Stroke Awareness

NFL star Tedy Bruschi talks about overcoming the mental struggle of life post-stroke and encouraging others to do the same.

DISCOVER
the best ways to recognize the symptoms and lower the risks of recurrent strokes

LEARN
how technology is helping doctors diagnose and treat stroke patients quickly

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Knowing the Warning Signs of a Brain Aneurysm Could Save Your Life

Tom Tinlin feels incredibly lucky to have survived his brain aneurysm and is dedicated to spreading awareness of the signs that could save a person’s life.

When Tom Tinlin reported having the worst headache of his life to his primary-care doctor in 2017, his physician blamed stress and sent Tinlin home with a week’s worth of anti-inflammatory medication and sleeping pills. Only days later, Tinlin found himself in the ER, where he was diagnosed with a life-threatening ruptured subarachnoid aneurysm.

Tinlin says he’ll never forget what one of the doctors told him that day. “They said, ‘If you make it through the night, we’re not sure what kind of guy you’re going to be tomorrow,’” he recalls.

About 30,000 people in the United States have a ruptured brain aneurysm according to the the Brain Aneurysm Foundation (BAF). One in 50 currently have an unruptured brain aneurysm that may never cause issues or symptoms.

Understanding the disease
“A brain aneurysm is a bubble in a blood vessel of the brain,” says BAF co-founder Dr. Christopher Ogilvy, a neurosurgeon at Beth Israel Deaconess Medical Center and Massachusetts General Hospital. When arteries within the vessel become soft, aneurysms can form.

BAF executive director Christine Buckley says an estimated 20 percent of cases have a genetic component, but other risk factors for aneurysms include smoking, high blood pressure and being over the age of 40. The exact cause is unknown.

Recognizing the signs
Because brain aneurysm symptoms overlap with those of other conditions, misdiagnoses like Tinlin’s aren’t uncommon, Buckley says. That’s why awareness and patient advocacy is so important. Indeed, a CAT scan of the brain can help detect the aneurysms, and they can be treated after rupture.

“People have to be their own health advocate,” Buckley says. “No one knows better than you what your body is experiencing.”

Twenty percent of ruptured brain aneurysms lead to immediate death, and Tinlin knows he’s lucky to have survived. He left his former job and is determined to share his story to educate doctors and patients.

“If I’m going to take this second chance and gift, it’s selfish if I don’t spread the word,” he says.

Melinda Carter

A Healthy Brain Starts With Healthy Choices

Believe it or not, your brain may start to decline when you’re in your 20s. That might be a scary thought, but science tells us that being physically active and eating healthy could help keep our brains healthy well into our senior years.

Ilnesses like stroke and dementia can be caused by plaque buildup in the blood vessels leading to the brain. When this happens, it may affect the blood flow and oxygen to the brain.

The buildup of plaque happens over time and is caused by conditions like high blood pressure, high cholesterol and high blood sugar, all of which can affect brain function and can start to impact the brain in early childhood. Having a healthy lifestyle can potentially prevent this from happening. Even if you didn’t live a healthy lifestyle as a child, there are still benefits to getting serious about your health and fitness later in life.

Following these simple steps, recommended by the American Heart Association (AHA) and the American Stroke Association (ASA), will help you to sustain a healthy brain — one that can maintain attention, receive and recognize information, learn and remember, communicate, solve problems, make decisions and remain mobile. Even if you already have plaque buildup in your arteries, taking these actions may aid in slowing or preventing the development of disease.

Steps for a healthy brain:
1. Do not smoke.
2. Be physically active at least 30 minutes per day or at least 150 minutes per week. Be sure to receive approval from your doctor to exercise.
3. Eat in moderation, and eat fresh fruits, vegetables, whole grains, mono- and unsaturated fats, fish and legumes.

4. Get plenty of sleep.
5. Be socially active.
6. Work with your doctor to maintain a healthy weight, blood pressure, blood cholesterol and blood sugar levels according to ASA recommendations.

Prevention and control of high blood pressure, high cholesterol and high blood glucose, along with a healthy lifestyle, may be important for the health and preservation of your brain.

As many Americans are living longer, positioning yourself for successful brain health may help you to live far into your golden years without cognitive or physical impairment.

Philip B. Gorelick, M.D., Writing Committee Chair, American Heart Association / American Stroke Association
How Telemedicine Is Helping Doctors Diagnose and Treat Stroke Patients Quickly

“Many hospitals around the country, and not just rural areas, but in urban and suburban areas, do not have the expertise available immediately to manage stroke patients,” says Dr. Til Jolly, a board-certified emergency physician with 26 years of experience practicing in the Washington, D.C. area at both the George Washington University Hospital and Inova Fairfax Hospital.

Emergency room physicians do the initial management but often need to call in experts.

“Telemedicine is used increasingly to provide that expertise and to help with the urgent decision-making needed to get the care to the patient,” says Dr. Jolly, chief medical officer for SOC Telemed (SOC), the largest national provider — available in 38 states — of telemedicine services.

Critical timing
With stroke cases, the goal is for doctors to assess a patient as quickly and efficiently as possible. There are two standard stroke treatments and doctors need to decide which patients qualify for each therapy and which ones don’t.

The first therapy is to give stroke patients a clot-dissolving medication called tPA. To work, the drug must be given intravenously within 4.5 hours from the time of the onset of symptoms. Hospitals monitor a patient’s door-to-needle time — the time between when the patient arrives at the hospital and the time the initial dose of tPA is given. “The target is to get a door-to-needle time of less than 45-60 minutes, which means a lot of things need to happen in that period of time,” says Dr. Jolly.

“Telemedicine can speed that up because video connection can be nearly instant.”

The other therapy, endovascular therapy, is when a highly trained specialist places a catheter into the blood vessel in the brain and extracts the clot. Telemedicine doctors can assess the patient’s eligibility for the treatment (which has a larger time window than tPA) and if needed, recommend transferring the patient to a different facility that performs that procedure.

The technology provides a valuable resource for patients and facilities. Without it, patients might not receive the expert care they need in time; or they may have to be transferred to another facility, a move that can be risky, especially depending on the patient’s condition and ability to travel.

New standard
The American Hospital Association reports 65 percent of hospitals use technology to connect patients with practitioners who are located at a distance. All telemedicine doctors must be licensed in the state where they’re doing consultations.

“Telemedicine is now accepted as the standard,” says Dr. Jolly, who explains the technology is used across medicine for primary care, as well as specialties.

SOC has been offering emergency telemedicine since 2005. They’re currently working with 500 hospitals and providers across the country.

Patients and providers
Dr. Jolly says both patients and providers appreciate the potential of the life-saving technology.

He says hospitals contract for it because they see the benefits. He encourages doctors and other health care professionals to talk to their hospital leadership about incorporating telemedicine technology into emergency rooms.

He also advises patients, especially those with risk of stroke, to ask their doctors and providers what services, including telemedicine, are available to treat strokes.

“The real idea is to try to bring the best possible care to every patient, no matter where that patient is,” says Dr. Jolly, noting all patients should have the same level of expertise available to them, regardless of distance. ■

Kristen Castillo
Lowering the Risk of Recurrent Strokes

Stroke is a devastating complication of atrial fibrillation. Detection of atrial fibrillation by outpatient cardiac monitoring can decrease the risk of recurrent stroke through early recognition and treatment.

In the United States, approximately one-third of new stroke patients, or 265,000 people yearly, will have an unknown reason for their stroke at the time of hospital discharge despite ECG testing, blood tests, visualization of the heart with ultrasound and heart and major blood vessel evaluation by CT scanning. Since the risk of recurrent stroke within one year of a prior ischemic stroke (due to brain blood vessel obstruction) is 13 percent, an intensive search for a cause is imperative. Treatment should be given to lower the risk of recurrent stroke, as well as treat atrial fibrillation if present.

Lowering risks
Studies estimate that 25-35 percent of ischemic stroke patients have undiagnosed atrial fibrillation. In fact, just having atrial fibrillation increases stroke risk by five times. In patients with atrial fibrillation, treatment with blood-thinning medication lowers stroke risk by 60 percent.

A search for atrial fibrillation, which may occur sporadically, is based on improved patient outcomes resulting from control of atrial fibrillation heart rate or conversion of atrial fibrillation to a normal heart rhythm and reduction in risk of recurrent stroke. Since atrial fibrillation is associated with blood-clot formation in the heart, which can move to obstruct brain blood flow, a diagnosis of atrial fibrillation allows for treatment with blood thinners to prevent clot formation in the heart and subsequent migration of that clot.

Available devices
Multiple cardiac monitoring devices are available that can detect atrial fibrillation in outpatients. Device types have differing arrhythmia detection accuracy, data access and time monitoring capabilities. External cardiac monitoring devices can monitor patients for up to two days (standard Holter), up to 14 days (extended Holter) and up to 30 days (mobile cardiac telemetry and non-wireless autotrigger event recorders). Mobile cardiac telemetry, with its wireless connectivity, high diagnostic yield and 24/7/365 monitoring center oversight, provides the most rapid physician notification of the presence of atrial fibrillation allowing for earlier institution of treatment. In the absence of atrial fibrillation detection by these external devices, a device can subsequently be implanted inside the body to look for the occurrence of atrial fibrillation for up to three years.

Outpatient cardiac monitoring plays a definitive role in lowering recurrent stroke risk in patients diagnosed with atrial fibrillation.

Wayne Derkac, M.D., F.A.C.C., Vice President of Medical Affairs, BioTelemetry, Inc.

After a stroke, people who develop atrial fibrillation (AF) have an up to 5 times greater risk of a second stroke.1

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MCOT is proven to be nearly five times better at diagnosing post-stroke AF than alternative devices after 21 days of monitoring.1

MCOT is the only cardiac monitor proven to detect AF (≥ 30 seconds) with 100% sensitivity and 100% positive predictivity.*

New Standards of Care for Stroke Treatments

If a stroke is happening to you or a loved one, getting prompt treatment can help minimize the long-term damage of the event. Location and resources can prevent patients from getting the right diagnosis and treatment.

For Cathy, a stroke patient of Dr. Mark Bain who is a neurosurgeon at Cleveland Clinic, the hospital's mobile stroke treatment unit helped her overcome barriers of location and resources by using telemedicine to communicate with doctors remotely.

“We typically need a CAT scan to figure out what kind of stroke somebody is having,” says Bain. “One of the things that mobile stroke treatment helps us do is to get that CAT scan right at the patient’s door, right at their house. What that allows us to do is to initiate therapy immediately.”

Specialists were able to perform that CAT scan on Cathy and get her to the right hospital in a quick fashion.

The harsh reality
That’s not always the case. It isn’t uncommon for patients to get taken to a hospital that can’t perform a CAT scan and doesn’t have the right staff on hand to treat stroke.

For Cathy, the “stars were aligned,” according to Bain. After she got her CAT scan remotely, she was taken to the Cleveland Clinic, where Bain and his team performed a surgery to treat the hemorrhagic stroke and then sent her on her way to rehabilitation.

A miraculous recovery
Minutes after surgery when her breathing tube was removed, Cathy began moving her mouth and twitching her right leg. Within 24 hours, she could speak again.

“It was pretty amazing,” says Bain. “We hadn’t seen this type of recovery in people who’ve had this type of stroke.”

He attributed Cathy’s “miraculous” recovery to new standards of care in stroke treatment that allow for the minimally invasive surgical removal of blood clots. This helped her get into the right hands on time.

Melinda Carter

What to Know About Reducing Your Risk for Stroke

A stroke — where the blood flow to the brain is interrupted by a clot or a bleed — can be devastating, causing permanent disability or death. The good news is that you can reduce your risk of stroke. Here’s what you need to know.

A stroke causes brain cells to die because they’re not getting enough oxygen-rich blood. But in many cases, getting quick treatment may save your life and lower your chances of being disabled.

Knowing the signs
Being aware of the warning signs may help prevent the devastating effects of a stroke. Here’s an easy way to remember the most common stroke warning signs using the acronym F.A.S.T.:

F: Face drooping
A: Arm weakness
S: Speech difficulty
T: Time to call 9-1-1. If a person shows any of these symptoms, even if the symptoms go away, call 9-1-1 immediately to get them to a hospital for treatment.

Knowing the cause
Sometimes the doctor can’t determine the cause, labeling the stroke “cryptogenic,” which simply means the cause is unknown. If that happens, urge your doctors to work together to check every possible cause. Knowing the cause of the stroke can help prevent another one.

Possible causes include:
1. Atrial fibrillation, also known as Afib. This irregular heartbeat can be difficult to detect but may be found by monitoring the heart’s rhythm over time with either a Holter monitor, mobile continuous outpatient telemetry monitor or insertable cardiac monitor.
2. Patent foramen ovale is a hole between the heart’s chambers that usually closes over time after birth. When it doesn’t, a blood clot can travel through the hole to the brain, causing a stroke.
3. Large artery atherosclerosis involves plaque in large arteries. When it breaks off, it can block arteries to the brain.

Even with risk factors you can’t control, there are still ways to reduce your stroke risk. Making healthy choices — like being physically active, eating well and not smoking — is a good start. Talk to your health care provider about what you can do to better manage your conditions and reduce your risk. And remember, what’s good for your heart, is good for your brain.

American Stroke Association/American Heart Association
How Olympian Michael Johnson Is Celebrating the Small Wins During Stroke Recovery

Sprinter Michael Johnson speaks about staying positive despite his unexpected diagnosis and difficult recovery.

Being a smoker, having unmanaged high blood pressure and being overweight are three controllable risk factors for having a stroke, so you probably wouldn’t think one of the world’s highest-performing athletes would be susceptible to one. But United States Olympian sprinter Michael Johnson proves that notion wrong.

An unexpected attack
In September 2018 after a workout, Johnson began noticing symptoms on his left side, including coordination loss in his leg, foot numbness and movement restriction in his arm. As an athlete, he immediately recognized that something was up.

“I know my body, and that just did not feel right, so I went to the emergency room,” Johnson recalls. In the emergency room, doctors diagnosed Johnson with a transient ischemic attack, or a miniature stroke, using an MRI. “I was scared, concerned and worried about what my future was going to be like — what my mobility was going to be like,” he says.

Johnson has four Olympic gold medals and had broken multiple world records. Post-diagnosis, he recalls thinking, “I was doing all the right things to prevent this sort of thing, so why me?”

Staying positive
Since his stroke, Johnson has shifted into his athlete’s mindset to staying focused and hardworking. He’s in physical and occupational therapy to regain balance, coordination and strength, and says he celebrates every win.

“The first day I was able to make some tiny improvements, like being able to walk with a walker,” he remembers. “It was familiar to me as an athlete, making those marginal gains. That kept me going and kept me positive about my ability to make a full recovery.”

For Johnson, understanding his strengths and weaknesses, along with staying positive, has been instrumental in his improvements.

“It can be easy to look in the mirror and say, ‘I’m a shell of my former self from 2-3 weeks ago,’” he says. “But you have to figure out how to replace those sorts of thoughts with something positive. It’s different for everyone, but the main thing is knowing yourself as an individual.”

Melinda Carter
How NFL Star Tedy Bruschi Is Helping Empower Stroke Survivors

Tedy Bruschi is embracing his role as an inspirational voice in the stroke community and has been using his platform to connect with other survivors.

When former NFL player Tedy Bruschi felt numbness down the left side of his body, balance loss, severe headache and loss of vision, he and his wife didn’t know what was happening. Because he was only 31, they never suspected a stroke.

Mere days after playing the Pro Bowl 2005 in Hawaii, Bruschi was diagnosed with an ischemic stroke in the right side of his brain, along with a hole in his heart called a patent foramen ovale that also contributed to his symptoms.

Staying strong
Bruschi, now 45, has since launched an organization called Tedy’s Team with the American Stroke Association. He is raising awareness of the early signs of stroke with the goal of helping others get the care they need as quickly as possible. He is also assisting others like himself navigate what being a stroke survivor can mean.

Bruschi’s life changed overnight. “With that comes a mental struggle — not only being able to deal with it yourself, but also being able to speak about it and communicate about it, and say proudly, ‘Yes, I’m a stroke survivor,’” he says.

That wasn’t easy for Bruschi, who is the only NFL player to return to pro football after having a stroke. He recalls lamenting a journalist’s questions to former teammate Mike Vrabel in the locker room after the game.

“They wanted to talk to me about being a stroke survivor. They didn’t ask me any questions about who we were playing or the game,” Bruschi recalls. “I let out a sigh, and Vrabel said, ‘You’re never living that one down!’”

Inspiring others
After recovering from his stroke, Bruschi has embraced his role as an inspirational voice in this space. Through Tedy’s Team, he and other survivors raise money for stroke research and promote awareness of the condition by running two annual races, including the Boston Marathon. They also lean on each other as they navigate life after stroke.

“It’s good to be with people that know what you’re going through — that’s what Tedy’s Team is all about,” he says. “It’s a support system and a family.”

Melinda Carter

One Woman’s Journey to Recovery After a Rare Stroke

When Dr. Jill Bolte Taylor had a rare form of a stroke in 1996, she approached her recovery with fascination rather than fear. She believed in her brain’s ability to recover.

“It was clear that I was going to have to do things my own way if I wanted to recover from that level of a catastrophic stroke,” says Dr. Jill Bolte Taylor.

Losing control
Bolte Taylor, a neuroanatomist who taught and performed brain research at Harvard Medical School, had suffered a brain arteriovenous malformation (AVM) in the left hemisphere of her brain, which controls language. According to the Mayo Clinic, an AVM is a web of atypical blood vessels that links the brain’s veins and arteries. They affect less than 1 percent of the United States population.

“Over the course of four hours, I watched my own brain completely deteriorate in its ability to process all information, and by the end of that morning, I could not walk, talk, breathe right or recall any of my life,” Bolte Taylor said.

An unconventional recovery
Having spent much of her life studying the brain’s perception of reality and growing up with a brother diagnosed with schizophrenia, her rehabilitation, in addition to the nature of her stroke, was markedly unusual. She’s since started raising awareness of that approach. Post-surgery included living with her mother in a controlled environment that preserved her energy for relearning communication.

Bolte Taylor details her rehabilitation in her book “My Stroke of Insight” and encourages others to remain hopeful about stroke recovery, even two or three years after the event.

She says neurogenesis (brain cells’ ability to regenerate) and neuroplasticity (the brain’s ability to rearrange cellular communication) don’t inform rehabilitation standards and encourages others to pave their own recovery paths.

“It is difficult for patients because they think traditional rehabilitation is traditional for a reason,” Bolte Taylor says. “The problem is it’s been designed with the thinking that the brain is not capable of neurogenesis and neuroplasticity. It can rehabilitate you to your limitations instead of your possibilities.”

Melinda Carter
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