

SUMMER 2020

NIH MedlinePlus

MAGAZINE

Trusted Health
Information from the
National Institutes
of Health

IN THIS ISSUE

Why alcohol-use
research is more
important than ever

Updates on stroke
prevention and
recovery

How concussions
affect kids and teens

Grab a mat: The
many benefits
of yoga

+

Is a clinical
trial right
for you?

COVER STORY

Co-host of 'The Talk' and 'Dancing with the Stars' judge
Carrie Ann Inaba explores her personal journey with

SJÖGREN'S SYNDROME



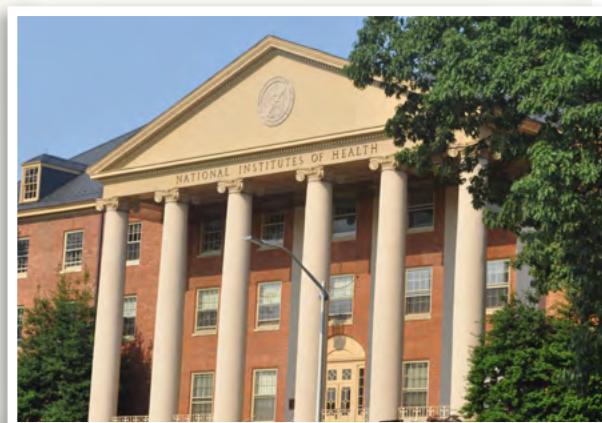
How NIH and NLM help during COVID-19

AS EXPERTS AT THE NATIONAL INSTITUTES OF HEALTH (NIH) and across the world address public health emergencies like COVID-19, NIH is there.

This spring, NIH and the Foundation for the NIH launched the Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) initiative. ACTIV focuses on supporting researchers and testing potential vaccines and treatments. It brings together leaders from the public and private sectors around the world. NIH is partnering on the initiative with biopharmaceutical companies, multiple U.S. federal agencies, and the European Medicines Agency.

As part of NIH, the National Library of Medicine (NLM) is doing its part to support everyone from researchers to the general public with resources around COVID-19.

NLM's PubMed Central® houses peer-reviewed biomedical and life sciences articles that include findings from clinical trials and other studies. Recently, NLM expanded access to these articles. This will ensure researchers, health care providers, text-mining databases, and the general public have the best information available to them.



The James H. Shannon Building on the NIH campus in Bethesda, Maryland.

Through [ClinicalTrials.gov](https://clinicaltrials.gov), NLM provides access to more than 50,000 clinical trials—including trials on COVID-19—taking place around the world. Users can search by disease topic, researcher, location, and more. Additionally, NLM's National Center for Biotechnology Information offers a data hub of genetic sequences called GenBank®. Genetic sequences are key for researchers as they work to better understand COVID-19 and develop treatments or cures.

For the latest on NIH's response to COVID-19, visit [NIH.gov](https://nih.gov).

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

Thanks for reading!

CONTACT US

Email

NLMCommunications@nlm.nih.gov

Phone

508-907-7000

CONNECT WITH US



Follow us on Facebook

www.facebook.com/nationallibraryofmedicine/



Follow us on Twitter

[@NLM_News](https://twitter.com/NLM_News)

NIH MedlinePlus magazine is published by the National Library of Medicine (NLM) in conjunction with the Friends of the NLM.

Editorial note: The Spring 2020 issue article, "HPV and cervical cancer: What you need to know" misstated that there are more than 400 strains of HPV (human papillomavirus). There are more than 200 strains.

Articles in this publication are written by professional journalists. All scientific and medical information is reviewed for accuracy by representatives of the National Institutes of Health. However, personal decisions regarding health, finance, exercise, and other matters should be made only after consultation with the reader's physician or professional advisor. Opinions expressed herein are not necessarily those of the National Library of Medicine.



Carrie Ann Inaba (far left) on the set of “The Talk” with co-hosts (from top left to right) Sheryl Underwood, Marie Osmond, Sharon Osbourne, and guest co-host NeNe Leakes.

FEATURES

08 Better stroke prevention and recovery

New research suggests extended stroke treatment window

12 Carrie Ann Inaba doesn't let Sjögren's stand in her way

TV personality creates community of positivity and strength

18 Former soccer pro Taylor Twellman spreads concussion awareness

Updates in NIH-supported traumatic brain injury research

24 Why alcohol-use research is more important than ever

Exploring the rise in alcohol-related deaths and how to get help

DEPARTMENTS

04 To your health

News, notes, & tips from NIH

28 From the lab

Latest research updates from NIH

30 NIH on the web

Find it all in one place!

31 Contact us

NIH is here to help



Taylor Twellman encourages millions of kids to sign concussion pledge

18



health

NEWS,
NOTES,
& TIPS
FROM NIH

Is a clinical trial right for you?

RESEARCH Do you take a statin for high cholesterol? Does ibuprofen help you with aches and pains? These medicines were once studied in a clinical trial. Now, millions of people take them every day.

Clinical trials or studies happen when medicines or tools that have been tested for safety in a lab are ready to test in people. Some people participate in clinical trials because none of the standard (approved) treatment options have worked, or they are unable to tolerate certain side effects. For others, it's an opportunity to help researchers find new ways to prevent, detect, or treat diseases.

A number of clinical trials take place right at the National Institutes of Health (NIH) through the NIH Clinical Center, the nation's largest research hospital.

Clinical trials evaluate:

- New ways to find a disease early, sometimes before there are symptoms
- How to safely use a treatment or different ways to use current treatment more effectively
- New approaches to surgery and new medical devices
- Vaccines and lifestyle changes that can help prevent a disease
- Improvements to the comfort and quality of life for people with short- or long-term illnesses

How do clinical trials work?

The idea for a clinical trial often starts in a lab, where scientists identify a promising potential treatment for development and conduct experiments to gather information to find out if it could cause serious harm. Following this research and testing, the Food and Drug Administration (FDA) may then give approval for testing in humans in a clinical trial.



NIH clinical trial participant Curtis Minor has his blood pressure taken by Miriam Baird, R.N.

Clinical trials happen in a series of four steps called “phases.” Each has a different purpose and helps researchers answer different questions about treatments, risks, and side effects.

Phase I: Researchers study a new treatment in a small group of people (20 to 80) to identify the correct dose and effect on the body.

Phase II: The treatment is tested in a larger group of people (100 to 300) to confirm it works effectively and further study its safety.

Phase III: The treatment is tested in an even larger group (1,000 to 3,000) to further monitor any side effects or compare it with similar treatments.

Phase IV: After a treatment is approved by the FDA, it's made available to the public. Researchers continue to track its safety in the general population. They will collect information about the treatment's benefits and the best ways to use it.

FAST FACT

There are approximately **56,000 clinical research studies** currently seeking participants.

National Institutes of Health

Who is involved?

Clinical trials typically have a research team that includes doctors, nurses, or other health care professionals. Trials will also have a plan designed to answer specific research questions and information for a person to understand the risks and potential benefits.

Each trial has certain requirements, known as eligibility criteria, for who can participate. Some may want healthy participants. Others may need volunteers with a certain disease. Adults, children, and people of different ethnic and racial backgrounds are all encouraged to participate if they qualify.

Finding the right trial for you

You may volunteer to participate in a clinical trial, or you may be recruited. You should ask about the purpose of the trial and who has approved it. Other good questions to ask include who will fund the study, what you'll need to do, and how long it will last. Before participating in a study, talk to your health care provider or other trusted advisors and learn about the risks and potential benefits.

Interested in joining a clinical trial? Visit the National Library of Medicine's (NLM) ClinicalTrials.gov website. ClinicalTrials.gov is a registry and results information database of clinical research studies sponsored or funded by public and private organizations around the world. The listings are provided by the study sponsor and investigators and have not been evaluated by the U.S. government. You can search by disease or condition, medicine or treatment, location, and more. ■

SOURCES: MedlinePlus; National Library of Medicine; National Institutes of Health

Grab a mat: The many benefits of yoga

BY THE NUMBERS What do a cow, a warrior, and a tree have in common? They're all poses in yoga, a wellness exercise that research has shown can reduce stress and increase flexibility and muscle tone.

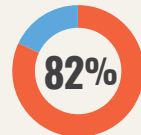
Many people practice yoga to ease feelings of anxiety, like worry or fear. Yoga's combination of physical poses, breathing exercises, and meditation may help quiet the mind as the body builds strength. Research studies suggest that yoga may also improve sleep, reduce some chronic pain, and help people lose weight.

September is National Yoga Awareness Month. So, if you've been waiting to try it, now's the time! There are different styles of yoga for any fitness level.



About **1 in 7** U.S. adults practiced yoga in the past 12 months.

82% of U.S. adults who practiced yoga said it improved their overall health and made them feel better.



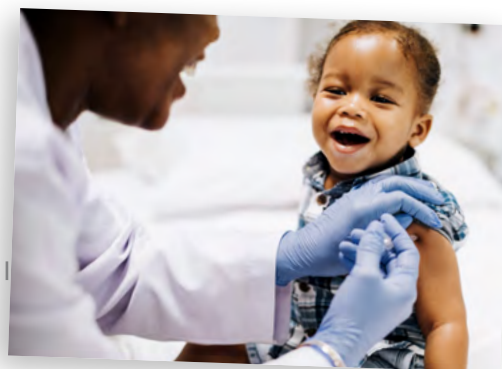
63% of U.S. adults said yoga motivated them to exercise more regularly.

59% of U.S. adults who practiced yoga said it improved sleep.



SOURCES: National Center for Complementary and Integrative Health; Centers for Disease Control and Prevention's National Center for Health Statistics

Back to school health: Vaccination checklist



HEALTH TIPS August is National Immunization Awareness Month, which brings attention to the value of protecting yourself and your family from vaccine-preventable diseases like chickenpox and the flu.

Vaccines help control and sometimes get rid of diseases like measles or polio that in years past sickened or killed many people. They offer protection from viruses and bacteria that can make us very sick.

Vaccine research is a priority for the National Institute of Allergy and Infectious Diseases. It supports and conducts research to identify potential vaccines for a variety of emerging infectious diseases, including COVID-19, SARS, and Zika.

Helping our immune systems work better

Your immune system is a complex network of cells, tissues, and organs that works together to protect your body. A strong immune system will detect foreign substances—like harmful bacteria and viruses—and attack them. A person with a weak immune system has a harder time fighting off these substances.

When you get a vaccine, it sparks your immune system to create immune responses that help your body fight off infection. This also helps your body react more quickly the next time the bacteria invades.

Getting vaccinated

Most vaccines are given as a shot into muscle or the skin by a health care professional. Some are also given through a liquid or spray in the mouth or nose.

Some vaccines may cause mild reactions, such as soreness where the shot was given, a rash, or a fever. But serious reactions are rare. Your health care provider should review your medical history before giving vaccines to you or a family member.

Keeping kids and adults healthy

Some people with weakened immune systems or those who are pregnant may not be able to get vaccines. This is why getting vaccinated not only helps you, but others in the community too. This type of protection is known as “community immunity.” For this reason, proof of vaccination is often needed before your child can enter school or child care.

So, before you enroll your child in school or drop them off at college, talk to your doctor to make sure their immunization schedule is up to date. ■

Common vaccines and preventable diseases

Disease	Vaccination
Acellular pertussis	Tdap ¹
Chickenpox	Varicella
Diphtheria	DTaP ² ; Tdap ¹
Haemophilus influenzae type b (Hib)	Hib
Hepatitis A	HepA
Hepatitis B	HepB
Human papillomavirus	HPV
Influenza (Flu)	Flu
Measles	MMR ³
Meningococcal	MenACWY-D; MenACWY-CRM
Meningococcal B	MenB
Mumps	MMR ³
Pertussis	DTaP ²
Pneumococcal	PCV13
Pneumococcal polysaccharide	PPSV23
Polio	IPV
Rotavirus	RV
Rubella	MMR ³
Tetanus	DTaP ² ; Tdap ¹

¹ Tdap combines protection against tetanus, diphtheria, and acellular pertussis. Tdap is for children 7 and older, adolescents, and adults.

² DTaP combines protection against diphtheria, tetanus, and pertussis. DTaP is for children under the age of 7.

³ MMR combines protection against measles, mumps, and rubella.

SOURCES: MedlinePlus; National Institute of Allergy and Infectious Diseases; NIH News in Health; Centers for Disease Control and Prevention

Q + A

Teen vaping research is a priority as marijuana and nicotine use surge

RESEARCH Vaping has led to a dramatic rise in nicotine and marijuana use among young people in recent years. Marijuana vaping among 12th graders, for instance, nearly doubled from 2018 to 2019, according to the National Institute on Drug Abuse (NIDA).

Vaping involves inhaling an aerosol, or vapor, that may contain addictive drugs, including nicotine or THC (a chemical in marijuana that can affect behavior, mood, and thoughts). Because of the capacity of vaping to damage the lungs, it's also a major concern as COVID-19 spreads. NIDA Director Nora Volkow, M.D., spoke about these concerning trends and how the institute is addressing them head on.



Nora Volkow, M.D., is the director of the National Institute on Drug Abuse.

What kind of story is the latest data showing?

There has been a very abrupt increase in vaping THC. This was the second highest increase we've ever seen since the inception of the NIDA Monitoring the Future Survey in 1975. The first was the increase in vaping nicotine in 2018. These both have worried us enormously. More teenagers are embracing vaping as a culture for taking drugs that they may not have taken otherwise.

Why is vaping so concerning, especially with marijuana?

Particularly among teenagers, one of the main concerns that we have about the use of marijuana is that it can

interfere with the developing brain. The data that has emerged indeed has shown that teenagers who smoke marijuana are at much greater risk of becoming addicted to it. And becoming addicted as teens increases the risk of becoming addicted to other drugs as you age.

How is NIDA research responding to these trends?

We're interested in treatments. And we're interested in how vaping is influenced by social networks. Right now, there are no published studies regarding the treatment of teenagers who have become addicted to vaping nicotine or vaping THC. So, we're encouraging researchers to do clinical trials to see what interventions may be most beneficial. That includes, for example, testing other approaches

that have been useful, particularly in teenagers, in helping them stop smoking nicotine.

What should teens, parents, and others know about vaping and COVID-19?

We know that individuals who have conditions of the lung or the heart, like those who smoke or vape, are at greater vulnerability of contracting the disease. That's because smoking chemicals can produce severe lung damage. We want people to be cautious and mindful of the possibility of a negative interaction. ■

KEEP AN EYE OUT for more of our interview with Dr. Volkow in our feature article on vaping, publishing this fall.



Brain imaging, telehealth studies promise

better prevention and recovery

New research can extend stroke treatment window from 6 to 16 hours

Stroke research is a priority for the National Institutes of Health (NIH). Stroke, which often stops blood from flowing to the brain or causes bleeding in or around the brain, affects almost 800,000 people in the U.S. each year and is the fourth leading cause of death.

The National Institute of Neurological Disorders and Stroke (NINDS) leads stroke research for NIH. Through StrokeNet, a network of 25 research centers across the U.S., NINDS conducts clinical trials focused on prevention, treatment, and rehabilitation.

Clinton B. Wright, M.D., M.S., director of the Division of Clinical Research at NINDS, shared some of the latest research updates and what they mean for stroke treatment in the future.

How has stroke research changed?

It used to be that stroke victims could only come into the hospital within six hours of a stroke to get a brain clot removed. Any longer and it was believed that you would have a brain hemorrhage. Now, with advanced brain-scanning systems, someone can be treated within 16 hours of having a stroke. The NIH-supported DEFUSE 3 trial helped change the guidelines for treating strokes. We can identify at-risk brain tissue and save many more lives much sooner.

What other stroke research are you working on?

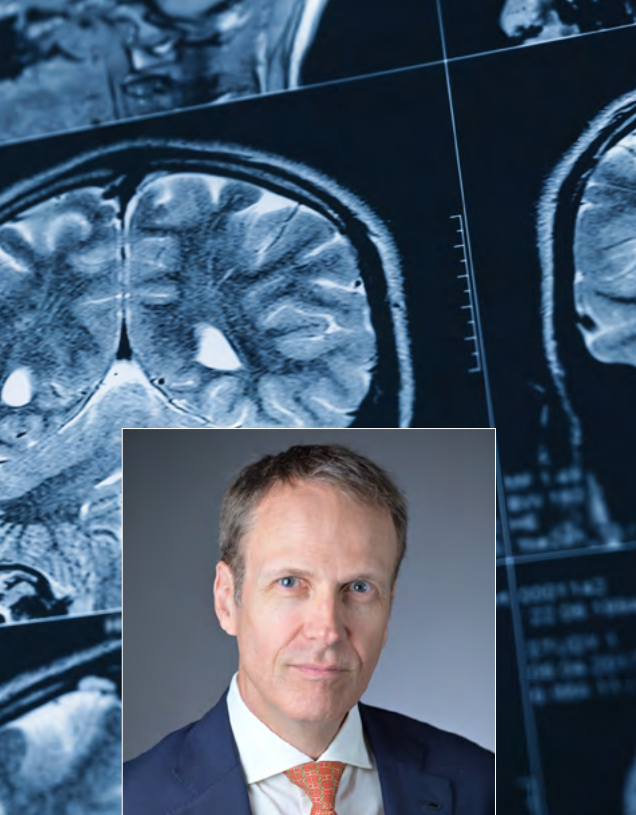
Currently, we are funding several clinical trials comparing different therapies and the effectiveness of acute treatment and recovery. In addition to DEFUSE 3, here are two important ones:

- **Telerehab:** NIH funded a study on delivering patient rehabilitation care via a computer or mobile device in the person's home. A lot of people don't get rehabilitation services because they're very expensive. We still need to do more trials with more people, but so far, we have shown that telerehabilitation is no worse than getting rehab at a facility.
- **Additional blood thinner:** Another recent study, the POINT trial, tested whether it was effective to give high-risk stroke patients two blood thinners instead of one. This could be as simple as giving aspirin and another blood thinner. Previous studies showed that two blood thinners could cause a bleeding problem. But the POINT trial found that two blood thinners lowers the risk of recurring stroke. And though there was a small increased risk of mostly gastrointestinal bleeding, the second blood thinner can be safely stopped after a few weeks when it is most needed.

What does the future look like for preventing and treating strokes?

Now that we understand that most dementias are due to multiple causes, researchers can stop thinking about these brain disorders [like stroke or Alzheimer's disease] in isolation. NINDS and the National Institute on Aging fund a program called MarkVCID.

This is a group of medical centers whose goal is to find blood-based biomarkers in the brain that predict who is at risk for vascular contributions to cognitive impairment and dementia, or VCID. With this type of



Clinton B. Wright, M.D., M.S., coordinates research on stroke detection and treatment at NIH.

“Now, with advanced brain-scanning systems, someone can be treated within 16 hours of having a stroke.”

– Clinton B. Wright, M.D., M.S.

imaging, researchers will be able to better predict who is at risk for stroke. Congress has also funded the BRAIN Initiative, which allows us to do neuroimaging [create pictures of the brain] and helps us understand normal behavior and the disease process. So we will have even better testing techniques and strategies to help prevent stroke in the future.

What should people know about common causes of stroke?

People think that medicine takes care of hypertension and high blood pressure, which are the most common causes of stroke. But medicine doesn't always take care of blood pressure. Keep a diary of your numbers, and be sure your health care provider is regularly monitoring your blood pressure. Learn how to take your blood pressure at home. And if it's not normal, get treated immediately. ■

IMAGE COURTESY OF THE NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

FAST: How to spot a stroke and know when to call 911

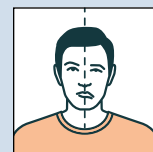
Numbness, tingling, slurred speech are warning signs

Acting fast and understanding telltale symptoms are key to improving stroke survival and outcomes. According to the National Institute of Neurological Disorders and Stroke (NINDS), the signs of a stroke include numbness, tingling, and slurred speech as well as confusion, severe headache, and trouble walking or seeing.

“Time is very important when dealing with the brain and strokes,” says Clinton B. Wright, M.D., M.S., of NINDS. “The longer you wait to get treatment, the more brain tissue is at risk.”

Dr. Wright recommends memorizing the FAST symptoms, like these provided by the American Stroke Association.

F **Face Drooping**
Is one side of the face numb or does it droop?



A **Arm Weakness**
Is one arm weak or numb?
Does one arm drift downward?



S **Speech Difficulty**
Is speech slurred? Is the person hard to understand or unable to speak?



T **Time to Call 911**
If the person shows any of these symptoms, even if symptoms go away, call 911 and go to the hospital immediately.



SOURCE: American Stroke Association

Stroke: What you need to know

Quick facts about types, risk factors, and recovery

A stroke happens when blood stops flowing to the brain. A person's brain cells start to die within a few minutes because they can't get the oxygen and nutrients they need from the blood.

This can cause brain damage, long-term health problems, or death if it's not treated in time.

Understanding strokes better and keeping an eye on risk factors and warning signs, like those described in the FAST guidelines, can improve stroke outcomes and help prevent them.

Types of stroke

Ischemic stroke: This type makes up 87% of strokes and happens because of a blocked blood vessel in the brain or neck. There are three kinds of blockages that can cause an ischemic stroke:

- **Thrombosis**—A clot in a blood vessel in the brain or neck.
- **Embolism**—A clot that moves from another part of the body, such as the heart, to the brain.
- **Stenosis**—A severe narrowing of an artery that leads to the brain.

Hemorrhagic stroke: This type causes bleeding in the brain or the spaces surrounding the brain.

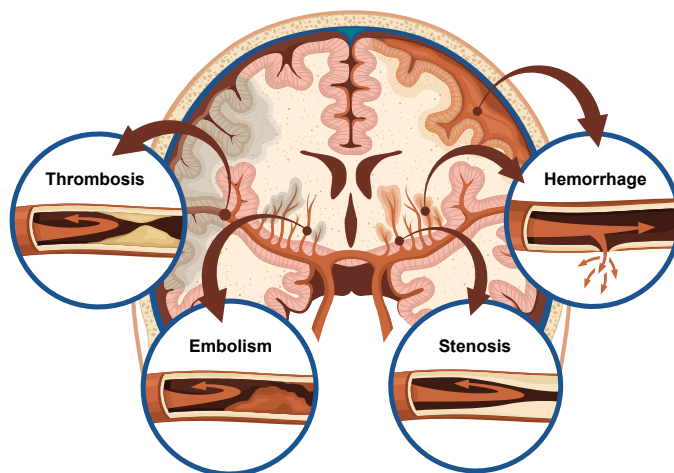
Mini-stroke or transient ischemic attack (TIA):

Mini-strokes, or TIAs, happen when the blood supply to the brain is blocked for a short time. Damage to brain cells is not permanent, but if you have a TIA, you are more likely to have a stroke in the future.

Treatable risk factors

Some risk factors for stroke can be reduced with lifestyle changes—like quitting smoking and losing weight—or medical treatment.

Treatable risk factors include high blood pressure (also called hypertension), cigarette smoking, limited physical activity, obesity, high cholesterol or cholesterol imbalance, an unhealthy diet, and excessive alcohol use or illicit drug use.



Each type of stroke can affect the blood vessels (shown here) in the brain differently.

Other risk factors

- **Age.** Stroke can happen at any age. However, studies show that the risk of stroke doubles in each decade between the ages of 55 and 85.
- **Gender.** Men have a higher risk for stroke in young and middle age. But in older age, more women than men die from stroke.
- **Race and ethnicity.** African Americans have a higher risk for stroke.
- **Family history.** Based on genetics, family members may be at risk for conditions like diabetes or high blood pressure, which can increase the risk of stroke.

Treatment

Treatment depends on what type of stroke you have and when you are seen by a health care professional. That's why quick action is important. Treatment options include blood-thinning medicine to help with clots, as well as various types of surgery to open blocked arteries or control bleeding.

Long-term stroke treatment depends on the person and can take weeks, months, or even years. Some people recover fully, while others have long-term disabilities. Ongoing care, rehabilitation, and emotional support can help you recover and may even help prevent another stroke. ■

SOURCE: National Institute of Neurological Disorders and Stroke

A personal approach to stroke treatment

After 5 mini-strokes and long-term rehabilitation, chiropractor Gregory Symko helps other survivors

GREGORY SYMKO, D.C., is a chiropractor who specializes in helping people with brain issues related to stroke. He helps them improve their hand-eye coordination and balance issues, working with their arms, legs, or hands.

Dr. Symko also brings a unique perspective to his work: He is a stroke survivor.

“I realized that if I could do brain-based therapy for myself, I could help other stroke victims recover.”

– Gregory Symko, D.C.

First-hand experience

When he was 40 years old, Dr. Symko had a stroke, which he later learned had been a series of five mini-strokes.

Dr. Symko’s strokes left him unable to see, eat, or walk. Something as simple as raindrops or wind on his hand would cause severe pain, and he had to wear gloves to help prevent it.

“It was terrible,” he recalls. “I had extreme burning in my arm, leg, and face.”

His symptoms became worse over time. In addition to pain and numbness, he also had vertigo, which makes you feel like you are spinning. This caused severe balance issues. He also couldn’t focus his eyes on anything.

“When you have a stroke, your brain gets confused,” he says.

“Parts of your brain that deal with your sense of touch can get messed up.” For example, his left arm was numb, but he experienced extreme pain in his right arm.

Hard work pays off

For a few years, Dr. Symko couldn’t do anything on his own and had to get help from his wife, family, and health care professionals.

But after three years of hard work with physical therapists and occupational therapists, and on his own, Dr. Symko was able to go back to work—just not as a chiropractor. He worked at a pharmaceutical company and continued to take care of himself by eating well, exercising daily, and using brain-based therapy. He had to reteach his brain to focus and gain use of his limbs again.

“Brain-based therapy is all about teaching your brain to do new things,” Dr. Symko says. “I realized that if I could do brain-based therapy for myself, I could help other stroke victims recover.”

Helping others

Four years after returning to work, Dr. Symko felt strong enough to reopen his chiropractic business in Concord, Massachusetts.

Now 61, he says that he treats patients from a different perspective.

“A stroke changes you,” he says. “It put my life on pause for seven years, but now I’m healthier than ever.” He eats healthier foods and understands the impact that exercise has on his brain.



Stroke survivor Gregory Symko, D.C., demonstrates a tool that helps patients improve their balance and coordination.

Pushing harder

While Dr. Symko occasionally has vision issues at night and trouble walking due to balance problems, he says he doesn’t get discouraged.

“I view these issues as a message to push even harder to remain healthy,” he says.

Dr. Symko advises those who have suffered a stroke or who care for stroke victims to be patient and not give up.

“Eat well, get lots of sleep, and exercise regularly to keep your brain active,” he says. “Strokes aren’t the end of the world. You have to work at recovery all the time.” ■

Find Out More

- ▶ **MedlinePlus: Stroke**
<https://medlineplus.gov/stroke.html>
- ▶ **The National Institute of Neurological Disorders and Stroke: Know Stroke**
<https://www.stroke.nih.gov>
- ▶ **ClinicalTrials.gov: Stroke**
<https://clinicaltrials.gov/ct2/results?cond=Stroke>

Carrie Ann Inaba

doesn't let Sjögren's syndrome stand in her way



*'Dancing with the Stars'
judge creates community
of positivity, self-care,
and strength*

Carrie Ann Inaba is a familiar face in millions of American homes. A lifelong dancer, she has become well-known as a judge on ABC's competition show "Dancing with the Stars." Last year, she became co-host of the CBS daytime talk show "The Talk."

Outside of her on-camera career, Inaba is a self-described warrior for those with Sjögren's syndrome, a difficult and often painful autoimmune disease she has herself. As an Awareness Ambassador for the Sjögren's Syndrome Foundation, she spreads hope and comfort to others with the condition. In this exclusive interview, she describes how meditation, yoga, and a sense of community have helped her thrive despite her diagnosis.

“Sjögren’s has made me stand up and set limits and boundaries so I can take care of myself.”

– Carrie Ann Inaba

Tell us about your diagnosis.

Like with many autoimmune diseases, my Sjögren’s diagnosis was not easy to come by. I remember telling my doctor that my eyes had been dry for years. I asked him if I had Sjögren’s and he said I didn’t. It wasn’t until many years later that I was diagnosed by a rheumatologist [a doctor who treats musculoskeletal disease and autoimmune conditions]. And that’s because I was going through a lot of pain and fatigue.

You have other autoimmune diseases as well.

Yes. Sjögren’s and other autoimmune conditions often come in pairs. I also have fibromyalgia and rheumatoid arthritis. And just last year I found out that I also had lupus.

How do you cope with your conditions and lead such a busy life?

Autoimmune conditions are very challenging. It is no joke when they call us Sjögren’s warriors. We have to be our own warriors because each one of us struggles differently and there are so many different combinations of autoimmune conditions. It is really important to keep track of your symptoms and to notice what each does to you.

How important is it to keep a positive attitude?

Having a *realistic* attitude is important. My natural tendency is to be a Type A personality.

So I feel badly when I’m not able to accomplish much on a down day. But I have learned to be more relaxed and I’m much happier for it.

I also have an online project called Carrie Ann Conversations. I share my insights on how to live a good life in general and for those with conditions like Sjögren’s. I try to bring positivity to others. I have found that when you give back to others and create a sense of community, you will feel less alone and more positive in everything you do.

Tell us how you work to relieve stress and pain.

Yoga has been a lifesaver for me. The breathing techniques are so powerful for calming your system down and relieving stress. I use a lot of meditation apps. I’ve been using one for years every night before I go to bed and when I’m in need of a short, five-minute break during the day. I also use acupuncture and massage to help relieve pain, as well as medications.

What is your message and advice to others with Sjögren’s?

Sjögren’s is a complicated disease. Don’t let people tell you it is all in your mind. It is important for you to let those around you know about your health. Sjögren’s is not something that others can see. On your good days, you look fine and your energy is great. On your bad days, it is a whole different story.



Television personality Carrie Ann Inaba is a warrior for people with Sjögren’s syndrome. At left: Inaba on the set of “Dancing with the Stars.”

I also have several tips for those with Sjögren’s. I sleep so much better when I use a humidifier. I also put eye drops in my eyes right before I go to bed and when I wake up.

For my job, obviously, I talk a lot. So, I use a moisturizing spray for my dry mouth. I always carry water with me and I always have mints. It is important to keep your mouth hydrated.

You have called Sjögren’s a gift. Why is that?

The gift of Sjögren’s is that it has taught me to pay attention to my needs. And as a dancer I know that more than most people. Your body is such an amazing gift. But if you don’t take care of it, it doesn’t work so well. Sjögren’s has made me stand up and set limits and boundaries so I can take care of myself. ■



Blake Warner, D.D.S., Ph.D., M.P.H., conducts research on salivary disorders, focusing on Sjögren's syndrome.

Research explores genetic link to dry mouth, other saliva issues

One-third of people with Sjögren's don't have the typical blood markers

At NIDCR, we have a more than 35-year history of Sjögren's syndrome research in patients. Studying patients both at baseline and over long periods of follow-up can help us better understand distinct groups of patients with the disease and understand the underlying cause of the disease, with the goal of discovering better treatments.

Could you talk about the research you're conducting?

Our research team strives to discern factors which may be influencing the salivary inflammation seen in Sjögren's syndrome. To do this, there are two main projects that I am very excited about. First, we are working to see if we can turn off specific types of inflammation that damage salivary glands in Sjögren's syndrome patients. Second, we're working to identify how salivary damage in Sjögren's syndrome may be passed on through genetics.

It's clear that there can be overlap among Sjögren's syndrome, some autoimmune diseases, and other conditions that cause issues in the salivary glands.

What do you wish more people knew?

A diagnosis can take time. It's not easily diagnosed because it affects people differently. At least one-third

of patients don't have the classic blood markers for Sjögren's syndrome. Don't be afraid to speak up and inform your medical providers of your symptoms.

Also, living with Sjögren's syndrome can be easier if you maintain good health habits. These include eating a balanced diet, drinking enough water, and having a consistent exercise routine. Manage your symptoms by regularly visiting your primary care providers, dentists, and ophthalmologists [doctors who focus on eye health]. Support groups and foundations focused on Sjögren's syndrome and other autoimmune diseases can provide additional information and social networks to help people cope with symptoms.

Where do you see research on Sjögren's syndrome going in the future?

I think we will recognize early symptoms prior to the development of dry eyes and dry mouth. The identification of risk factors may help people better understand the disease course, the development of autoimmunity, and the development of drugs that may prevent damage to target organs such as the salivary glands. ■

Blake Warner, D.D.S., Ph.D., M.P.H., studies disorders that affect our salivary glands, including Sjögren's syndrome. Sjögren's syndrome is an autoimmune disease, which means that it causes your immune system to attack healthy cells in your body by mistake. The condition can damage glands that make saliva, or spit. It can also cause dry mouth, loss of taste, swollen glands, and more.

Dr. Warner works at the National Institute of Dental and Craniofacial Research (NIDCR), where he helps oversee research on Sjögren's syndrome. He and his research team at NIDCR want to better understand what causes this disease so they can improve the quality of life of people who have it.

What led to your current research on the topic?

Years of development and testing of therapies have led to few successes in the management of the main symptoms of Sjögren's syndrome. These setbacks may be due in part to the variability of Sjögren's syndrome.

Sjögren's syndrome: What you need to know

Women are 9 times more likely to have the autoimmune disorder

Sjögren's syndrome is an autoimmune disease

that often damages the glands that make tears and saliva, or spit. It can cause dryness, especially in the eyes and mouth.

Researchers believe that Sjögren's syndrome is caused by both genetic and environmental factors. Several genes have been linked to Sjögren's syndrome, and some scientists think that an abnormal immune response to an infection—such as from a virus or bacteria—might trigger the disease.

Two types

There are two types of Sjögren's syndrome: primary and secondary. For both, the two most common symptoms are dry eyes and dry mouth. Other parts of the body—including joints, blood vessels, and nerves—may be affected too.

The primary form of Sjögren's syndrome occurs by itself, without the presence of other autoimmune diseases. Secondary Sjögren's syndrome happens in combination with other autoimmune diseases, such as rheumatoid arthritis, lupus, scleroderma, or polymyositis.

Who has it?

You are more likely to have Sjögren's syndrome if you are over 40 years old. Women are also nine times more likely to have it than men.

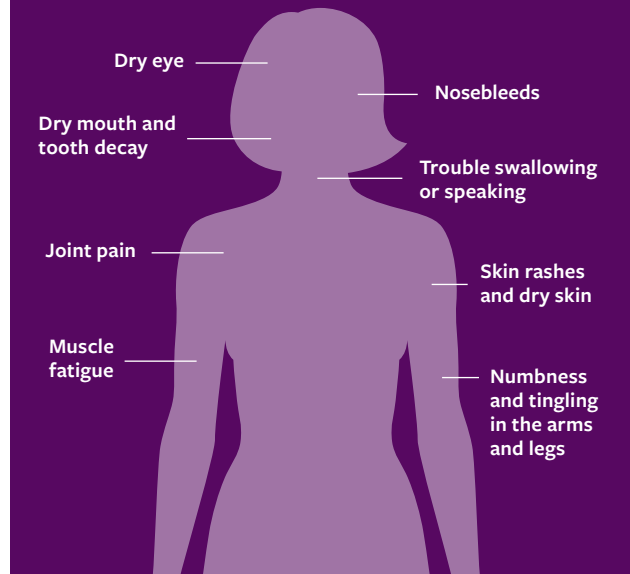
Because the **symptoms are similar to those of other diseases**, getting a diagnosis may take time.

How is it diagnosed?

Because the symptoms are similar to those of other diseases and can vary from person to person, getting a diagnosis may take time.

In addition to your primary care physician, a number of specialists may help diagnose and treat you. They will check for the physical signs of Sjögren's syndrome and for signs of other, related diseases such as lupus and rheumatoid arthritis. Doctors may require eye and mouth tests, blood tests, and urine tests.

Common Sjögren's symptoms



How is it treated?

There is no cure for Sjögren's syndrome. Most people with Sjögren's syndrome live healthy lives with few medical complications.

Treatment will depend on your symptoms and could include lifestyle changes, over-the-counter (OTC) products, and prescription medications. Work with your health care providers to find the best treatment plan for you.

For symptoms like dry eyes or dry mouth, doctors may recommend OTC products and medications to stimulate saliva and protect the teeth; eye drops or ointments to replace tears and reduce inflammation; or possibly steroids to reduce inflammation throughout the body. Medications to increase saliva flow and those that suppress the immune system and reduce pain are also commonly prescribed.

Good health habits, including eating a balanced diet, drinking enough water, and having a consistent exercise routine can also make Sjögren's syndrome easier to manage. ■

SOURCES: MedlinePlus; National Institute of Dental and Craniofacial Research; National Institute of Arthritis and Musculoskeletal and Skin Diseases

5 common questions about dry mouth

Learn how to protect your oral health with Sjögren's syndrome

Dry mouth is a common symptom of Sjögren's syndrome, as well as other diseases like diabetes and HIV/AIDS. Without enough saliva, or spit, it can be difficult to break down food, swallow, and take care of your teeth.

The National Institute of Dental and Craniofacial Research answers five common questions about dry mouth and Sjögren's syndrome to help you navigate this tricky condition.

Is dry mouth a normal part of aging?

No. Dry mouth is not part of the aging process itself. However, as people age, many take medications that can dry out the mouth.



What can I do about dry mouth?

Visit your dentist or doctor, who will try to determine the cause and may:

- Suggest changing, or adjusting the dosage of, a medication. But do not make any changes to your medications before talking with your dentist or doctor.
- Prescribe medications to increase saliva.
- Recommend using artificial saliva.

Does dry mouth put me at risk for tooth decay?

Yes. Because saliva protects against tooth decay, having less saliva can put you at risk. Keep your teeth healthy by:

- Brushing at least twice a day with a fluoride toothpaste.
- Flossing regularly.
- Visiting your dentist at least twice a year. You can ask your dentist if you need a prescription-strength fluoride gel or rinse to help prevent cavities.

If I have Sjögren's, what can my dentist recommend?

To protect your teeth, your dentist may recommend:

- Using fluoride pastes, mouth rinses, gels, foams, or varnishes.
- Drinking adequate amounts of water (8 to 12 eight-ounce glasses each day).
- Stimulating saliva production using sugarless lozenges, chewing gums, candies containing xylitol, or medications such as pilocarpine and cevimeline.
- Applying chlorhexidine, which can kill bacteria.
- Using a calcium phosphate rinse to repair tooth enamel. ■

SOURCE: National Institute of Dental and Craniofacial Research

Sjögren's syndrome may affect up to **4 million people** in the U.S.

SOURCE: National Institute of Dental and Craniofacial Research

What can cause dry mouth?

- **Medications.** Dry mouth is a side effect of many types of medications, including those for depression, allergies and colds, and high blood pressure.
- **Dehydration.** Dehydration happens when you lose more fluids than you take in. People of all ages can become dehydrated, but older adults are especially prone to it.
- **Radiation therapy.** Salivary glands can be damaged if they are exposed to radiation during cancer treatment.
- **Chemotherapy.** Drugs used to treat cancer can make saliva thicker, causing the mouth to feel dry.
- **Injury to the head or neck.** An injury to the head or neck can damage the nerves that tell salivary glands to make saliva.

Thriving with a complicated disease

79-year-old Joan Manny feels healthier than ever

For decades, 79-year-old Joan Manny of Brookeville, Maryland, suffered from a variety of seemingly unconnected symptoms.

In her teens and 20s, she had swelling in her parotid glands, which are located on both sides of the face. At the time, doctors thought it was mumps.

Later, Joan was diagnosed with vasculitis, an inflammation of the blood vessels. She also suffered from joint pain, dental problems, and dry eyes.

“Having dry eyes made me very sensitive to sunlight and bright lights,” Joan says. “I remember wearing two pairs of sunglasses when I was driving because one just wasn’t enough.”



“I remember wearing two pairs of sunglasses when I was driving because one just wasn’t enough.”

– Joan Manny

Joan Manny suffered for years before she was diagnosed with Sjögren’s syndrome and now supports others with the condition.

A common thread

It wasn’t until her 30s—after numerous doctor visits—that Joan finally got a diagnosis for all her symptoms: Sjögren’s syndrome.

“Back in the 1960s, doctors didn’t know much about Sjögren’s syndrome,” Joan says. “Most physicians weren’t aware of it.”

She spent the next several decades on various medications to manage her symptoms.

Today, she only uses eye drops and saliva substitutes to maintain moisture in the areas where Sjögren’s affects her the most.

“I’m healthier today than I was in my 30s, 40s, and 50s,” she says. “My bloodwork was abnormal during those years, but it is normal now.”

Connecting with others

During her treatment, Joan became active in the Sjögren’s syndrome

community and led a support group for others who received the same diagnosis. This group was essential to helping her cope, she says.

“You realize that you’re not the only one who has the problem,” she notes. “It was also interesting because when we met and talked about our symptoms, no two people ever had the same ones.”

Finding an understanding and thorough doctor was important on her path to a diagnosis, she says.

“Keep a list of your health problems and symptoms, and when they occur,” she suggests. “It’s important to figure out what’s causing the problem and what might make your symptoms better or worse.”

Staying positive

Joan says that it’s also important to keep a positive attitude as you navigate diagnosis and treatment.

“I’m an optimist and like to look at the positive things in life,” she

says. “I could complain, but I have a husband and two daughters, and several friends I’ve met through the support group who, 30 years later, are still my best friends.” ■

Find Out More

- ▶ **MedlinePlus:**
Sjögren’s syndrome
<https://medlineplus.gov/sjogrenssyndrome.html>
- ▶ **National Institute of Dental and Craniofacial Research:**
Sjögren’s syndrome
<https://www.nidcr.nih.gov/health-info/sjogrens-syndrome>
- ▶ **ClinicalTrials.gov:**
Sjögren’s syndrome
<https://clinicaltrials.gov/ct2/results?cond=Sjogren%27s+Syndrome>

“With all the information we have out there in 2020 about concussions, it is a mistake for you to think ‘this isn’t going to happen to me.’”

– Taylor Twellman



Taylor Twellman was a star player in U.S. Major League Soccer when concussions forced him to retire.

Soccer player and ESPN analyst

Taylor Twellman

encourages 4 million kids to sign concussion pledge

Former star launches foundation after 6 serious head injuries

In 2008, Taylor Twellman was among the best players in U.S. Major League Soccer for the New England Revolution. But at the height of his career, the effects of multiple concussions forced him to retire at just 30 years old.

Now a soccer analyst at ESPN, Twellman has become a leading voice in raising awareness about traumatic brain injuries in athletics. He launched his own foundation, ThinkTaylor, to educate American kids and adolescents about concussions. He spoke about his experience and his work to keep athletes safe.

Tell us about your personal experience.

As a pro I had three concussions. My last one, in 2008, ended my career and led me and my family to go back and document my history with head injuries. It is hard to say, but in my entire playing career I believe I had six or seven diagnosed concussions. All of the concussions except one knocked me unconscious.

What kinds of treatment were you given?

I have had oxygen treatments, acupuncture, and osteopathic treatments [which use physical manipulation by a physician to help with pain]. For me, the osteopathic treatments released a lot of my headache pressure. Acupuncture also helped me, but the relief was not long lasting. Treatment is a difficult thing to talk about because different things work for different people.

Have you had lasting effects from your concussions?

Yes, I still have symptoms here and there. I have headaches depending on the time of year and stress levels. One big, lasting impact is that my workouts are extremely limited and I can only walk. I can't really ride a bike. And my heart rate needs to be monitored as I work out.



Taylor Twellman's foundation, ThinkTaylor, educates kids about concussions.



What is your message to young soccer players and their families?

Everyone needs to take ownership. Too often we deflect and put all the responsibility on coaches and referees. Own your responsibility to educate yourself and your family about head injuries. With all the information we have out there in 2020 about concussions, it is a mistake for you to think "this isn't going to happen to me."

What is the ThinkTaylor Pledge? How many have taken it?

The goal of the pledge is to raise awareness and to get kids to take ownership. It is simple and based on three words. I pledge to be *educated*. I pledge to be *honest*. I pledge to be *supportive*. With those three words we'll create social change around traumatic brain injury. Last year over 4 million kids took the ThinkTaylor pledge. It's cool to see. I would have never thought I'd be remembered more for this work than for scoring goals. But I am happy to help. ■

How concussions affect **kids** and **teens**

Concussions among professional athletes have been covered widely in the media. But Christina Master, M.D., co-director of the concussion program at Children’s Hospital of Philadelphia, thinks more attention should be paid to brain injuries in children and teens.

The latest figures show that each year in the U.S. about 283,000 children under the age of 18 visit the emergency room for recreation-related traumatic brain injuries, including concussion. Injuries from playground activities and contact sports—especially football, soccer, and basketball—make up nearly half these visits.

Greater awareness of concussions at the pro athlete level “has certainly trickled down to the youth athlete level” and has sparked more research in recent years, Dr. Master says.

New research paths

Many of these new studies are changing our ideas about treatment and diagnosis, for example, how long a full recovery takes and the differences in concussion between girls and boys.



“The idea of sitting in a dark room after a concussion is probably going by the wayside.”

– Christina Master, M.D.

Dr. Master has worked on recent National Institutes of Health-funded studies that have looked at new, quicker, and more objective ways to diagnose concussion. These include simple balance tests in a doctor’s office and eye tracking tests that can tell if a brain injury happened.

Research also shows that one in six children between the ages of 5 and 15 who get a concussion will have another one within two years. A recent study of Children’s Hospital of Philadelphia patients found that the risk of repeat injury was highest among the oldest kids.

Rethinking recovery

Research suggests that kids who have suffered a concussion may need more help at school and with sports as they recover. But light exercise, such as walking on a treadmill or riding a stationary bike, could help recovery.

“The idea of sitting in a dark room after a concussion is probably going by the wayside,” Dr. Master says.



FAST FACT

From 2010 to 2016, about **283,000 children visited the ER** each year for sports- and recreation-related traumatic brain injuries in the U.S.

Centers for Disease Control and Prevention

“Once a child’s symptoms start to improve a few days after the concussion, there is a role for low-intensity activity. The idea is just to get the heart rate slightly elevated without provoking severe symptoms.”

Parents, teachers, and coaches need to take concussions seriously. “They can have a big impact on a child’s life. They need support at home and at school, and active management from a physician,” Dr. Master notes.

But it’s not the end of the world, she adds. “Kids generally do well in recovering from a concussion with proper attention and treatment.” ■

SOURCES: American Academy of Pediatrics; Centers for Disease Control and Prevention

5 things parents should know about concussions

Brain injury specialist and National Institutes of Health-funded researcher Christina Master, M.D., says new research is changing what we know about caring for children and teens with concussions, as well as how long recovery can take.



Don’t delay getting care

It’s important that a child get medical care as soon as possible after a concussion. That includes follow-up monitoring to make sure recovery is continuing. Studies show that seeking treatment within the first seven days “makes a big difference in recovery,” says Dr. Master.



Don’t rush recovery

“Previously, we thought a concussion healed in a few days or a week or two, but it turns out a month is typical,” Dr. Master says. She tells parents and kids that it may take longer than they expect for their brain to recover and for them to fully return to normal activities and school.



Gender could impact recovery

Research shows that girls between the ages of 7 and 18 will take longer to recover from a concussion than boys. They also can suffer longer from vision and balance problems. This may be because girls do not seek specialty medical care for a concussion as quickly as boys do, for reasons that are unclear, says Dr. Master, who co-authored the study. However, the difference in recovery time disappeared if both girls and boys got medical treatment within seven days of their injury.



Don’t stay in the game

“We’ve seen from research that if athletes think they may have gotten a concussion and pull themselves out of the game quickly, they heal quicker than if they continue to play,” Dr. Master says. Kids who are hit in the head during sports “and continue to play may make the injury absolutely worse.”



Look for subtle symptoms

Symptoms can be harder to detect in children, especially those ages 5 to 11. “They may complain about headaches and dizziness,” Dr. Master says, but there also may be less obvious symptoms. Those include sleep disruption—either sleeping too much or too little—and vision problems, including eye fatigue. ■

What is a traumatic brain injury?

Worsening headache, vomiting, nausea after injury could signal more severe TBI

A traumatic brain injury (TBI) happens after a bump, blow, or jolt to the head. This can cause the brain to bounce or twist inside the skull, sometimes stretching and damaging cells. TBIs range from mild to severe.

A concussion is a type of mild TBI and is not life threatening, but its effects can be significant. More severe TBIs can lead to serious physical and psychological symptoms, coma, and even death.

What are the causes?

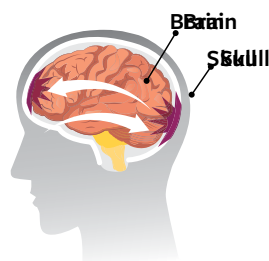
There are two main types of brain injuries. Non-penetrating injuries are caused by events like a fall, a motor vehicle crash, a sports injury, or being struck by an object. Penetrating injuries happen when the skull is pierced by an object like a bullet or bone shrapnel, or a weapon like a knife.

Causes by the numbers:

- Falls are the leading cause of TBI, accounting for almost half of all TBI-related emergency room visits.
- Adults age 65 and over and children under the age of 17 are most likely to suffer a head injury from a fall.
- Being struck by an object is the second most common cause of TBI-related emergency room visits.
- Motor vehicle accidents are the most common cause of TBI among young adults.

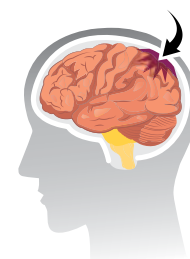
What are the symptoms?

The symptoms of TBI depend on the seriousness of the injury and the amount of brain damage that has occurred.



Non-penetrating TBI

Concussions and other non-penetrating TBIs cause the brain to move within the skull.



Penetrating TBI

Also known as open TBIs, these types of injuries usually damage part of the brain.

Mild TBI symptoms:

- Headache
- Confusion
- Lightheadedness or dizziness
- Vision problems
- Ringing in the ears
- Fatigue
- Trouble with memory, concentration, or thinking
- Brief loss of consciousness in some cases

Moderate or severe TBI symptoms:

- Headache that gets worse or does not go away
- Nausea or vomiting
- Convulsions or seizures
- Larger than normal pupil (the dark center) in one or both eyes
- Slurred speech
- Weakness or numbness in arms and legs
- Loss of coordination

How is it treated?

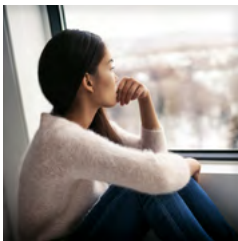
For mild TBI, the main treatments are activity modification and a gradual return to normal activities. Doing too much too early can slow recovery. Contact your health care provider if symptoms are not getting better, are getting worse, or are persisting longer than a month.

For moderate to severe TBI, health care providers will stabilize you to prevent further damage to the brain. They'll focus on managing your blood pressure, checking the pressure inside your skull, and making sure your brain is getting enough blood and oxygen. Surgery, medication for side effects, and therapy for physical and mental effects may be needed. ■

SOURCES: MedlinePlus; National Institute of Neurological Disorders and Stroke; Centers for Disease Control and Prevention

3 studies point the way to better treatment for traumatic brain injury

The National Institutes of Health supports studies that look for better ways to treat traumatic brain injury (TBI) patients. Here are some recent findings:



Mental health issues may appear after a head injury

About one in five people may experience mental health issues up to six months after a mild head injury or concussion. Researchers found that at three and six months after an injury, some people were more likely to report depression and post-traumatic stress disorder, or PTSD. These findings suggest that follow-up care related to mental health is important.



Microbleeds may worsen head injury

Tiny, hard-to-detect areas of damage to blood vessels in the brain, called microbleeds, may signal a worse outcome for people with even minor head injuries. Researchers found that patients with microbleeds were more likely to have more physical and mental problems after their injury. Researchers used an advanced brain-imaging scanner to see these small spots. Scanning for this type of damage after a TBI may help doctors know which patients need more intensive treatment.



Better emergency training saves lives

Updated brain-injury training for emergency medical responders may dramatically improve the survival rate of patients with severe head injury. Emergency responders across Arizona were given a short training on the latest TBI guidelines. These include preventing low oxygen, low blood pressure, and hyperventilation. Following those guidelines helped double the survival rate of people with severe TBI. This outcome shows the benefits of a simple, two-hour training session for emergency services providers. ■

SOURCE: NIH News Releases

From 2006 to 2014, the number of TBI-related emergency department visits, hospitalizations, and deaths increased by 53%.

SOURCE: Centers for Disease Control and Prevention

Find Out **More**

► **MedlinePlus: Traumatic Brain Injury**

<https://medlineplus.gov/traumaticbraininjury.html>

► **National Institute of Neurological Disorders and Stroke: Traumatic Brain Injury Information Page**

<https://www.ninds.nih.gov/Disorders/All-Disorders/Traumatic-Brain-Injury-Information-Page>

Why alcohol-use research is more important than ever

NIH's George Koob talks about how addiction changes the brain and the rise in alcohol-related deaths

Alcohol use disorder (AUD) affects roughly 15 million people in the U.S. People with the condition may drink in ways that are compulsive and uncontrollable, leading to serious health issues.

"It's the addiction that everyone knows about, but no one wants to talk about," says George Koob, Ph.D., the director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

As NIAAA celebrates an important milestone this year—its 50th anniversary—the institute's research is more important than ever. Like NIAAA reported earlier this year, alcohol-related health complications and deaths as a result of short-term and long-term alcohol misuse are rising in the U.S.

"Alcohol-related harms are increasing at multiple levels—from

emergency department visits and hospitalizations to deaths," Dr. Koob says. He spoke about NIAAA efforts that are working to address this and how people can get help.

What are some major breakthroughs NIAAA has made in this area?

We now understand how alcohol affects the brain and why it causes symptoms of AUD. This has far-reaching implications for everything from prevention to treatment. We also understand today that AUD physically changes the brain. This has been critical in treating it as a mental disorder, like you would treat major depressive disorder.

Other breakthroughs have been made in screening and intervention, and in the medications available for treatment. All of this has led to a better understanding of how the



George Koob, Ph.D., is the director of the National Institute on Alcohol Abuse and Alcoholism.

body changes when one misuses alcohol and the proactive actions we can take to prevent alcohol misuse.

What is a misconception that people have about AUD?

Many people don't realize how common AUD is. There are seven times more people affected by AUD than opioid use disorder,

“We want everyone from pharmacists and nurses to addiction medicine specialists to know more about alcohol and addiction.”

– George Koob, Ph.D.

for example. It doesn't discriminate against who it affects. People also don't realize that AUD is a brain disorder that actually changes how the brain functions. Severe AUD is associated with widespread injury to the brain, though some of the effects might be partially reversible.

What's next for NIAAA?

Currently, we are working on a number of initiatives. One is education. We want everyone from pharmacists and nurses to addiction medicine specialists to know more about alcohol and addiction. We're also working on prevention resources for middle school-aged adolescents. Other goals include understanding recovery and what treatments work best for people and why. We're also learning more about alcohol's effects on sleep and pain, and we have ongoing efforts in medication development.

Finally, we're learning more about the impact of alcohol on women and older adults. Women have begun to catch up to men in alcohol consumption and alcohol-related harms. Women are more susceptible to some of the negative effects that alcohol has on the body, from liver disease to certain cancers. Further, more older adults are binge drinking and this places them at greater risk of alcohol-medication interactions, falls, and health problems related to alcohol misuse.

How can someone get help?

If alcohol is negatively affecting you or someone you know, seek help from someone you respect. For example, a primary care doctor or clergy member. There are a number of online resources from NIAAA, like the NIAAA Alcohol Treatment Navigator[®], an online resource to help people understand AUD treatment options and search for professionally led, evidence-based alcohol treatment nearby. There's also Rethinking DrinkingSM, an interactive website to help individuals assess and change their drinking habits. Also, know that there is hope. Many people recover from AUD and lead vibrant lives. ■



Tips for supporting loved ones

The support of friends and family is important in the journey to recovery from alcohol use disorder (AUD). The National Institute on Alcohol Abuse and Alcoholism, which leads research on AUD, shares information on how you can help a loved one.

Participate

Seek a program to help you support your loved one. Programs like Al-Anon Family Groups or Adult Children of Alcoholics can help people understand the disorder, what they can do to help, and their role in a loved one's recovery.

Be patient

Changing deep habits is hard, takes time, and may require repeated efforts. Practice patience with your loved one and understand that overcoming this disorder is not easy or quick.

Celebrate successes

Pay attention to your loved one during the recovery process. Appreciate successes, no matter how small.

Take care of yourself

Caring for a person who has difficulties with alcohol can be stressful. Ask for support from friends, family, support groups, or mental health professionals. This is especially important if you feel depressed or anxious. Remember that your loved one is ultimately responsible for managing this illness.

For additional support, check out the NIAAA Alcohol Treatment Navigator[®]. ■

SOURCES: National Institute on Alcohol Abuse and Alcoholism; NIAAA Alcohol Treatment Navigator[®]

How too much drinking affects the body

Alcohol can put lungs, heart, immune system, and more at greater risk

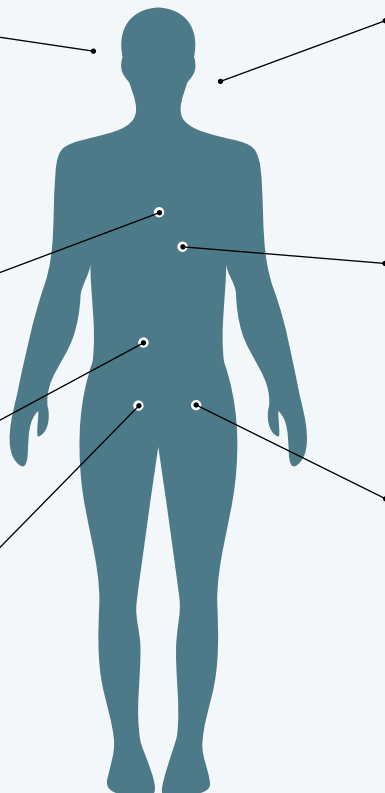
Drinking too much alcohol, or more than a moderate amount, can cause serious health problems. Moderate drinking means up to one drink per day for women and up to two drinks per day for men. For some individuals, even moderate drinking may be too much.

Brain: Shortly after drinking, you may have problems with balance, decision-making, memory, and controlling impulses. Long-term alcohol misuse decreases activity in the brain's reward system, increases activity in the brain's stress system, and impairs a person's ability to make good choices.

Heart: Common problems include stroke, high blood pressure, irregular heartbeat, and stretching of the heart muscles.

Liver: Heavy drinking can lead to cirrhosis, fibrosis, alcoholic hepatitis, or fatty liver. About half of all liver disease deaths are due to alcohol.

Pancreas: Excessive alcohol use may lead to pancreatitis, a potentially fatal inflammation of the blood vessels in the pancreas.



Mouth and throat: Alcohol consumption is a major risk factor for cancers of the mouth and throat.

Breasts: Research suggests that even one drink per day can increase the risk of breast cancer for women.

Lungs: People who chronically misuse alcohol are more likely to get pneumonia and tuberculosis. They are more likely to develop Acute Respiratory Distress Syndrome, need mechanical ventilation, and have a prolonged stay in the intensive care unit.

Colon/rectum: Alcohol consumption is associated with an increased risk of colon and rectal cancer.

Pregnancy: Drinking during pregnancy can harm your baby's brain and long-term health. Approximately 1 in 20 children are affected by fetal alcohol spectrum disorders, which involve a range of mental, emotional, and physical issues.

Drinking levels defined: How much is too much?



Moderate drinking means up to one drink per day for women and up to two drinks per day for men.

0.08%
Blood alcohol concentration

Binge drinking means drinking enough to raise your blood alcohol concentration (BAC) to 0.08% or above. This typically occurs after four or more drinks for women and five or more drinks for men in about two hours.



Heavy alcohol use means more than three drinks on any day for women and more than four drinks for men.

SOURCES: National Institute on Alcohol Abuse and Alcoholism; U.S. Department of Health and Human Services



Forty-one-year-old Christine* started experimenting with alcohol in her early teens. The first time she tried it, she blacked out and became physically ill. While she instantly regretted that decision, she continued drinking for years, often taking it to the extreme.

“I completely went off the deep end,” she says. “I couldn’t imagine being in a social situation without alcohol. I wanted to feel included, interesting, funny, liked, and loved. Alcohol gave me all those things.”

In her early 20s, Christine started seeing a therapist. She talked about her feelings of guilt and regret over her behavior after a night of drinking. The therapist encouraged her to talk more about it, but she denied she had a problem.

“He told me that people who don’t have a problem with drinking don’t feel the way I always did after drinking,” she says. “That was the start of me realizing that maybe I did have a problem with alcohol.”

Seeking help

At the suggestion of her therapist, Christine joined a 12-step program. But she struggled early on to accept why she was there.

“Things fell in place when I started listening and following directions,” she says. “I got a sponsor and learned how to cope physically, mentally, and spiritually. This helped me realize

Confronting alcohol use disorder and misconceptions as a woman

12-step program and therapy offer hope and sobriety

that everything that led me to that moment happened in order to get me to where I was. I didn’t feel like I was a victim anymore.”

While the 12-step program continues to help Christine cope with her alcohol use disorder (AUD), staying sober is an ongoing battle, she says.

“Things fell in place when I started listening and following directions. I didn’t feel like I was a victim anymore.”

Confronting stigma

“There’s a stigma around it, particularly with women,” Christine says. “If I’m at a happy hour after work and someone asks me why I’m not drinking, I could joke and say that I’m a retired drinker or be more direct and say that it gets me in a lot of trouble. Either way, it used to make me wonder if people would think less of me. I’ve learned that I don’t owe anyone an explanation.”

Christine believes this stigma prevents many people from seeking help. She says it’s important to remember that someone with AUD is not a bad person.

“No one takes their first drink intending to lose their job and kids because they can’t control their drinking,” she says. “They’ve made choices but there’s always an opportunity to turn their life around. Had I not made the decisions that I did, I wouldn’t have become the person I am today.”

Christine wants people who have a problem with drinking to seek help. While a 12-step program has helped her, it’s important to find what works for them. ■

* Name has been changed for privacy.

Find Out **More**

- ▶ **MedlinePlus: Alcohol Use Disorder**
<https://medlineplus.gov/alcoholusedisorderaud.html>
- ▶ **NIAAA: Alcohol’s Effects on Health**
<https://www.niaaa.nih.gov/alcohols-effects-health>
- ▶ **NIH News in Health: Drinking to Excess**
<https://newsinhealth.nih.gov/2014/09/drinking-excess>
- ▶ **ClinicalTrials.gov: Alcohol Use Disorder**
<https://clinicaltrials.gov/ct2/results?cond=alcohol+use+disorder>

from
the

lab

LATEST
RESEARCH
UPDATES
FROM NIH

Early research tests N95 mask reuse for COVID-19

HEALTH CARE WORKERS WEAR N95 RESPIRATOR MASKS to keep themselves safe while caring for people with infectious diseases such as COVID-19. These masks were designed for only one use. But early study results from research by the National Institutes of Health (NIH) have found that the masks can be decontaminated and potentially reused up to three times.

The study was led by researchers at NIH's Rocky Mountain Laboratories in Montana, part of the National Institute of Allergy and Infectious Diseases (NIAID). To test mask safety, NIAID researchers first exposed the masks to SARS-CoV-2, the virus that causes COVID-19, and then to various treatments, including ultraviolet (UV) light, an alcohol spray, dry heat, and vaporized hydrogen peroxide. They decontaminated each mask three times.

Volunteer lab workers separately tested masks that were not exposed to the virus but were decontaminated by the four treatments. The workers wore masks for two hours to make sure that they still fit properly after decontamination.

All of the treatments removed the virus from the masks, but some worked better than others.

The study found that the hydrogen peroxide treatment was the most effective and that it could remove the virus from the mask fabric after 10 minutes of treatment. The masks treated with hydrogen peroxide also still fit and sealed over the face properly, suggesting that they could potentially be reused up to three times. Both the UV and heat-treated masks



Of four tested treatments, hydrogen peroxide was the most effective at decontaminating N95 masks for potential reuse.

showed problems with fit and seal after three treatments. This suggests that masks treated with these methods could potentially be reused twice.

Unlike the other treatments, the alcohol spray damaged the mask's fit and seal after only two decontaminations. So the researchers do not recommend using it for N95 respirators. They also urge health care workers who decontaminate N95 masks to check the fit and seal before each reuse.

The Centers for Disease Control and Prevention says that the general public should not wear N95 masks because they are critical supplies that must be reserved for health care workers. However, cloth face coverings are recommended for general use to help prevent the spread of COVID-19. To clean cloth face coverings, machine wash and dry them regularly. ■

SOURCES: National Institute of Allergy and Infectious Diseases; Centers for Disease Control and Prevention

IMAGE: ADOBE STOCK



Breastfeeding and pregnancy could lower risk of early menopause

BREASTFEEDING CAN OFFER MANY HEALTH BENEFITS for women and their babies. Now there's another potential one.

A recent study found that women who breastfeed may have a lower risk of early menopause. Early menopause—menopause before age 45—can lead to faster bone loss, cognitive decline, and heart disease.

The study, funded by the National Institutes of Health, found that women who breastfed exclusively for seven to 12 months had a 28% lower risk of early menopause than those who breastfed for less than a month. Women who breastfed for a total of 25 months or more had a 26% lower risk.

The study results also suggest that pregnancy itself may reduce the risk of early menopause. Compared with women who had never been pregnant or who had been pregnant for less than six months, those who had a full-term pregnancy had an 8% lower risk of early menopause. Those who had two pregnancies had a 16% lower risk, and those who had three pregnancies had a 22% lower risk.

Researchers theorize that reproductive events that slow or halt ovulation, such as pregnancy and breastfeeding, may be associated with delayed menopause. ■

SOURCES: Eunice Kennedy Shriver National Institute of Child Health and Human Development; University of Massachusetts at Amherst

Bad sleep patterns could up the risk of heart disease in older adults

GETTING DIFFERENT AMOUNTS OF SLEEP EACH NIGHT or sleeping during the day instead of at night is called irregular sleep or having an irregular sleep schedule. People who work night shifts or whose work shifts change over time may be at higher risk for this condition.

Irregular sleep had already been linked to diseases such as obesity and diabetes. A recent five-year study funded by the National Institutes of Health also found a link in older adults between irregular sleep and heart disease, the leading cause of death in the U.S.

That study discovered that participants between the ages of 45 and 84 whose sleep habits were the most irregular had more than double the risk of developing a heart problem, compared with those with regular sleep habits. Among minority populations, particularly African Americans, the link between sleep and heart disease was even stronger.

Luckily the study offered good news, too.

Researchers found that improving sleep patterns could help reduce the risk of heart disease. For example, going to bed around the same time each night and prioritizing sleep when possible have a positive effect. It's also important to seek help from a health care provider if you have frequent problems sleeping or feel that excessive sleepiness is a barrier to daily activities. ■

SOURCE: National Heart, Lung, and Blood Institute



NIH on the web

2020: The year of vision health

➔ **20/20 VISION** is the definition of good eyesight. So this year—2020—is a perfect time to spread the word about healthy vision.

With its “More Than Meets the Eye 2020” campaign, the National Eye Institute wants to raise awareness about the importance of eye health.

You can read stories about real people living with low vision and download a guide on making the most out of doctor visits if you have glaucoma, among other useful information.

Join the conversation online by using the hashtag #morethan2020 on social media.



Find it all in one place!

magazine.medlineplus.gov/otw



Lasers could be key to tracking viruses

➔ **LASERS MAY LIGHT THE WAY** to how respiratory viruses spread from person to person.

Scientists at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) found that people release thousands of saliva droplets per second when they're talking. That's important because those droplets, if infectious, could spread illnesses like COVID-19, the flu, or a cold.

Using a laser beam that crossed through the center of a very dark box, researchers were able to light up the droplets as people spoke into the box. They found that many of the smaller speech droplets could stay in the air for more than 10 minutes.

To see a video of the droplets, check out NIDDK's YouTube page.

NIH launches Spanish version of PregSource

➔ **SAY HELLO**—and hola—to the Spanish version of PregSource! PregSource is an important research resource from the National Institutes of Health.

It helps researchers better understand how women experience pregnancy by gathering information directly from them. Topics include everything from how you're sleeping to tracking your morning sickness. The new Spanish version of PregSource will help researchers gather data from a more diverse audience.

Moms-to-be who are interested in contributing can answer confidential questions on the PregSource website.

By participating, you'll get to track your pregnancy and help researchers improve care for mothers and babies.



By answering short questions weekly or daily, you'll have a complete record of your pregnancy journey and make a difference for future moms.

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

National Library of Medicine (NLM)

www.nlm.nih.gov
888-FIND-NLM 888-346-3656

National Cancer Institute (NCI)

www.cancer.gov
800-4-CANCER 800-422-6237

National Eye Institute (NEI)

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

National Heart, Lung, and Blood

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
Alzheimer’s information 800-438-4380

National Institute on Alcohol Abuse

and Alcoholism (NIAAA)
www.niaaa.nih.gov
301-443-3860

National Institute of Allergy and

Infectious Diseases (NIAID)
www.niaid.nih.gov
301-496-5717

National Institute of Arthritis and

Musculoskeletal and Skin Diseases
(NIAMS)
www.niams.nih.gov
877-22-NIAMS 877-226-4267

National Institute of Biomedical

Imaging and Bioengineering (NIBIB)
www.nibib.nih.gov
301-451-6772

Eunice Kennedy Shriver National

Institute of Child Health and Human
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
301-443-1124

National Institute of Environmental

Health Sciences (NIEHS)
www.niehs.nih.gov
919-541-3345

National Institute of General Medical

Sciences (NIGMS)
www.nigms.nih.gov
301-496-7301

National Institute of Mental Health

(NIMH)
www.nimh.nih.gov
866-615-6464

National Institute on Minority Health

and Health Disparities (NIMHD)
www.nimhd.nih.gov
301-402-1366

National Institute of Neurological

Disorders and Stroke (NINDS)
www.ninds.nih.gov
800-352-9424

National Institute of

Nursing Research (NINR)
www.ninr.nih.gov
301-496-0207

Centers & Offices

Fogarty International Center (FIC)

www.fic.nih.gov
301-496-2075

National Center for Complementary and

Integrative Health (NCCIH)
www.nccih.nih.gov
888-644-6226

National Center for Advancing Translational

Sciences (NCATS)
www.ncats.nih.gov
301-435-0888

NIH Clinical Center (CC)

clinicalcenter.nih.gov
301-496-2563

Office of AIDS Research (OAR)

www.oar.nih.gov
301-496-0357

Office of Behavioral and Social Sciences

Research (OBSSR)
www.obssr.od.nih.gov
301-402-1146

Office of Communications & Public Liaison

(OCPL)
www.nih.gov/institutes-nih/nih-office-director/office-communications-public-liaison
301-496-5787

Office of Rare Diseases Research

(ORDR)
www.rarediseases.info.nih.gov
Genetic and Rare Disease
Information Center
888-205-2311

Office of Research on Women’s Health

(ORWH)
orwh.od.nih.gov
301-402-1770

50 YEARS
SAVING LIVES THROUGH
CUTTING-EDGE RESEARCH

NATIONAL
INSTITUTE
ON ALCOHOL
ABUSE AND
ALCOHOLISM

Looking for quality
alcohol treatment?

NIAAA ALCOHOL TREATMENT
NAVIGATOR
Pointing the way to evidence-based care

