Get Physical
Stand or sit, get more fit

Listen Up!
Hearing loss and stroke

Therapy at Home
New program proves effective

Nutrition Density
All foods are not created equal

Life at the Curb
Time is on my side

Hearts Aflutter
Understanding and treating atrial fibrillation

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SpasticityAnswers.com
Cover Story

10 Hearts Aflutter
Sometimes the first symptom of atrial fibrillation is a stroke. AF can turn the heart into a clot factory. As such, it is a leading cause of strokes. Early diagnosis and proper treatment lower risk. We talked to cardiologist Mark Estes about those two subjects.

Features

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Physical therapist Genevieve Zipp of the American Physical Therapy Association outlines sitting and standing exercises for survivors. You can even do them watching TV!

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Though not typically caused by stroke, hearing loss can magnify frustration and confusion when it occurs with other post-stroke conditions.

16 At-Home Therapy Proves Effective
A therapy program delivered in the home by physical therapists has proven as effective as locomotor therapy.
I wish I could learn more about spasticity.
I wish there were tips for caregivers.
I wish I could find the support I need.
I wish I understood my treatment options.
I wish I was more prepared to talk to my doctor.
I wish I could hear from others living with spasticity.
I wish there was more information about what to expect.

Explore your wishes at
SpasticityAnswers.com

A stroke can disrupt the brain’s ability to send messages properly to the muscles, causing the muscles to contract and spasm, resulting in stiffness and pain. This condition is called spasticity.

SpasticityAnswers.com is dedicated to educating people affected by spasticity about the condition and its treatment options.
If you’re a woman and your mother had a stroke, you may have a higher risk of heart attack in addition to a higher risk of stroke, according to new research on family history and heart disease published in the American Heart Association journal *Circulation: Cardiovascular Genetics*.

In a study of more than 2,200 patients, female heart patients were more likely to have mothers who had suffered a stroke than fathers. “Our study results point towards sex-specific heritability of vascular disease across different arterial territories — namely coronary and cerebral artery territories,” said Amitava Banerjee, M.R.C.P., M.P.H., the study’s lead author and Clinical Research Associate in the Stroke Prevention Research Unit at the University of Oxford in the United Kingdom.

The Oxford Vascular Study included patients who had suffered a stroke or TIA, or had experienced a heart attack or chest pain (angina). It’s the first study in which researchers investigated the link between a relative’s stroke and heart disease risk by sex of the patient and sex of the relative.

In a previous study of the same group, researchers found that women face a higher risk of heart attack before age 65 if their mothers also had a heart attack at an early age. Other research has linked a mother’s history of stroke to a daughter’s stroke risk.

“Traditional risk factors such as high blood pressure, smoking and diabetes don’t account for heart attack risk as clearly in women as in men, and tools to gauge risk in women are inadequate,” Banerjee said. “There is clearly room for improvement in predicting heart attack risk in women.”

The study also found:

- About 24 percent of the stroke, heart attack and angina patients had at least one first-degree relative who had a history of stroke. This indicates that stroke history in siblings and parents is as important to a person’s risk of heart attack or angina as it is to stroke risk.
- Parents’ stroke history didn’t help predict where patients’ heart disease showed up on coronary angiography, or whether disease was present in multiple blood vessels. This suggests that whatever family influence is occurring doesn’t directly affect the heart’s anatomy or dictate where dangerous plaques build up. Instead, family history might influence a more general tendency toward clot production.

The new findings can’t be attributed to genetics alone because shared environmental factors such as relatives’ wealth or poverty can also influence disease risk, said Banerjee.

“Existing tools to predict heart attack risk ignore family history or include it simply as a yes or no question, without accounting for relevant details such as age, sex and type of disease,” Banerjee said. “Family history of cardiovascular disease is under-used in clinical practice.”
Minority Report
Disparities in stroke care prevail among U.S. racial/ethnic groups

Disparities between racial/ethnic minorities and whites cross all aspects of stroke care, according to an American Heart Association/American Stroke Association scientific statement.

The statement, published online in Stroke: Journal of the American Heart Association, is a comprehensive analysis of the role race and ethnicity plays in stroke care. It also addresses how access to care, response to treatment and participation in clinical research affects these groups.

“We see disparities in every aspect of stroke care, from lack of awareness of risk factors and symptoms to delayed arrival to the emergency room and increased waiting time,” said Salvador Cruz-Flores, M.D., M.P.H., lead author of the statement and professor of neurology and director of the Souers Stroke Institute at St. Louis University in Missouri. “These disparities continue throughout the spectrum of the delivery of care from acute treatment to rehabilitation.”

Hispanic-Americans, African-Americans, Asian-Americans and Native-Americans constitute 28 percent of the U.S. population. That is expected to nearly double by the year 2050, so there is an increasing need to reduce racial and ethnic disparities in health care.

The burden of risk factors is different among racial and ethnic groups. For example, African-Americans have a high prevalence of hypertension, diabetes and obesity, while Hispanic-Americans have a higher prevalence of metabolic syndrome and diabetes than whites or African-Americans.

Other factors that impact these disparities range from economic and social issues to cultural and language barriers. In addition, attitudes, beliefs and compliance among populations differ and the perceived or true presence of racial bias within the healthcare system can negatively impact a patient’s compliance with a healthcare provider’s advice, medications or treatment.

Time Lost Is Brain Lost
Few African-Americans call 9-1-1 immediately for stroke symptoms

Prompt hospital arrival is critical because intravenous clot-busting drugs can prevent permanent stroke damage if administered within three hours of the onset of stroke symptoms.

Among 100 real-life stroke patients in the study:
• About half delayed seeking medical treatment because they thought symptoms were not serious or believed they would feel better.
• Three-fourths called family or a friend first.
• Of those who suspected they were having a stroke, only half arrived at the hospital via ambulance.
• Of those who arrived by ambulance, 35 percent did so only because they had no other method of transportation.

The benefits of calling 9-1-1 include: the potential of receiving clot-busters, arriving faster in an ambulance, alerting the hospital in advance by EMS and receiving priority treatment in the ER.
A Stroke a Year

My first stroke happened in November 1998 when I was 70 years old. That was a real disaster, when everything went wrong, but I survived. The next year I had another, not so bad. The following year I had three, in January, March and October.

With each of these incidents I was put in intensive care. Every year since then, I have continued to have strokes.

Usually the strokes start with violent head pains and visual disturbances, sometimes blindness, and I can’t stand up. My blood pressure is out of control and my cholesterol is difficult to regulate, even on statins. What bothers me most is the fuzziness in my head and dizziness, plus my legs and feet get terribly swollen.

I was determined to not let my first stroke control my life. I had already booked a three-week trip to Mexico so I decided to go despite my stroke. I was still wobbly and had recurrent numbness, but I soldiered on! I spent my birthday there, and someone in the café serenaded me on his guitar.

Of course I couldn’t climb the steep steps at Teotihuacan or walk long distances, but I still enjoyed myself and travelled hundreds of miles, visiting Mexico City, Puebla, Oaxaca and Guadalajara. I loved it! I managed to see and enjoy so many things, and the people were so friendly and hospitable.

I have been taking medication for a number of years and the strokes have become less agonizing. However, that does not mean they have not taken some abilities and passions away from me.

Stroke number four took from me 45 percent of my hearing in both ears, and then the fifth stroke took dancing away from me. I could no longer balance, had lost my speed and three times I had a stroke following dance shows. I had always loved dance and belonged to five different dance groups – Spanish and Portuguese, Mexican, South Indian and Raqs Sharqi as well as tap and contemporary.

I really miss dancing, and have to content myself just to watch others. Now when I try to concentrate my head buzzes and words escape me. People don’t “see” my disabilities so they expect far more of me.

To others like me, I would advise to remember the saying, “There is always light at the end of the tunnel.” You just have to adjust your plans and think, “Today is the first day of my future!”

Pattiyan Hursey
London, England

Happy Anniversary Readers Room!

We ran our first Readers Room 10 years ago this month. It was an immediate hit. In the 60 issues since, our readers have contributed many amazing, touching and funny stories. Survivors, caregivers and family members sharing your funniest and saddest, best and worst, most frustrating and most enlightening after-stroke experiences is what Stroke Connection is all about.

Whether you’re brand new to Stroke Connection, or have been a devoted reader for years, we invite you to share:
• What you’ve learned from your recovery experience so far.
• What you’ve learned from your caregiving experience so far.
• The hard times that you’ve come through, fears and challenges you’ve faced, situations that made you laugh … or cry, things that inspire and motivate you.

Write about what you know: You are the experts on living day-to-day after a stroke. We want to hear from you. More importantly, we want you to hear from each other.

Please note: Though we’d like to be able to respond to every submission, Stroke Connection has limited staff resources. We greatly appreciate the time, energy and focus that goes into each submission.
ife was wonderful. My husband Gary and I had just welcomed our daughter Emma into the world. There were no complications during delivery, and we had been home only two days when tragedy struck and changed our lives.

On Monday, May 29, 2006, I was hit with a tremendous headache and realized I could not move my left arm.

At the ER, the doctor on duty said that I had a brain tumor and surgery might be needed to remove it. There was not a neurosurgeon on duty, so I was transported to another hospital 20 miles away.

After several CT scans and MRIs, doctors decided that surgery was not needed, because it was not a tumor after all. What I had was two brain hemorrhages.

A week later I was released to a rehab facility where I began intense PT, OT and speech therapy. During the initial evaluation, I discovered I had lost one of my passions in life, the ability to read. I was devastated! I was a teacher and wondered how I would ever be able to teach again if I could not read.

On June 30, I was released from rehab (two months before the doctors had anticipated). I could walk, brush my hair and teeth, bathe and read again. These were all tasks that I hadn’t been able to do only a few weeks before.

I continued going to outpatient therapy for the next six months. While there I built up stamina by walking, and with time the use of my left arm returned.

In June 2007, I returned to the classroom as a summer school teacher. This was a trial run to see if I could conquer this one last skill necessary to my well-being. I succeeded and have continued to teach ever since.

My experience has allowed me to become more compassionate and determined in my classroom. Not being able to read has given me a glimpse into how an illiterate student may feel. During my recovery I faced many challenges and I occasionally felt alone and disconnected. These are some of the feelings my students face each day. These experiences have helped me to be better connected with my students. As a result, in October 2010 I was nominated as my school’s Teacher of the Year.

Shelly Fletcher
Newcastle, Okla.

**Share Your Story!**

For more information and our writer’s guidelines, visit [StrokeAssociation.org/strokeconnection](http://StrokeAssociation.org/strokeconnection) (click on the Submitting Your Story link at the top of the page).

Email submissions to: strokeconnection@heart.org

Fax submissions to: 214-706-5231

Or mail submissions to:

Stroke Connection
American Stroke Association
7272 Greenville Ave.
Dallas, TX 75231
Although stroke is the leading cause of disability, rehabilitation frequently lasts only a few weeks. This limits a survivor’s ability to engage in activities within the community, which in turn leads to physical de-conditioning, isolation, stress, a decreased sense of well-being and lower self-confidence.

Almost half of survivors report facing physical limitations when completing activities of daily living. This means it is imperative to get as active as possible, preferably within your community. While no specific exercise or exercise program has been documented to be most effective, exercise in general has been noted to enhance a survivor's quality of life. Exercise has been shown to lead to improvements in overall fitness, cardiovascular health, bone health, functional independence and psychosocial characteristics.

**Beginning a Functional Home Exercise Program**

Before survivors start any type of physical activity, first talk to the medical professional managing your care — whether this is your physician, physical therapist or occupational therapist — to determine if these exercises are appropriate for you.

Consider the following activities as part of a functional home program. They are safe, and you can easily increase the difficulty by adding weights to the exercises as you get stronger.

**EXERCISES TO TRY WHILE SEATED**

**MARCHING IN PLACE:** Raise your knees one at a time as high as possible. Once this becomes easy, add weights to your ankles or place the weights on your thighs. If you do not have weights, use your hands to resist your knee lift by pushing down on your thighs.

**FOOT RAISES:** Raise one foot at a time as high as possible. You can also lift both feet up at the same time. This activity works your legs and strengthens your trunk (stomach) muscles.

**ARM LIFTS:** Raise one hand at a time as high as possible over your head. When this becomes easy, add weights to your arms. You can also lift both arms up at the same time. This also works your trunk muscles.

**BOXING:** Raise your hands so they are at your chest, then one at a time push them as far forward as possible as if you were boxing. This activity also works your trunk muscles.
If doing these exercises is not fun for you, remember that walking and stair climbing are two functional activities survivors can and should do each day to improve muscle strength, endurance, joint range of motion and balance. Research has shown that survivors who walk at least three times a week experience less functional decline. Start by walking on level surfaces such as hardwood floors or linoleum, and then challenge yourself by including obstacles that you must go over, around or through. Changing the surfaces you walk on to include grass, carpets, gravel and sand challenges your ability to balance and forces you to pay more attention to the task. For added benefit, do two things at once, such as carrying an object and walking or talking on the phone and walking. Carrying objects with one or both hands changes your walking speed and forces you to pay attention to both tasks. Another way to challenge yourself is to walk up and down steps while stepping only one foot on a step at a time while placing only one hand on the railing, or while carrying a small object in your hand like a cup, bag or pen.

Increasing your physical activity level lowers your risk for another stroke, and may help your recovery and positively affect your quality of life. A great way to start this healthy change is by engaging in a home exercise program. In addition, participating in a stroke peer support exercise program may provide the external motivation you need to make lasting changes. Group activities such as yoga classes, swimming programs and walking groups often provide an atmosphere that enables you to increase your physical abilities while interacting and connecting with others.

The next step is yours; get in touch with your health care professional and get physical!

STOP your physical activity and contact your medical provider if you experience any of these:

- Unexplained weight gain or swelling
- Feeling overly fatigued during exercising
- Any other symptoms that cause concern

If you experience any of these symptoms during physical activity, call 9-1-1:

- Pressure or pain in the chest, neck, arm, jaw or shoulder
- Shortness of breath
- Rapid or irregular heartbeats or heart palpitations
- Feeling weak, dizzy or lightheaded

MARCHING IN PLACE: Raise your knees one at a time as high as possible. Again add weights to your ankles or thighs when this becomes easy. If you need to, hold onto a sturdy object like your couch with one or both hands to maintain your balance.

FOOT KICKS: Kick one foot as high as possible then kick the other. Add ankle weights once this becomes easy for increased difficulty. Do this standing in front of your couch or a chair so you can sit down if you need to.

ARM LIFTS: Raise your hands one at a time as high as possible over your head. When this becomes easy, add weights to your arms. You can also lift both arms up at the same time. If you do this standing in front of your couch, you can sit down if you need to.

BOXING. First, raise your hands so they are at your chest, then one at a time push them forward as far as possible as if you were boxing. Gradually introduce weights so you are lifting more than just your arms. You can do this standing in front of your couch so you can sit down if you need to.
I wish I could learn more about spasticity.
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A stroke can disrupt the brain’s ability to send messages properly to the muscles, causing the muscles to contract and spasm, resulting in stiffness and pain. This condition is called spasticity.

SpasticityAnswers.com is dedicated to educating people affected by spasticity about the condition and its treatment options.

Find out more about spasticity • Learn about treatment options • Read stories from people living with spasticity • Get information for caregivers, and more!
Hearts Aflutter
Not Everyone Has Good Rhythm
By Jon Caswell
Atrial fibrillation is a heart rhythm problem, or arrhythmia, that may be responsible for up to 20 percent of strokes. Although anyone, including infants, can have AF, the frequency increases with age. Fewer than 1 percent of people in their 50s have AF, but as many as 10 percent of 80-year-olds have it.

“Individual awareness of AF is highly variable,” said cardiologist Mark Estes, professor of medicine at Tufts University School of Medicine and director of the New England Arrhythmia Center in Boston. “At one extreme are people who experience symptoms such as rapid heartbeat, palpitations, forceful heartbeats, lightheadedness or dizziness. They might feel short of breath, or get extremely fatigued very rapidly with any exertion,” Dr. Estes said. “They basically have to sit and be very sedentary.”

At the other end of the spectrum are unaware individuals who have no symptoms. About half the people with AF fall into this category. Strokes occur more often in this group because without apparent symptoms, they don’t seek medical attention. “If AF is diagnosed and properly treated, the risk of stroke can be dramatically reduced or almost eliminated with appropriate blood thinning medication,” Dr. Estes said.

AF is diagnosed by taking a medical history, doing a physical exam and administering an electrocardiogram, or EKG, which finds an irregular pulse. “Instead of nice, organized activity, they would find fibrillatory waves on the EKG and a pulse that is ‘irregularly regular,’ ” Dr. Estes said. If these waves aren’t constant the physician may record the heart rhythm over days or even weeks. New technology allows this to be done with small, beeper-size devices worn on the waist that allow a patient to be continually monitored for several weeks. If the heart beats at an irregular rhythm, a signal is sent to the beeper.

Quantifying stroke risk
A deadly type of stroke known as embolic stroke is the big fear with AF. (See “What is AF” on p. 12.) In order to quantify risks for such strokes, doctors use a scoring system called CHADS2. This is a simple system that prompts physicians to check for:

- Congestive heart failure
- Hypertension
- Age greater than 75
- Diabetes
- S2 refers to either a prior stroke or TIA.

Doctors determine risks by scoring each category: one point each for heart failure, hypertension, age and diabetes, and two points for prior stroke or TIA. “In general, if your CHADS2 score is 2 or greater you need to protect against stroke with a prescription blood thinner,” said Dr. Estes, explaining that those with lower scores are typically treated with aspirin. “That CHADS2 score is very important because it helps determine the kind of treatment you get,” he said.

Reducing Risk of Stroke from AF
Warfarin reduces stroke risk by about 65 percent and has been the blood thinner of choice for several decades, but it can be unpleasant to take and requires close monitoring. The dose-response curve varies dramatically among patients. If a patient receives too little, the blood can clot; too much warfarin causes bleeding. “We have to start at a low dose, measure its effect with a blood test and increase the dosage followed by another blood test,” Dr. Estes said.

That process can take several weeks and no one enjoys the frequent blood draws. Excessive bleeding can occur in patients who suffer injuries, and care must be taken to avoid unnecessary trauma such as contact sports. A side effect of warfarin is ease of bruising.

Risk Factors for Atrial Fibrillation

The most common cause of AF is longstanding, uncontrolled high blood pressure and heart disease. Additionally, AF is the most common complication after heart surgery.

An entire spectrum of seemingly unrelated conditions can send the atria into “overdrive.” Other contributing factors include:

- Hyperthyroidism
- Heart valve disease
- Coronary artery disease
- Cardiomyopathy with weakened heart muscle
- Chronic lung disease
- Chronic obstructive pulmonary disease (COPD)
- Emphysema
- Asthma
- Excessive alcohol consumption
- Cigarette or stimulant use (such as caffeine)
Dabigatran, a new blood-thinner, was introduced in 2010. Although it has bleeding and bruising side effects similar to warfarin, it does not require repeated blood tests. It is, however, much more expensive than warfarin, and insurers pay a variable percentage of the cost. Dr. Estes indicated that there are other drugs in the approval process, but it will be at least a couple of years before they are available.

**Treating AF**

There is a wide spectrum of treatments for AF, depending on the intensity of the symptoms. However, all AF patients need to take some type of blood thinner.

For a patient whose heartbeat has gone out of control, the physician may do a cardioversion procedure, putting the patient to sleep briefly and administering an electrical shock to the chest to reestablish a normal rhythm.

For people with chronic yet irregular symptoms, the doctor may use anti-arrhythmic medications. These medications are usually started in the hospital while the patient is on a monitor due to the potential for causing abnormal rhythms in other areas of the heart.

There is a wide variety of these medications, such as calcium channel blockers and beta blockers. You may need to try several before finding the right one for you. These medications slow the heart rate and may help improve symptoms. However, they do not “cure” the arrhythmia, and patients will still need medication to prevent strokes.

“About two-thirds of patients with new-onset AF respond to anti-arrhythmic medication,” Dr. Estes said. However, as the AF progresses patients may have to move to a different anti-arrhythmic medication or different approaches.

If medication fails, a procedure called radiofrequency catheter ablation can establish a normal rhythm. This

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**> What is AF?**

**THE HEART** typically has a well-defined rhythm. The upper chambers, called the atria, contract and push blood into the lower chambers called ventricles. Oxygen-poor blood returns from its trip through the body to the right atrium and is pumped into the right ventricle then pumped into the lungs, where it is oxygenated. This blood returns to the left atrium. From there it goes to the left ventricle and is pumped through the aorta into the body - 40 percent of it to the brain. The heart’s contractions are controlled by electrical impulses that travel from nodes in the atria to the ventricles.

AF occurs when the atria fibrillate, or quiver (like a bowl of jello), instead of fully contracting. The problem is the result of a virtual blitzkrieg of electrical impulses that bombard the heart. This quivering prevents some blood in the atria from pumping into the ventricles, and that remaining blood can pool and clot. A clot inside the heart is called an embolus, and if it travels to the brain, it causes an embolic stroke. About half the people stricken by embolic strokes die within one year.

Healthy atria beat 60-80 times per minute; fibrillating atria may beat as much as 300-400 times per minute. Essentially, the heart of an AF patient works as if it’s enduring a marathon, even if the patient is relaxing in a chair. Because of the overactive heart, symptoms of AF most commonly include fatigue, lightheadedness, shortness of breath and even fainting. Some AF patients feel a “flopping” or pounding sensation in their chest. Some patients don’t feel a thing.

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[Image of the heart with annotations]
procedure requires a map of the heart’s electrical activity to identify areas with abnormal electrical activity. “These are very advanced mapping systems that allow us to have almost a GPS location in the heart,” Dr. Estes said.

A catheter is then inserted into a vein in the groin and threaded into the heart using X-rays. The tip of the catheter is guided to the precise heart tissue that is causing the problem. When it is in the proper location, the catheter emits a pulse of painless radiofrequency energy that cauterizes the abnormal tissue and corrects the irregular heartbeat.

About 75 percent of cases are cured with the first ablation. Cure rates increase to 90-95 percent after a second ablation.

Radiofrequency energy is also used to destroy an overactive AV node with ablation. The AV node mediates the electrical impulses from atria to ventricle. AV node ablation only affects the electricity going into the ventricles. The ventricles no longer receive rapid signals from the atria, causing breathlessness and fatigue to go away. AV node ablation requires implantation of a permanent pacemaker and does not affect the fibrillating atria.

Pulmonary vein ablation is a third and newer type. The goal of this procedure is to remove the arrhythmia “triggers,” which are in the pulmonary veins in some patients, and thereby maintain normal heart rhythm. This lengthy procedure is an option for patients who have very frequent symptoms despite medications. The ideal candidates are younger patients who do not have a lot of other underlying heart diseases.

The good news is that with these advances in technology, plus the use of blood-thinners, AF patients can reduce their risk of stroke and lead active, satisfying lives.

**Resources**

> Heart.org/afib
The AHA/ASA’s comprehensive site for atrial fibrillation includes information on symptoms, treatment and prevention as well as free, printable patient information sheets, helpful videos and more.

> StopAfib.org
StopAfib.org was founded in 2007 by AF patient Mellanie True Hills to improve the quality of life for those living with AF and to save lives by raising awareness and thus decreasing AF-related strokes. It has been certified as a trustworthy site by the Health on the Net Foundation. It is for patients by patients.

**“In Love with My Life”**

DIANE BINGHAM was enjoying a new family and a new life. Remarried at 55, she was the executive director of a trade association in Pottstown, Penn., a borough councilwoman and a civic volunteer. “I was happily second-time-around married to Walt, the apple of my eye,” she said. “Walt and I had jobs we enjoyed and had settled into a lovely home in the country. There was a big pond and plenty of wildlife.”

In 2003, Diane had an embolic stroke caused by AF that left her “all-over broken.” She had impaired vision, swallowing challenges, right hemiparesis, poor bladder control and a diminished sense of taste and smell. “My heart was out of whack, and almost every part of my being had been spun around,” she said.

Doctors tried medication to control her AF. “I think the medication was used to slow down my racing heart,” she recalled. “‘Slow down’ was OK, but ‘stop’ was not, so they installed a pacemaker about three weeks after the stroke.”

Diane finds the pacemaker easy to live with, though she was a little apprehensive about having the battery replaced recently. “It’s a hospital stay, a knife, surgery — yuck,” she said.

Medication is a daily duty. “I take gobs of medicine,” she said. “I take three drugs to help regulate my heart rate by controlling my blood pressure, and I’m on a lifetime regimen of warfarin.”

Diane still has deficits from the stroke: “Walking is more practiced than automatic. I still lurch and limp. I can’t eat and talk without choking, so I’m not much of a mealtime companion. My left nostril runs, so I’m not much to look at. And boy do I sleep. So I’m only useful some of the time.”

It sounds like enough to get a person down, but not Diane. “The AF isn’t a problem!” she said. “This whole experience has taught me that I’m tenacious and very much in love with life.”

As for advice for others on the AF-stroke survivor journey, she said: “Make up your mind to go through the paces. Practice may not make perfect, but it will make better, and better is good, very good.”

Survivor Diane Bingham and husband Walt
Thirty percent of stroke survivors experience aphasia or some other language and communication challenge, with more than 180,000 new cases annually. Those living with aphasia know that its impact can go beyond language difficulties. Aphasia can make the psychosocial adjustment after stroke even more difficult. It can disrupt relationships with family and friends, limit opportunities for employment, and make it harder to function independently.

**Hearing Loss, Stroke and Aphasia**

Hearing loss is even more common than stroke, found in 16 percent of the population between ages 16 and 69. Nearly all adults older than 80 have some degree of hearing loss.

When a person with aphasia also has some degree of hearing loss, it can make it look like he or she has more severe aphasia than they actually do, adding to the amount of effort and attention it takes for them to communicate with others. Because of this, communication breakdowns can happen more frequently. This may make some survivors want to withdraw. Fatigue, frustration, the risk of social isolation and depression all increase in patients suffering from both aphasia and hearing loss.

Speech and language diagnostic tests that depend on a survivor’s ability to hear, as well as treatment measures, can be compromised by hearing loss. The potential for recovery and good treatment outcomes might be underestimated or undermined when a patient has difficulty understanding spoken instructions from a therapist, which can result in less effective therapy.

This can result in working toward the wrong treatment goals or in performing unsuccessful procedures. A patient may have a hard time understanding spoken instructions from the therapist because their hearing distorts the sounds. If the hearing problems are addressed, aphasia treatment can become more effective.

**Detection and Treatment**

All adults should have periodic hearing tests, especially if they notice that it’s becoming more difficult for them to hear what people are saying when they are in noisy environments. Adult stroke survivors should be tested routinely for hearing loss, particularly if they have any communication deficits. To improve communication and treatment outcomes, hearing tests should occur before behavioral therapies to improve communication and treatment outcomes. Some adults fail to notice a hearing loss until it is quite severe, so even when survivors think their hearing is fine, getting tested is a good idea. Early treatment can produce better results, so don’t put off being tested if you notice changes in your survivor’s hearing.

Some forms of hearing loss can be treated medically, so seeing an otologist (a doctor specializing in diseases of the ear) is important when a hearing loss is detected. Devices such as hearing aids and cochlear implants are important treatment options. Some healthcare professionals are reluctant to use these devices, concerned such aids...
may overburden survivors and their families. But this concern doesn’t take into account the negative impact of hearing loss on communication. Hearing aids have a mixed reputation among the general population, but a well-fitted hearing aid can make communicating easier, improve socialization and reduce the burden of isolation.

Using these devices, along with behavioral therapies, adults with hearing loss can be trained to hear and use speech and language more effectively. Audiologists and speech-language pathologists can teach patients how to use their devices based on their individual listening and communication needs. They also can help patients improve listening skills.

The most important thing to remember is that hearing loss is treatable in stroke survivors and should not be ignored.

To find an ASHA-certified speech-language pathologist near you, go to asha.org and click on “Find a Professional” or call (800) 638-8255.

**Tips for Improving Communication**

In addition to scheduling periodic hearing tests and addressing hearing problems that arise, try improving communication with these tips:

- Reduce distractions and background noises that will interfere with hearing (e.g., turn off the radio or TV, close the door, or move to a quieter place).
- Limit the number of people speaking at once in a conversation.
- Talk slowly and clearly, but don’t yell.
- Make sure your face is visible when interacting.
- Begin conversations with casual topics like the weather or what a person had for lunch.
- Avoid crucial messages at the beginning of a conversation.
- Give people a moment to reminisce. Their memories are important to them.
- Talk about familiar subjects such as family members and special interests of the person.
- Stick to a topic. Avoid quick shifts from topic to topic.
- Keep sentences short and simple.
- Allow extra time for responding. Don’t hurry them.
- Give the person choices to ease decision making – “Do you want tea or coffee?” rather than “What do you want to drink?”
- Be an active listener. Look for hints from eye gaze and gestures. Take a guess – “Are you talking about the TV news? Yes? Tell me more. I didn’t see it.”

**If a stroke limits your walking ability...**

The WalkAide System can significantly help improve your mobility.

**Independence one step at a time.**

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stroke survivors who worked with therapists at home and in bodyweight-supported treadmill (locomotor) therapy showed more improvement in their walking than patients receiving only the usual physical therapy, according to new research.

The study of more than 400 patients with severe or moderate walking problems also found the groups using treadmill training and home exercise achieved similar gains in walking speed, motor recovery, balance, social participation and quality of life. All the groups also were treated with standard physical therapy.

“We were pleased to see that stroke patients who had a home physical therapy exercise program improved just as well as those who did the locomotor training,” said Pamela W. Duncan, Ph.D., principal investigator of the study and a professor at Duke University School of Medicine in Durham, N.C. “The home physical therapy program is more convenient and pragmatic. Usual care should incorporate more intensive exercise programs that are easily accessible to patients to improve walking, function and quality of life.”

The primary measure was each group’s improvement in walking at one year post-stroke. After six months, patients who were assigned only the usual physical therapy recovered only about half as much as the participants who had also received one of the study therapy programs for three months. This finding suggests that either the treadmill training program or the at-home balance and strength training sessions are effective forms of physical therapy, and both are superior to usual care.

The findings were counter to researchers’ hypothesis that the treadmill program would be superior to a home exercise program.

The at-home strength and balance therapy group was the most likely to stick with the program; only 3 percent of them dropped out of the study, compared to 13 percent in the locomotor training groups. Dr. Duncan noted that the home training programs were progressive, intensive, and repetitive, and were highly effective in improving functional status, levels of walking ability and quality of life a year after stroke.

The home exercise programs require less expensive equipment, less training for the therapists and fewer clinical staff members. Dr. Duncan suggested that this intervention may help keep survivors active in their own homes and community environments.

The study is called the Locomotor Experience Applied Post Stroke trial, also known as LEAPS. The patients were randomly assigned into the three study groups and participated in 36 90-minute sessions over 12 to 16 weeks. The average age of the patients was 62. Fifty-four percent were men and 22 percent were African-American. The trial took place at six inpatient rehabilitation centers in Florida and California.
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Perhaps you’ve noticed that not all food is good for you. For instance, food products with added sugar (in any of its various forms) shove a lot of calories your way without providing much nutrition. And when those calories aren’t burned up through activity, they get stored as fat. That’s one reason our country faces an obesity epidemic.

It’s helpful to distinguish between “energy-dense” and “nutrient-dense” foods. Energy density refers to the calories in a single serving. Nutrient-dense foods are full of the things your body needs to function efficiently.

All foods have calories, unless they have been engineered to be zero calories, in which case they have zero nutrients as well. When it comes to foods with high calorie density, sugar and fats are two of the major problems. Sugar, for example, contains about 16 calories per teaspoon, so foods with a lot of it have a higher energy density. Sugar is considered a “simple” carbohydrate.

Fat contains more than twice as many calories per gram as either carbohydrates or proteins. There are 9 calories per gram for fat vs. 4 calories in each gram for carbs or protein. It is important to know that there are three kinds of fat:

• **saturated fat**, which is solid at room temperature, like butter or cheese
• **trans fat**, vegetable oil that is blended with hydrogen to prolong the shelf life of processed food; it is often labeled as “partially hydrogenated vegetable oil”
• **unsaturated fat**, which is liquid at room temperature, like vegetable oil

Saturated and trans fats are considered “bad” fats because they raise your body’s “bad” cholesterol known as LDL. But fats aren’t inherently unhealthy. There are two types of unsaturated fat, polyunsaturated and monounsaturated, both of which increase the “good” cholesterol called HDL. Unsaturated fats contain omega-6 and omega-3, which are essential for brain function. But remember, all three varieties of fat are high in calories so they add to a food’s calorie density. Be careful
Understanding the nutritional makeup of your food is a great step to getting the biggest bang for your caloric buck. Here are some examples to consider:

<table>
<thead>
<tr>
<th>FOOD</th>
<th>PORTION</th>
<th>CALORIES</th>
<th>COMPARISON</th>
<th>WALK IT OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banana</td>
<td>One (118g)</td>
<td>105</td>
<td>Not only are bananas fat-free and cholesterol free, they’re readily available, inexpensive and easy to take anywhere. One banana also packs 12% of the daily recommendation for potassium compared to 2% for the doughnut. Making the best choice here is easy!</td>
<td>26 minutes</td>
</tr>
<tr>
<td>Glazed Doughnut</td>
<td>One 3¼” (60g)</td>
<td>239</td>
<td></td>
<td>60 minutes</td>
</tr>
<tr>
<td>Baby Carrots</td>
<td>1 oz. (28g)</td>
<td>10</td>
<td>Though choosing a “light” tortilla chip is a better choice than the regular kind, choosing some crunchy baby carrots is even better. They have no fat and only 22mg of sodium versus 281mg in those chips. (The AHA recommends keeping sodium intake below 1500mg each day.) And, wow! Those carrots provide 77% of your daily Vitamin A requirement. Another easy choice.</td>
<td>3 minutes</td>
</tr>
<tr>
<td>Tortilla Chips, light</td>
<td>1 oz. (28g)</td>
<td>130</td>
<td>AHA recommends keeping sodium intake below 1500mg each day.) And, wow! Those carrots provide 77% of your daily Vitamin A requirement. Another easy choice.</td>
<td>33 minutes</td>
</tr>
<tr>
<td>Spinach</td>
<td>1 cup (30g)</td>
<td>7</td>
<td>At first glance, both of these leafy greens appear to be pretty equal. No fat and very few calories in either. But if you’re looking to meet requirements for vitamins and minerals, spinach comes out ahead, providing 49% more of your Vit A and 11% more of your Vit C. But if warfarin (Coumadin®) is one of your medications, be aware that spinach is also high in Vit K (see “Potential Confusion” on pg. 20).</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Iceberg Lettuce</td>
<td>1 cup shredded (72g)</td>
<td>10</td>
<td></td>
<td>3 minutes</td>
</tr>
<tr>
<td>Nonfat Yogurt with Fresh Fruit</td>
<td>1 cup (245g)</td>
<td>233</td>
<td>Very close in calories, but the yogurt with fresh fruit offers more than twice the protein (11% of the daily requirement) and almost twice the calcium of its frozen, chocolate cousin. And, oh no, the frozen yogurt also has 23mg of cholesterol over the 5mg in the nonfat with fresh fruit variety. What kind of fruit do I want in my nonfat yogurt today?</td>
<td>58 minutes</td>
</tr>
<tr>
<td>Frozen Yogurt, Chocolate</td>
<td>1 cup (174g)</td>
<td>221</td>
<td></td>
<td>55 minutes</td>
</tr>
</tbody>
</table>
how much fat you eat, even if it’s the unsaturated variety. (For an easy-to-understand discussion of dietary fat, go to heart.org/facethefats.)

On the other hand, examples of nutrient-dense foods include complex carbohydrates, proteins, fat, vitamins and minerals. Complex carbs are often referred to as “starchy foods” and include legumes, starchy vegetables and whole-grain bread and cereal.

The best diet for stroke survivors (and everybody else) features foods that are low in calories but high in nutrients. Foods that lack nutrients are referred to as having “empty calories,” because they are more likely to contain added sugar and trans fats. Processed foods are a common source of empty calories. Think of the difference between a candy bar and an apple: A candy bar with all its added sugar and trans fat will be extremely energy dense but will contain very few, if any, healthy nutrients such as complex carbs, protein or unsaturated fat. On the other hand, the apple has very few calories (low energy density) but it is more nutrient dense, because an apple has many of the things your body needs (vitamins A and C as well as calcium, iron and potassium).

When evaluating calorie density, keep in mind how much activity it will take to burn those calories. Going back to the candy bar-apple example: A 3.5-ounce popular chocolate bar contains 343 calories, while an 8-ounce apple has 118. It takes an average 150-pound person 90 minutes to burn off the calories from that candy bar (walking 2 miles an hour burns an average of 240 calories per hour). That same person would only need 30 minutes of walking to burn off the apple. Remember, any calories not consumed are stored in your body as fat. So it’s best to eat nutrient-dense foods that are low in calories.

Product labeling requirements make it much easier to shop for those nutrient-rich foods. Labels give important information you can use to make healthy food choices, including the amount of carbohydrates, fats, protein, sodium, cholesterol and fiber. Micronutrients such as vitamins A and C, calcium, potassium, riboflavin and iron are listed as well. Food labels also identify the percentage of the USDA recommend daily allowance of each of these nutrients and micronutrients. (To learn how to read nutritional labels, visit heart.org/nutritionlabels.)

<table>
<thead>
<tr>
<th>FOOD / AMOUNT / % OF DAILY VALUE</th>
<th>FOOD / AMOUNT / % OF DAILY VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kale (fresh, boiled) ½ cup 660%</td>
<td>Brussels sprouts (frozen, boiled) ½ cup 190%</td>
</tr>
<tr>
<td>Spinach (fresh, boiled) ½ cup 560%</td>
<td>Spinach (raw) 1 cup 180%</td>
</tr>
<tr>
<td>Turnip greens (frozen, boiled) ½ cup 530%</td>
<td>Green leaf lettuce 1 cup 170%</td>
</tr>
<tr>
<td>Collards (fresh, boiled) ½ cup 520%</td>
<td>Romaine lettuce 1 cup 70%</td>
</tr>
</tbody>
</table>

For more information, go to the website of the National Institutes of Health and search for “Coumadin vitamin K pdf.”

Potential Confusion

Vitamin K and potassium are two different nutrients that contribute to good health. They are sometimes confused because the chemical symbol for potassium is K. They are not the same.

Potassium is required for cells, tissues and organs to function properly. Your body cannot make potassium, so you have to get it through your diet. It can be found in meat, fish, dairy, legumes and numerous fruits and vegetables. As such, if you eat a healthy diet, it is unlikely that you will be deficient in potassium. Symptoms of a deficiency include weakness, fatigue and irregular heartbeat.

Vitamin K is a fat-soluble vitamin necessary for blood clotting; it also supports bone health.

Although vitamin K is found in food, most of it is produced by bacteria in your large intestines. Coagulation is an important role of vitamin K, which is why survivors using the blood thinner warfarin must watch their intake of it.

To help warfarin work effectively, keep your vitamin K intake consistent. Sudden increases may decrease warfarin’s effect. To help keep it consistent, the National Institutes of Health recommend warfarin users limit foods considered high in vitamin K to no more than one serving per day. Foods that are moderately high should be limited to three servings a day. The Recommended Daily Value is 80 micrograms.
At 9:30 Saturday morning, Marilyn and I were comfortably settled in our favorite seats onboard the New Haven express train leaving Grand Central Terminal at 10:07 a.m. We were the first ones in the car and very pleased with ourselves. Nothing sweeter than being on time. With luggage stowed, laptop charged and the New York Times spread out, we slowly relished our cream cheese-slathered cinnamon-raisin bagels while harried and sweaty last minute passengers scrambled for a seat.

Why so early? Well, a stroke survivor has to operate on the theory that stroke time is like dog years. You have to multiply by a factor of 7. What once took five minutes now takes 35. So it’s necessary to plan ahead. I learned this lesson in the hospital when I was quickly changing for PT and trying to make it on time. (BTW, never wear a hospital gown to PT. You may enjoy the breeze but believe me, nobody enjoys the view!) Turns out stroke and rushing are as compatible as Sandra Bullock and Jesse James. I ended up on the floor thrashing around like a freshly caught trout trying to squeeze my head through the sleeve of my sweatshirt.

Anyway, just as we were enjoying the last bite of our bagels and basking in the bliss of this Aesopian tortoise-and-hare moment, the intercom screeched, “TESTING. 1-2-3. This train will now be departing from Track 104 on the lower concourse. Please de-train immediately.” It was like the conductor just shot off a starter pistol and said, “Let the pushing and shoving begin!” Our car, which was on Track 21, emptied faster than a public pool with a Snickers bar floating in it.

I stuffed the bagels in my back pocket while Marilyn juggled her coffee and all the other paraphernalia like a performer in Cirque du Soleil. We were immediately sucked into the moving mosh pit of bodies on the platform.

More treacherous territory stood between us and track 104 than Lewis and Clark encountered on their famous expedition to the Pacific. Sure, they had the Rockies and a few wolves. But we had to snake around hazardous food kiosks, newstands and shoeshine booths while fending off endless packs of testy New York commuters. And that was just to get to the stairs, which takes you down to the lower concourse where we confronted more food kiosks, newstands, shoeshine booths and even testier commuters.

No worries. As Jay-Z might say, I was “Rollin’ with M&M, my main squeeze K’givah.” Never mess with a caregiver on a mission. And mine, all 98 pounds of her, wheeled our piano-size, densely packed suitcase like an Indiana Jones sidecar. While still clutching her coffee (at 4 bucks a pop you don’t just chuck it), she raised her free arm linebacker style, occasionally throwing up a strategically placed elbow, leaving a sizable body count in her wake. She made Big Mike from the movie “The Blind Side” look like Tinker Bell. All I had to do was nonchalantly stroll down the narrow path plowed ahead of me.

We passed tracks 102, 103 … and then touchdown! Score one for the stroke team. Simultaneously pumped and relieved, we slipped into a couple of seats.

As I scooped the cream cheese out of my back pocket, I had an epiphany. Experiences like these remind me that while planning is good, too much planning can be the enemy of adventure. After all, sudden track changes are what life is all about.
At the age of 47 and on the cusp of the breakthrough that is every artist’s dream, the comedian John Kawie suffered a devastating stroke which he thought would derail his career…and life. With the sardonic wit that landed him gigs as a writer/contributor for comedians such as Bill Maher, Dennis Miller, and David Brenner, John focused on his experiences with the stroke and created BRAIN FREEZE, a hysterical, poignant, and affirmative journey through the bumpy road to recovery and beyond. Recorded live at the Gotham Comedy Club in New York City in front of a rollicking full house, BRAIN FREEZE is sure to delight those who know just how healthy a laugh can be – and to help teach us all that (to quote John) life is indeed at the curb!

A portion of the proceeds go to the American Stroke Association*