negative reactions to certain medications that help with hallucinations. So if a person’s health care provider is treating their symptoms but not the disease, a patient could get very sick.

Increasing awareness about the symptoms and signs of LBD will help avoid such situations, says John Hsiao, M.D., chief of the diagnosis and biomarkers program in the division of neuroscience at NIA.

He says that continued research into how dementia happens, how to diagnose it early, and how best to treat patients is critical.

“Ultimately, we want to provide better lives for patients and their families,” Dr. Hsiao adds.

For patients or families interested in participating in research, Dr. Hsiao recommends visiting NIA’s Alzheimer’s and related Dementias Education and Referral Center to learn more about their options. ■

Find Out **More**

- ▶ **MedlinePlus: Lewy body dementia**
<https://medlineplus.gov/lewybodydementia.html>
- ▶ **National Institute on Aging: What Is Lewy Body Dementia?**
<https://www.nia.nih.gov/health/what-lewy-body-dementia>
- ▶ **National Institute of Neurological Disorders and Stroke: Dementia With Lewy Bodies**
<https://www.ninds.nih.gov/Disorders/All-Disorders/Dementia-Lewy-Bodies-Information-Page>
- ▶ **National Institute on Aging: Clinical Trials**
<https://www.nia.nih.gov/alzheimers/clinical-trials>
- ▶ **NIA Alzheimer’s and related Dementias Education and Referral Center**
www.nia.nih.gov/alzheimers

Wake-up call:

How sleep impacts our minds and bodies

NIH research investigates links to heart, liver, kidney diseases

For more than 25 years, scientists at NIH have studied human sleep habits. They've researched everything from how sleep affects our skin to how it could help us live longer.

A major focus of current NIH-supported sleep research is on our circadian rhythm, the body's natural 24-hour cycle.

"When people don't get enough sleep, they don't get a strong circadian rhythm," says Michael Twery, Ph.D. Dr. Twery leads sleep research at the National Heart, Lung, and Blood Institute.

"And if we don't have a strong circadian rhythm, the cells in our body don't get enough energy," he adds.

Why is that important?

The circadian rhythm operates within every cell of the body. Poor quality sleep or not enough sleep affects these cells, including fat cells and those in the heart, liver, and kidneys.

This may contribute to poor health and an increase of risk of disease, like heart conditions, diabetes, or even death.

Heart disease and sleep

NIH's National Center on Sleep Disorders Research has supported the discovery of sleep and circadian rhythm regulating genes. By better understanding how genes work in the human body, we can better understand why a lack of sleep can cause certain problems.

For example, NIH-supported researchers are now closer to understanding how a good night's sleep can protect against some types of heart disease.

They have discovered a connection between the brain, bone marrow, and blood vessels that can protect against hardening of the arteries—but only when sleep is uninterrupted.

When our arteries harden, that restricts blood flow to our heart. This can lead to heart attacks and strokes.

By better understanding the connection between sleep and hardening of the arteries, this research could open new avenues to treat heart disease.



Michael Twery, Ph.D., and his team at the National Heart, Lung, and Blood Institute help support sleep disorder research.

Pregnancy and sleep apnea

Other NIH-supported studies are finding that lack of sleep is more likely to affect women who experience hormonal changes like menstruation, pregnancy, and menopause.

Dr. Twery's team organized studies to determine whether treating sleep apnea—which disrupts sleep and can cause breathing issues—may reduce health risks in pregnant women. Those risks include hypertension and diabetes.

Their research found that breathing issues during sleep are common in pregnancy. They're also associated with bigger health risks to the pregnant woman, often resulting in health complications.

But strong medications can be dangerous for pregnant women, so his team is now studying how to protect breathing in other ways.

"The current medical tools are limited," Dr. Twery says.

“Feeling tired may not be the best way to measure where your sleep health may be.” — Michael Twery, Ph.D.

The power of sleep

Dr. Twery notes that in addition to helping our hearts, proper sleep also leads to healthy brain development and growth hormones, which helps our bodies perform at their best.

“Feeling tired may not be the best way to measure where your sleep health may be,” Dr. Twery says. “Most people go to sleep when they feel tired, but the brain doesn’t go to sleep.”

Because of that, interrupted sleep can impact our brains more than we might realize, causing issues like memory loss, mood changes, or difficulty concentrating.

Lack of sleep and sleep disorders can also create problems in people’s personal lives, especially within their families, Dr. Twery says. It can affect how people perform at work or school.

His advice is to prioritize sleep and seek help from your doctor if you regularly experience interrupted sleep, an inability to fall asleep, or other sleep issues that are affecting your quality of life.

Your physician may determine whether further tests are needed to understand the sleep problem and how to manage treatment.

“We talk about sleep as a luxury today and our society tells us to stay awake. It’s even celebrated as a super-human quality,” Dr. Twery says.

But for those who are trying to “do it all” and sleep less than the recommended hours per night, Dr. Twery cautions that sleep is essential to a long, healthy life.

“Our brains and bodies are very complicated,” Dr. Twery says. “Get some sleep.” ■



How much sleep do you need per day?

*Adults need at least 7 hours;
kids may need up to 13*

Age Group	Recommended hours of sleep per day
Infant (4-12 months)	12–16 (including naps)
Toddler (1-2 years)	11–14
Preschool (3-5 years)	10–13
School age (6-12 years)	9–12
Teen (13-18 years)	8–10
Adult (18 years and older)	7–8

SOURCE: National Center for Chronic Disease Prevention and Health Promotion



Sleep apnea: What you need to know

What is sleep apnea?

Sleep apnea happens when your breathing stops and starts while you are sleeping.

There are three types:

- **Obstructive sleep apnea** is the most common type of sleep apnea. It happens when your upper airway becomes blocked and airflow is reduced or stops.
- **Central sleep apnea** happens when your brain doesn't properly send signals to your muscles for breathing.
- **Complex sleep apnea syndrome** happens when someone has both obstructive sleep apnea and central sleep apnea. It's also called treatment-emergent central sleep apnea.

What are the symptoms?

Signs and symptoms include:

- Snoring or gasping
- Reduced or skipped breathing during sleep (known as apnea events)
- Sleepiness or tiredness

What causes it?

Sleep apnea can be caused by obesity, large tonsils, premature birth, hormonal disorders, neuromuscular disorders, heart or kidney failure, and certain genetic syndromes.

How do I know if I have it?

Health care providers use sleep studies to diagnose sleep apnea. They record how many times a person has slow or stopped breathing and the number of central sleep apnea events detected in an hour.

They also measure whether oxygen levels in the blood are lower during these events, which is a sign of sleep apnea.

How is it treated?

Common sleep apnea treatments include using breathing devices, such as continuous positive airway pressure (CPAP) machines.

Lifestyle changes can also help. Those include eating a healthy diet, exercising, and for some people, losing weight.

In some cases, if sleep apnea is not diagnosed or is untreated, it can lead to serious complications such as heart attack, glaucoma, diabetes, cancer, and cognitive and behavioral disorders.

How can I learn more?

Ask your health care provider if you are eligible for a sleep study. You can read about sleep apnea research and clinical trials that help improve sleep health at NIH's National Center on Sleep Disorders Research. ■

SOURCES: MedlinePlus; National Heart, Lung, and Blood Institute

Searching for sleep

Sleep apnea patient and advocate on her path to diagnosis



Sleep. It's part of our daily routine. But for some people, sleep is a gift.

That's how it is for Si Baker-Goodwin, a retired psychologist and an advocate for people with sleep disorders.

Si, who is 63 years old, has experienced various sleep disorders for decades. From snoring to restlessness in bed, Si has had sleep issues most of her life.

Less sleep, less functioning

When she was in her 40s, Si found herself sleeping less and less. It was difficult to keep up at work and do simple tasks. She was always exhausted.

"My head hit the pillow and I was out," she says.

But while she could fall asleep quickly, she couldn't stay asleep. Her doctors initially thought her sleep issues were related to anxiety or hormones.

When a doctor asked Si if she drank coffee, she told her doctor she drank 10 half-cups of coffee per day to stay awake. The doctor told her to cut down on caffeine, but didn't ask much about her sleep.

"He should have asked me what kind of sleep trouble I was having," she says. "Fragmented sleep ultimately affects how I think."

Si tried for years to figure out why she couldn't sleep. She reviewed the medications she was taking for anxiety and allergies. But no matter what she tried, she couldn't stay asleep at night.

Sleep study

In 2008, Si pleaded with doctors to figure out her sleep issues. That's when her doctor signed her up for a sleep study.

The study occurred over two nights and it finally gave Si answers.

She was diagnosed with mild to moderate sleep apnea. She was also advised to try a continuous positive airway pressure (CPAP) machine, which uses a mask or nose piece and a hose to deliver enough air to keep the airway from closing during sleep.

This helps a person with sleep apnea breathe more smoothly.

Si also follows a strict bedtime and wake-up routine. Now, she feels more refreshed and can think more clearly.

Advocating for others

Si helps advocate for others with sleep apnea as a founder and member of My Apnea, an organization that focuses on helping patients.

She recommends that people educate themselves about sleep

"Fragmented sleep ultimately affects how you think."

— Si Baker-Goodwin

disorders and talk to their health care provider about any sleep issues.

She also hopes more health care providers routinely ask patients about their sleep.

"Sleep apnea is a complicated issue that affects all different types of people. We need to learn a lot more about it so that everyone can be properly treated." ■

Find Out More

- ▶ **MedlinePlus: Sleep Apnea**
<https://medlineplus.gov/sleepapnea.html>
- ▶ **National Center on Sleep Disorders Research**
<https://www.nhlbi.nih.gov/about/divisions/division-lung-diseases/national-center-sleep-disorders-research>
- ▶ **National Heart Lung and Blood Institute: Sleep Apnea**
<https://www.nhlbi.nih.gov/health-topics/sleep-apnea>
- ▶ **ClinicalTrials.gov: Sleep Apnea**
<https://clinicaltrials.gov/ct2/results?cond=Sleep+Apnea>

To help an anxious child, start with their parents

Family-centered treatment program can help reduce stress for all

THE BEST WAY to help children with an anxiety disorder may be to help their parents first, a new NIH-funded study has found.

Most children worry or feel anxious from time to time. But for children with an anxiety disorder, their feelings are more constant and intense. It can cause problems at school, disrupt their sleep, and prevent them from making friends.

To help their children deal with anxiety, many parents try to accommodate them. For example, they might sleep in their bedroom to calm nighttime fears or avoid social situations that upset the child.

While this works temporarily, it doesn't teach the child how to deal with worries on their own as they get older.

NIH-supported researchers with the Yale Child Study Center decided to take a different approach. They taught parents how to respond to their child's anxieties in new ways.

The new program assigned 124 children, ages 7 to 14, who had been diagnosed with an anxiety disorder, to receive weekly cognitive behavioral therapy (CBT) sessions. The sessions helped them learn strategies to cope with their worries.

Half of the parents went through a training program at the same time.



Teaching parents better ways to help children with anxiety disorders may be as helpful as child therapy.

These parents learned supportive ways to respond to their child's anxiety and ways to change their own accommodating behavior.

After 12 weeks, the authors found that CBT had reduced the children's levels of anxiety. They also found that parents who were in the training program (compared to those who

were not) exhibited a lower level of parenting-related stress.

Though treatment like CBT can teach children ways to cope with their worries and emotions, only about half of them respond well to it. This dual approach may help children who don't respond well to CBT. ■

SOURCE: NIH Research Matters



New study highlights need for diversity in genomic research

Researchers find 27 new gene variations

WHAT HAPPENED when genomic researchers targeted more diverse groups of people in their studies? They found 27 new gene variations.

These variations (or differences) were linked to some serious health conditions. Those include high blood pressure, type 2 diabetes, cigarette use, and chronic kidney disease.

Genomics studies all of a person's genes—also known as the genome—and looks at how someone's genes work together. It can help us understand why some people get sick from certain infections or environmental factors, and not others.

For example, a gene difference known for its role in sickle cell disease in African Americans was newly confirmed in Hispanics and Latinos during the study.

This NIH-supported research looked at data from nearly 50,000 people, including African Americans, Hispanics/Latinos, Asians, Native Hawaiians, and Native Americans. It's part of a national effort to better understand how differences in genes may make some ethnic groups more likely to get certain diseases.

This is important because the majority of genomic research has been based on people of white European ancestry. Critical gene differences may be missed if they don't occur in those populations.

By increasing diversity in genomic studies, researchers can better tailor new treatments that benefit all populations. It can also help researchers understand the full potential of the human genome. ■

SOURCES: NIH News Releases; National Human Genome Research Institute; National Institute on Minority Health and Health Disparities



Rethinking 10,000 steps

New study investigates how much walking older women really need

IF YOU HAVE a fitness tracker or use your smartwatch to count your steps, you might be tracking a goal of walking 10,000 steps a day. But is that many steps really needed for good health? And what if you can't quite reach that number?

A new NIH-supported study suggests that 10,000 may not be the magic number after all. For older women, significant health benefits start at a modest 4,400 steps daily and level off at 7,500 steps.

In the study, a team of researchers from Brigham and Women's Hospital in Boston and Harvard Medical School followed nearly 17,000 women ages 62 to 101, with an average age of 72.

The women were given a fitness tracker to wear on their hip during waking hours for seven days, which measured both the number and speed of steps they took.

Researchers then analyzed the women's daily activity and tracked their deaths from any cause for more than four years.

The study had two important findings.

The first is that even a modest amount of activity can help you live longer. The women who achieved 4,400 steps a day had a 41% lower risk of death than those who took only 2,700 steps.

Their risk of death continued to decrease the more steps they took until they reached about 7,500 steps a day, when the effect leveled off.

Secondly, the study found that the number of steps was more important than the speed of the steps. In other words, it didn't matter whether the women walked quickly or slowly, it was the total number of steps they took daily that provided the benefit.

The bottom line is walking more, even a little, is helpful for your health. ■

SOURCE: NIH Research Matters

NIH
on
the

web



3D printing for human organs and tissue

➔➔ **IT MAY SOUND LIKE SCIENCE FICTION**, but new research is studying how 3D printing (or bioprinting) organs and tissues may one day save lives.

With funding from NIH, scientists at Rice University are testing bioprinted vascular networks that

mimic those in the distal human lungs. These networks are made of soft gels and have been tested with living cells.

You can see the vascularized air sacs up close in a new video released by the team earlier this year.

Though research is still in the early stages, 3D printing may one day allow doctors to create replacement organs for patients who need transplants.

Updated nutrition labels on MedlinePlus

➔➔ HOW MANY CALORIES ARE IN THAT?

MedlinePlus now includes updated Nutrition Fact labels on all of its Healthy Recipes, including the overnight oatmeal recipe on this page!

The new label was finalized in 2016 by the Food and Drug Administration to make it easier to identify things like calories, fat, and sugar in packaged foods and drinks. The new requirements, which are based on scientific information, also include an updated list of nutrients and added sugars.

All packaged food must include the updated label by 2021.



Find it all in one place!
magazine.medlineplus.gov/otw



Overnight oatmeal

➔➔ **OATMEAL CAN BE** a heart-healthy alternative to other quick breakfast foods or snacks. It's a good source of fiber, which helps you feel full, as well as key vitamins and minerals.

But if you don't have time to make a batch during your busy day, do it before you go to sleep instead with this hearty recipe.

For a grab-and-go breakfast, separate servings into small, portable containers and keep refrigerated. For more healthy recipes, check out Healthy Recipes on MedlinePlus.

Overnight oatmeal recipe

- Prep time:** 15 minutes
- Cook time:** 6 hours
- Total time:** 6 hours 15 minutes
- Number of Servings:** 4

Ingredients

- 1 cup uncooked old fashioned rolled oats
- 1 cup low-fat yogurt
- 1/2 cup nonfat or 1% milk
- 1/2 cup berries, fresh or frozen
- 1/2 cup chopped apple

Directions

1. In a medium bowl, mix oats, yogurt, and milk.
2. Add the fruit now or add just before eating.
3. Cover and refrigerate oatmeal mixture for 6-12 hours.
4. Refrigerate leftovers within 2 hours.

IMAGES: COURTESY OF RICE UNIVERSITY, ISTOCK

NIH is here to help

The National Institutes of Health (NIH)—the nation’s medical research agency—includes 27 Institutes and Centers and is a part of the U.S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical, and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

Institutes

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888-FIND-NLM 888-346-3656

National Cancer Institute (NCI)

www.cancer.gov
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National Eye Institute (NEI)

www.nei.nih.gov
301-496-5248

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Institute (NHLBI)

www.nhlbi.nih.gov
301-592-8573

National Human Genome Research

Institute (NHGRI)

www.genome.gov

301-402-0911

National Institute on Aging (NIA)

www.nia.nih.gov

Aging information 800-222-2225

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and Alcoholism (NIAAA)

www.niaaa.nih.gov

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www.niams.nih.gov

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Development (NICHD)

www.nichd.nih.gov

800-370-2943

National Institute on Deafness and

Other Communication Disorders

(NIDCD)

www.nidcd.nih.gov

800-241-1044 (voice)

800-241-1055 (TTY)

National Institute of Dental and

Craniofacial Research (NIDCR)

www.nidcr.nih.gov

301-480-4098

National Institute of Diabetes and

Digestive and Kidney Diseases

(NIDDK)

www.niddk.nih.gov

NIDDK Health Information Center

1-800-860-8747

National Institute on Drug Abuse

(NIDA)

www.nida.nih.gov

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National Institute of Environmental

Health Sciences (NIEHS)

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(NIMH)

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301-496-0357

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www.obssr.od.nih.gov

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[www.nih.gov/institutes-nih/nih-office-director/](http://www.nih.gov/institutes-nih/nih-office-director/office-communications-public-liaison)

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Office of Rare Diseases Research

(ORDR)

www.rarediseases.info.nih.gov

Genetic and Rare Disease

Information Center

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Office of Research on Women’s Health

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orwh.od.nih.gov

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YOUR FAMILY'S HISTORY CAN **HELP CHANGE THE FUTURE** FOR GENERATIONS TO COME.

Having Alzheimer's and dementia in your family doesn't mean you'll get them too. But it does mean Alzheimer's clinical trials can greatly benefit from your participation. In fact, your genes, lifestyle, and family history are essential to coming up with treatments for future generations.

Consider a clinical trial.

Learn more at Alzheimers.gov/clinical-trials

