American Stroke Association
A Division of American Heart Association

Stroke CONNECTION MAGAZINE

September/October 2004
StrokeAssociation.org

Salud es Vida
Health is Life

Reducing risk for Hispanics

Neida Sandoval
Caregiver and Anchorwoman of Univision's Despierta America

- A Rehab Revolution
- Living with Aphasia
- Stroke and the Meaning of True Love
- Up-N-Swingin'

contents

September/October 2004

Stroke CONNECTION MAGAZINE

Feature Story

Articles

Departments

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As a result of left-side hemiparesis, I have constant strain throughout my left side and especially at my left foot. It's very uncomfortable and doesn't let up. I'm taking Neurontin, but I have to take so much to get relief that it knocks me out. I'm always tired from the drug, but I must choose between that and incredible strain. Even with the drug, the strain is still there, but somewhat reduced.

I'm writing to respond to Mike Rampa's article "Give Up Hope of a Better Past" (March/April 2004). It is one of the most truthful and no-nonsense articles that I've ever read on the subject of stroke.

Mr. Rampa was right on the money when he stated that the medical establishment advocates the simple credo — "Don't let the stroke define who you are." Let me tell you, that's easier said than done. I've tried again and again to be the hero and not show my strains, but it's always there, no matter what. It's really hard to be among family and friends and ignore that constant discomfort.

Thanks for putting this article in your magazine. It's really very truthful.

Frank Cassi, Survivor
Massapequa, New York

Following a family member's stroke a few years ago, we found that several of our favorite businesses were not handicap-accessible. Unfortunately almost the same situation exists today in many places, even though the Americans with Disabilities Act was passed in the early 1990s. Unless a business builds or remodels, they do not have to meet the ADA guidelines. That does not help millions of disabled people in this country.

Even though I am not disabled, I do not patronize any business that is not handicap-accessible. If enough people would do this, and tell the business why, many more places would soon be accessible.

Marilyn Young, Stroke Family Member
Kearney, Nebraska

My wife Jeannine had aphasia as the result of strokes during heart surgery in 1997. Following the guidance of *Stroke Connection Magazine,* her rehabilitation went well until 2001 when a series of complications set in. Her condition deteriorated until she needed total care for all activities of daily living. Now she is on Medicaid and has resided in a healthcare center since 2001.

I used to visit Jeannine almost every day until May 7, 2002. Using knowledge derived from this magazine, I myself dialed 9-1-1. The ambulance came immediately, and I was off for triple bypass surgery. At age 89 I am in pretty good shape, able to walk carefully to and from public transportation and Virginia DOT special taxis to see my wife or do special errands.

My wife will be 84 in July. We will observe our 53rd wedding anniversary on the 23rd and 28th of May: First in Heidelberg, Germany, and then in her hometown just outside Paris. Our observance will not be too much. I will bring the card from both of us to both of us, and maybe we will share a cup of fruit juice.

I thank the American Stroke Association and the American Heart Association for saving my life and for helping Jeannine to be so well taken care of since 1997.

David Kennedy, Spouse
Alexandria, Virginia

We Want To Hear From You

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Letters may be edited for length and scientific integrity. The opinions presented are those of the individual and do not reflect those of the American Stroke Association.

Early Treatment Confirmed as Key to Stroke Recovery

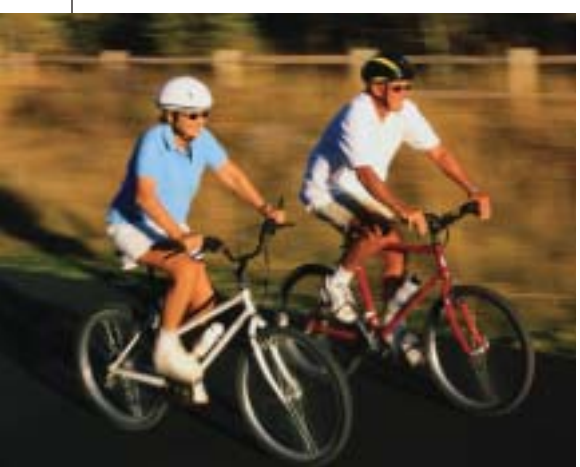
A study in the British medical journal *The Lancet* confirms the benefits of getting stroke patients to a hospital quickly so they can receive rapid clot-busting treatment. The study results were based on an extensive analysis of more than 2,700 stroke patients who were randomized for treatment with tissue plasminogen activator (tPA) or a placebo.

Stroke patients treated within 90 minutes of the onset of symptoms showed the most improvement. The study suggests that tPA given up to four hours after onset may be of benefit, but there is estimated to be almost no benefit at six hours. "Once again we learn that time is brain," said John R. Marler, M.D., one of the study authors.

To be eligible for tPA, patients must have CT scans of the brain to confirm that the stroke is caused by a clot. Seventy-five percent of patients treated within 60 minutes of stroke onset had the best chance of having a complete or partial reopening of the blocked artery.

"This study confirms that door-to-needle time is just as critical in stroke as it is in heart attack. We need to work on breaking down the current barriers to rapid stroke treatment," said Story C. Landis, Ph.D., director of the The National Institute of Neurological Disorders and Stroke.

The data in *The Lancet* paper suggest that the beneficial effect of tPA may extend beyond three hours (from 181 to 270 minutes). However, the authors caution that large prospective randomized trials would be required to confirm this finding and that this does not justify any delays in treatment. SC

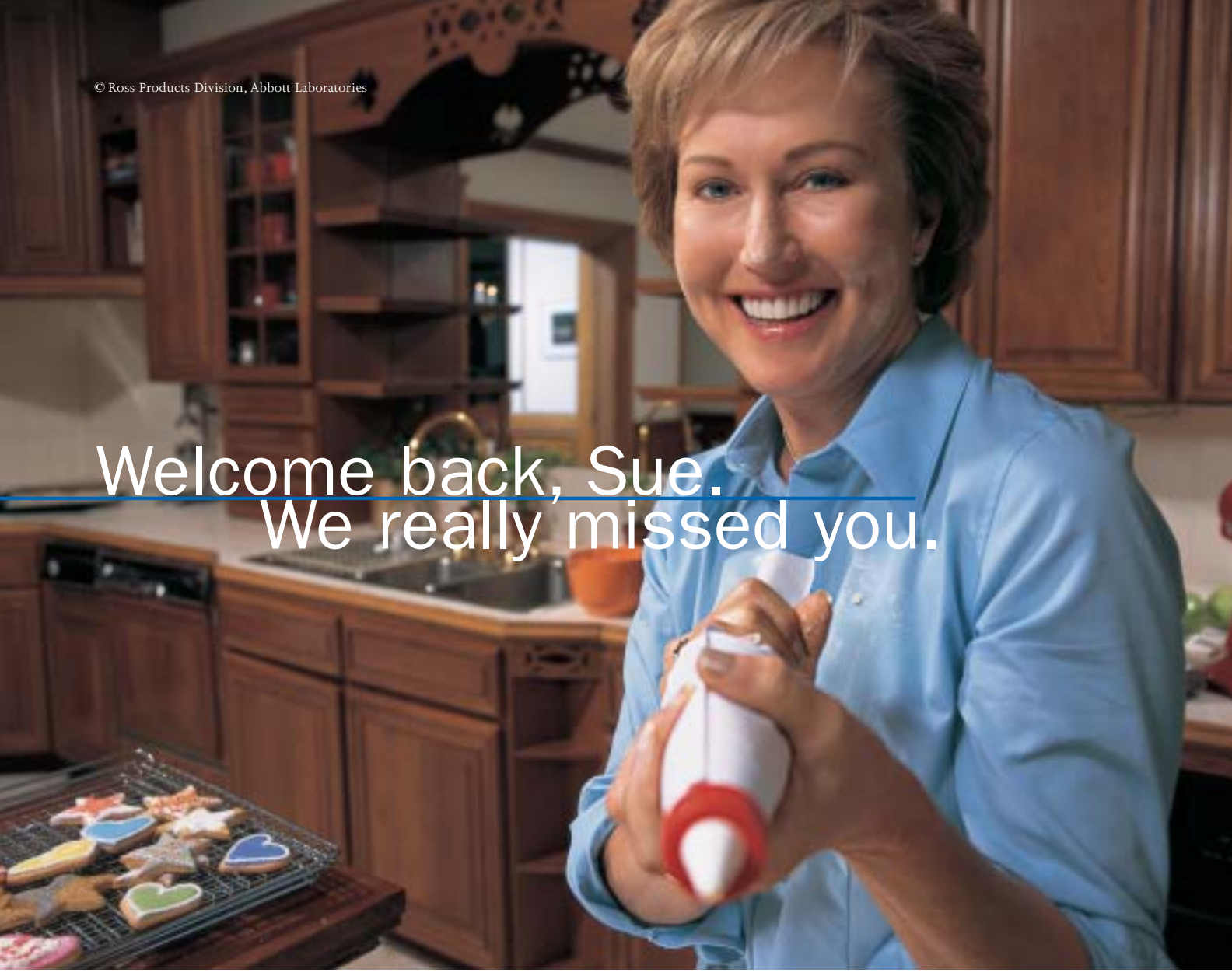


Guidelines for Exercise after Stroke

Stroke often impairs function and can create a vicious cycle of decreased activity and greater intolerance for exercise. This can lead to complications such as reduced cardiorespiratory fitness, muscle atrophy, osteoporosis and impaired circulation to the extremities.

The American Heart Association recently published guidelines for exercise after stroke. This document alerts healthcare professionals to the benefits of physical activity after stroke so the professionals can guide survivors accordingly.

You can print a copy of these guidelines to discuss with your doctor. Visit http://circ.ahajournals.org/cgi/content/full/109/16/2031. SC



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Community Intervention Reduces Recurrence

A study of two communities in Beijing, China, showed that an intervention program that encouraged lifestyle changes and health screenings lowered the risk of stroke in a high-risk population. The report, published in *Stroke: Journal of the American Heart Association,* finds that community efforts to identify and treat people with high blood pressure and to educate people about stroke risk factors can pay off in lower rates of stroke death and recurrence.

The study focused on two districts in Beijing. One involved a two-pronged prevention effort spanning 1991–2000. In the first prong, medical workers regularly monitored the blood pressure of stroke patients and people with hypertension. They encouraged them to seek medical treatment for their conditions. Every three months, residents received flyers and bulletins with information on stroke, as well as occasional lectures.

The second prong was an educational effort aimed at the entire community. Various programs encouraged all residents to limit salt intake, exercise more often, quit smoking, and refrain from drinking alcohol. Community surveys revealed that more than 90 percent of residents were influenced by the educational messages.

No high blood pressure detection or management programs were offered in the control community.

Data on stroke and death from all causes were collected from the two areas. The risk of death from a first stroke was 26 percent lower in the intervention community than in the control community. The greatest decline occurred in the risk of death from hemorrhagic stroke, which was 39 percent lower.

Recurrence of stroke was tracked in people who experienced a first stroke in 1996 and 1997. During a three-year follow-up period, 52 (20.80 percent) of the 250 cases in the control community had a second stroke. Only 26 (11.66 percent) of the 223 cases in the intervention community had a second stroke. SC

FAST Stroke Diagnosis

A test that examines facial weakness, arm weakness and speech disturbance allows paramedics to quickly and accurately identify stroke.

A study published in *Stroke: Journal of the American Heart Association* found that paramedics using the "Face Arm Speech Test" (FAST) were in close agreement with neurologists using the National Institute of Health Stroke Scale in early recognition of stroke.

Assessments by the neurologist and paramedics were almost the same for all the areas measured. The most prevalent sign in confirmed acute stroke patients was arm weakness, which was present in 96 percent of patients.

The study is the largest and first non-experimental study in which paramedics' assessments using FAST to diagnose strokes were compared with assessments by stroke physicians or neurologists.

The main purpose of FAST, which was developed in 1998, is to rapidly recognize stroke to ensure that patients are fast-tracked to be imaged and assessed by an expert stroke team as soon as possible. Rapid treatment of a stroke can reduce long-term deficits, but symptoms of stroke can be vague and transient, making early identification difficult. SC

Treating HBP Could Prevent a Fourth of Bleeding Strokes

Treating high blood pressure could cut the annual number of bleeding strokes in the United States by about one-fourth, according to a report in *Stroke: Journal of the American Heart Association.*

Researchers estimated that 17 percent to 28 percent of hemorrhagic strokes in people with high blood pressure would have been prevented if they had been on hypertension treatment. However, even when treated, high-blood pressure remains a significant risk factor for hemorrhagic strokes.

The researchers found that the risk for hemorrhagic stroke among people with untreated high blood pressure was 3.7 times greater than that for the general population in and around Cincinnati. The risk for the treated patients was 1.4 times higher.

Hemorrhages cause about 12 percent of all strokes. SC

What Love Can Do

Gerald and Marilyn Wilson

I knew what was happening when I couldn't wring out the dishrag when cleaning up after dinner. My husband Gerald, who is 80, can't drive as a result of polio and diabetic retinopathy, so I called our son Steve to take me to the hospital.

The doctors found that I had a clot in the vertebral artery, and it had flicked off a piece to the right side of my brain. Later more was released, and I was completely paralyzed on the left side. After a week in the hospital, I went to a nursing facility for therapy.

I was very motivated to get better because I needed to get back to caring for my husband and 89-year-old mother. I am 70. While I was gone, my three children and their spouses looked after their dad. After six weeks in the nursing facility, I went home using a walker. Gerald uses a wheelchair, and I thought two wheelchairs would not work in our small house.

I continued therapy as an outpatient and was soon able to drive as my eyes were OK. I took over cooking and most household chores right away. I did buy a mop since I could no longer scrub the kitchen floor on my hands and knees. I get help from the children for heavier chores.

In April 2000, Gerald had pneumonia and a heart attack and spent time in a nursing facility. He came home in September.

In 2002 we discovered staph germs had entered his heel through a small lesion on his ankle. After several surgeries to aid healing and many antibiotics, it was necessary to amputate his left foot. After a few weeks he was back home and healing well.

I could have written the article "The Impact of Caregiving on Caregivers" in the November/December 2003 issue. We have started a stroke support group, and it has a caregiver group attached to it. I participate in both.

Once a month I play bridge. I also volunteer every Monday afternoon at our hospital and have served as an officer with our auxiliary. Once a month I hire a nurse to come in and care for Gerald while I run errands, shop, meet friends for lunch and maybe finish my day off with a massage.

Massage has been a big part of my recovery since I got home. I'm still not completely recovered and need to keep up therapy. I was a lefty but still write with my right hand. Now I can print and do crossword puzzles left-handed.

Gerald is doing fairly well right now, but if it weren't for assistance from my sons in getting him in and out of bed, I could not care for him at home. When the boys are not available, our grandson Scott and neighbors step in. Besides the help of these, encouragement from friends, neighbors, pastors, our church family and our extended family have helped us both so much the past four years.

Marilyn Wilson, Survivor and Caregiver
Findlay, Ohio

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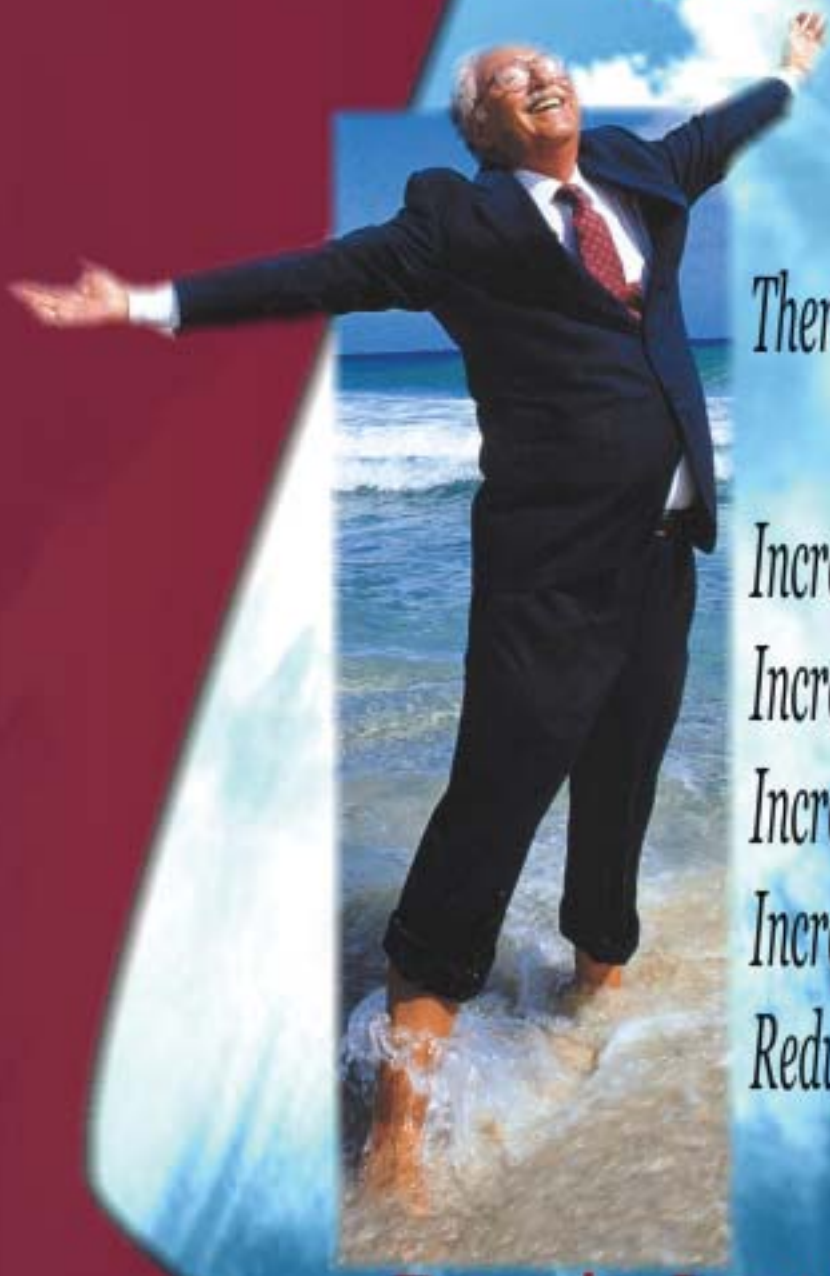

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My Dad

Bill Turek and daughter Cheryl

Back in 1998, my dad, Bill, had a stroke, but after weeks of therapy he was able to overcome some of his deficits. He had expressive aphasia. I know this was extremely frustrating to him, as it would be to anyone, but my dad made the best of it. He kept a positive outlook on life, knowing that this was his "new" life and he had to adapt.

Dad went back to work and was doing well. However, about two years later he began having episodes of passing out. After numerous tests he was diagnosed with hemangioma, a rare condition that causes blood vessels in the brain to dilate. Soon Dad had to stop working, which bothered him a lot. He felt that he was being robbed of his independence, but he always kept himself busy around the house with a new project. He went to The Home Depot so much they knew him by name.

Then in March 2003, Dad had a grand mal seizure, which meant he could not drive anymore. He adapted by corresponding with other stroke survivors he had met through *Stroke Connection Magazine.* He corresponded with others from many states. It was a wonderful way for him to share his thoughts and feelings with other survivors.

He became good friends with Bill Lepere from Tampa. They met in July 2003 when my parents came to Orlando to visit me. It was a dream come true for Dad to meet Bill. No words can describe the smile on his face when the "two Bills" actually met.

Bill Turek and Bill Lepere

A week after returning from Florida, Dad had a sudden onset of right-side weakness, as well as difficulty writing and speaking. He went to the ER, thinking it was another stroke. Instead, the MRI showed two brain tumors. Tests showed they were both malignant and growing rapidly. Both were invasive, and surgery was not the best answer since both would eventually grow back. Starting radiation, Dad took on this new battle with courage and strength and with the love of family and friends. He lost that battle in December 2003.

I would like every reader to know what a wonderful man Dad was, and I love him with all my heart.

Cheryl Turek, Stroke Family Member
Orlando, Florida

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*The 2004 Ford Mobility Motoring Program is in effect from September 1, 2003 through August 31, 2004. The Program will reimburse for the exact amount of the adaptation, up to $1,000 on adaptive equipment and up to a maximum amount of $200 for alert hearing devices, lumbar support and running boards, when you take retail delivery of an eligible new 2003, 2004 or 2005 Ford, Mercury or Lincoln vehicle by August 31, 2004.

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Travel Bug

On May 29, 1985, I was getting ready to buy the house next door. On the way out of my own home, I collapsed on the front porch. I shattered my right wrist in the fall. When I got to the hospital, I was told I'd had a stroke. The doctors started asking me questions, and then I fell into a coma. When I came out, three months had passed and I was in a different hospital. I was 57 years old.

During those three months, doctors had operated on me four times to remove blood clots. They also discovered that my left carotid artery was completely blocked and that I had an inoperable aneurysm in my brain. They didn't operate on my carotid artery because they were afraid the aneurysm would burst, so I was released from the hospital in August.

I returned to work as Communication Coordinator for the Secretary of State's office in November, but by June, I realized I could no longer do the job. I had been there for 12 years, so retirement came early for me.

Marion Slifer and some old friends in China

I looked back over my life. I remembered running away from home when I was 15 years old. Even though I came home in a few days, it caused a desire to see what was in this land and others. At 19, I joined the Navy in 1946 and spent two years in the Pacific. Then I joined the Army in 1949 and served in Europe for 4½ years.

At age 58, after a stroke, retirement and a divorce, it was time to start over. I got involved in my local stroke support group, even served as president. The group helped me improve. I was partially paralyzed after my stroke, but I have a gym in my basement and I started working out down there, lifting weights and riding an exercise cycle. It took seven years, but I was able to overcome the paralysis.

In 1992 I went to work for the Springfield Center for Independent Living. The director was blind, so I helped him and other blind people use the computer. Through the center I got a job at the airport as a security screener. One of the perks of that job is the opportunity to travel stand-by on TWA.

I'm 76 now, and I've been to 43 countries on 17 tours and cruises. The highlight of all my trips was seeing the Great Wall of China. Most recently, in 2002, I visited Thailand. I'm currently under a doctor's care because I've been passing out, but when I'm released I'm planning a trip to Russia.

It's been almost 20 years since my stroke, and I still have problems with my memory and my right side, but I've learned to adjust. I still work out in my gym. I lift weights, walk on a treadmill and ride my exercise cycle. Sometimes it's not easy, but I am definitely enjoying my life.

Marion Slifer, Survivor
Springfield, Illinois

No Stroke Joke

I'm a writer who likes to take a poke
At anything, this time it's stroke.
I know that some may want to take issue,
But I'm the guy with the "cooked" brain tissue,
And that, my friends, is no joke.

In Ninety-six I had my first,
Only God knows when I'll have my worst,
But I have come to realize
That God, diet, meds and exercise
All keep me out of the hearse.

Here's my advice to you, my friends,
If you survived say your "Amens,"
Be thankful for your second chance,
And get the lead out of your pants,
And get to doing some deep knee bends.

Conrad Craber, Survivor
Fairview, Oregon

Seeing Better is Living Better…

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-J.T., Pennsylvania

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A Busy Time with No Regrets

Wayne and Lorraine Essig

The letters in the January/February 2004 issue made me feel very fortunate.

I had my stroke in July 2001. It's been a busy time since. I was using a walker when I started therapy in September. For a while I walked with a cane and then free walked as best I could. I'm lucky to have a husband, Wayne, who takes me to exercise three times a week. The exercise strengthens my back and reduces the pain.

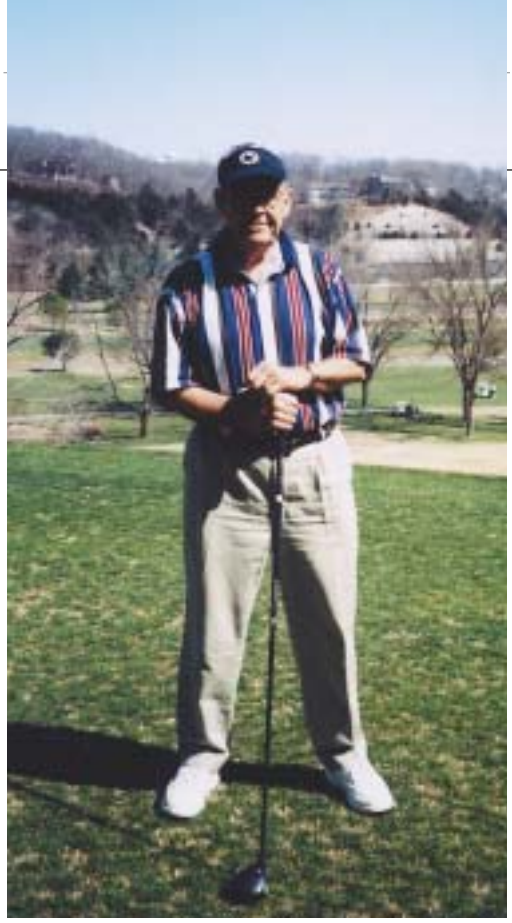
The stroke took a great deal of my eyesight so I can no longer drive a car. I can't complain, I drove till I was 81. I have no regrets.

Prior to the stroke, I had women over for coffee, then we'd all go out to lunch. That fell apart when I was sick, but now we get together at a restaurant once a month. I'm also part of a once-a-month breakfast club, so I keep in touch.

I always loved to cook. I'm able to prepare soups and other dishes for our main meal. Wayne has learned to fix a lot of things he couldn't before.

I spend a lot of time enjoying TV. It has been a godsend to me.

Lorraine Essig, Survivor
Loveland Colorado



Joe Trindle on the links

Hands-On Experience

More than a year ago I had a stroke while playing golf. My playing partner recognized what was happening and had an ambulance get me to the hospital within minutes. My right side was severely affected. I would work for hours to get one finger to move even the slightest.

My goal was to play golf again in six months. Much to the surprise of my healthcare team, I reached that goal. I am far from being recovered, and I realize that I may never fully recover, but I also realize that I must make progress happen if there is to be further progress.

Several months ago my occupational therapist told me he had done all he could do for me. He suggested a good massage therapist might help. Did it ever!!! I found a qualified massage therapist and noticed immediate progress. It has been a miracle for me.

Joe Trindle, Stroke Survivor
Bella Vista, Arkansas

Salud es Vida | Health is Life

by Jon Caswell

The Hispanic population is the fastest-growing minority population in the United States. They also have a higher prevalence of diabetes, alcohol use and physical inactivity, which puts them at a high risk of stroke and heart disease.

More than 8 percent of Hispanic males, and more than 11 percent of Hispanic females, have diabetes. In addition, with an age-adjusted incidence of almost 32 percent, they are the most likely to have "metabolic syndrome," a condition that puts them at risk of diabetes and cardiovascular disease.

Although little research has addressed stroke risk in the Hispanic population, it has been established that people with these conditions are at increased risk of stroke.

Neida Sandoval anchors the morning news on *Despierta America,* a Spanish-language program similar to *Good Morning, America* that airs on the Univision television network. You might say she is the Katie Couric of Spanish-language television. Neida is from Honduras but lives and works in Miami. She also has personal experience with stroke.

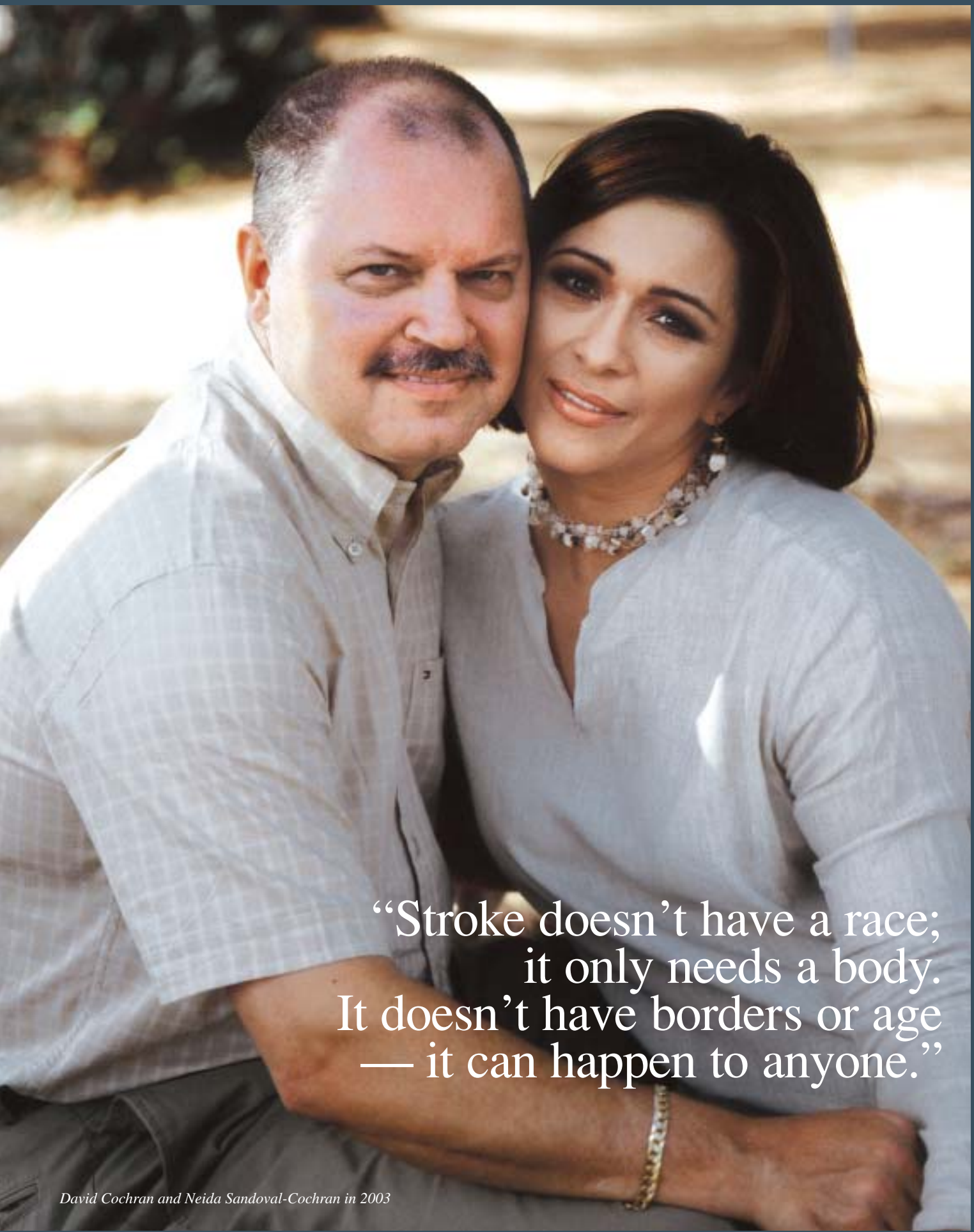
Neida had been married to David Cochran for 15 years when they had twins Abener and Aliene. "They were only 4½ months old when David almost died," she says. He was 51.

On a relaxed Sunday morning, when Neida didn't have to get up at 4 o'clock to be at work by 5, David had gone to the kitchen while she checked the babies. Then "I heard things falling and breaking. I found him bloody and half his body was numb. He was complaining that he was sleepy. He was pale and cut. I couldn't pick him up, and I called 9-l-l. At the hospital they told me he had had a heart attack and probably a stroke. And then he had two more strokes while he was in the hospital."

Their lives changed dramatically literally overnight. Although David's speech wasn't affected, he couldn't move his left arm or leg and the stroke affected his short-term memory. After a year of rehab, he still walks with a cane and his visual field is still affected.

David's stroke was the result of uncontrolled high blood pressure. "I believe that David's strokes and heart attack could have been prevented if he had taken better care of himself and used his high blood pressure medication as directed and not just when he felt bad," says Neida. "Not using his medication probably caused his heart to get tired and enlarged, which caused the blood to coagulate and not circulate properly. That created the blood clots that caused the strokes."

David's parents had cardiovascular disease — his mother died of a stroke — and he had suffered from high blood pressure for more than 20 years. He said the medication made him tired and groggy, so he only took it when he felt bad. Not a good plan.



David Cochran and Neida Sandoval-Cochran in 2003

"Stroke can break a family apart, so you must take a positive attitude. If you survive, you will have to reinvent your life and cope with changes."

David and Neida with twins Aliene Aida and Abener David

"I don't have family in Miami, so there was no family support," says Neida. "I get up at 4 a.m. and have to give a happy face for our viewers who need motivation in the morning." After David's stroke, she would leave work at 1 p.m., check on the kids, then go to the hospital. "The first week was hard, but then members of my family came from Honduras and started taking turns staying with me for a month at a time. I started sleeping four hours a night and still do."

The support was invaluable. Neida had become the sole support of her family and she had to work.

"I was involved in every aspect of David's rehab," says Neida. "I recommend that all caregivers do this because the therapists teach you how to deal with what will happen at home. He's advanced a lot but he's still in a delicate position. His brain is coming back, but he walks with a cane and he can't be left alone. I have to monitor his interactions with the babies because he is not fully aware of himself and might drop them."

About a year after the strokes, David began having seizures as a result of scar tissue in his brain. When he returned to the hospital, his original neurologist had moved. David's case was assigned to a practice of 12 neurologists, and no one doctor was in charge of his treatment. Neida said it was compromising his recovery and asked that one doctor take responsibility. David improved.

At work Neida began speaking about her experience with stroke. "When you talk about it on the air, you touch a lot of people," she says. "I did a campaign at Univision for an initiative called *'Salud es Vida'* (Health is Life). We need to take care of our health so we don't lose our family and our dreams. You have to stay strong so you can keep your family together.

"Stroke can break a family apart, so you must take a positive attitude. If you survive, you will have to reinvent your life and cope with changes. You have to become a well-informed activist and learn to live day-by-day."

David's stroke has given Neida a new perspective. "I appreciate life more fully now. We live in a high-speed routine, and we want to do it all and be perfect in everything. But you have to stop and breathe and decide what you want to do because you can't do it all.

"It made me realize I had to put aside the little problems and think about the real problems and give my family quality time. I have learned not to answer the phone when I'm with David and the kids. You never know when things will change.

Diabetes Mellitus

Hispanics have the highest prevalence of diabetes, with Mexican-American women showing the highest rates at over 11 percent of adults age 20 and over. Two-thirds to three-fourths of people with diabetes will die of some form of heart or blood vessel disease.

Diabetes is a disease in which the body doesn't produce or properly use insulin. Insulin is a hormone produced in the pancreas that turns sugar and other food into energy. When you have diabetes, your body either doesn't make enough insulin or can't use its own insulin as well as it should, or both. This causes sugars to build up too high in your blood. Diabetes mellitus is defined as a fasting blood glucose of 126 milligrams per deciliter (mg/dL) or more.

What are type 1 and type 2 diabetes?

Type 2 diabetes is the most common form and appears most often in middle-aged people. Today, however, adolescents and young adults are developing type 2 diabetes at an alarming rate. It develops when

David and Neida with their children and Neida's nephew, Jose Luis Sandoval

"I have a friend with cancer, and she says you have two options: You can either put on the pants of the victim or the warrior. I recommend the pants of the warrior. That way you can face the lessons in life. Since then, I've been aware that I must take care of myself and look for the signs and go to the doctor so small things don't become major.

"David is alive, my kids have a father, but we can never take that for granted. We have to look beyond this and learn the lessons: slow down, listen to your body, be happy. We take our health for granted and spend money on trips or jewels instead of going to the doctor. Your health is your treasure.

"There are lots of things that can be prevented and stroke is one of them. A lot of things happen because we don't take care of ourselves. We eat wrong, don't take our medications, don't sleep enough."

To Neida, prevention is key because of the impact strokes have on the family. Survivors owe it to their families to follow their doctor's orders.

David's stroke had a real impact on Neida's nephews who helped her in the first year. "It has been a big lesson for my whole family. I really hope they learn to take care of themselves and spare their own families in the future.

"Stroke doesn't have a race; it only needs a body. It doesn't have borders or age — it can happen to anyone. I really want to share this message with people so they can think about their lifestyles and behavior and take action." SC

the body doesn't make enough insulin and doesn't efficiently use the insulin it makes (insulin resistance).

Type 1 diabetes usually occurs in children and young adults. In type 1, the pancreas makes little or no insulin. Without daily injections of insulin, people with type 1 diabetes won't survive.

Both forms of diabetes may be inherited. A family history of diabetes significantly increases risk. Untreated diabetes can lead to many serious medical problems, including blindness, kidney disease, nerve disease, limb amputations and cardiovascular disease (CVD).

How are insulin resistance, diabetes and CVD related?

Although diabetes is treatable, even when glucose levels are under control, it greatly increases the risk of heart disease and stroke.

Pre-diabetes and subsequent type 2 diabetes usually result from insulin resistance. When insulin resistance or diabetes occur with other CVD risk factors (such as obesity, high blood pressure, abnormal cholesterol and high triglycerides), the risk of heart disease and stroke rises even more.

Insulin resistance is associated with atherosclerosis (fatty buildups in arteries) and blood vessel disease, even before diabetes is diagnosed. That's why it's important to prevent and control insulin resistance and diabetes. Obesity and physical inactivity are important risk factors for insulin resistance, diabetes and cardiovascular disease.

How is diabetes treated?

When diabetes is detected, a doctor may prescribe changes in eating habits, weight control and physical activity programs, and even drugs to keep it in check. It's critical for people with diabetes to have regular checkups.

It's especially important to control weight and blood cholesterol with a low-saturated-fat, low-cholesterol diet and regular physical activity. It's also important to lower high blood pressure and not to smoke.

Metabolic Syndrome

People with the metabolic syndrome are at increased risk for developing diabetes and cardiovascular disease. A person has the metabolic syndrome if they have three or more of the following abnormalities:

- Waist circumference greater than 40 inches in men and 35 inches in women.
- Trigylceride level of 150 mg/dL, or higher
- HDL cholesterol level less than 40 mg/dL in men and 50 mg/dL in women
- Blood pressure of 130/85 mm Hg or higher
- Fasting glucose level of 110 mg/dL or higher.

Researchers estimate that 47 million Americans have the metabolic syndrome. Risk increases with age. Age-adjusted prevalence for adults is 23.7 percent. Mexican-Americans have the highest prevalence at 31.9 percent.

If you have three or more of these conditions or have a brother, sister or parent with diabetes, you should be tested regularly for diabetes. In addition, experts recommend that all adults over age 45 should have a fasting blood glucose test every three years, and more often if they have several risk factors.

Stroke Among Hispanics

According to the U.S. Census Bureau, the Hispanic population has increased by 34 percent since 1980. The term Hispanic is a generic term used to describe various cultures from a variety of countries. Even though they share a language, there are many distinct subgroups: Mexican Americans (62 percent), Puerto Ricans (13 percent), Cuban Americans (5 percent), Central and South Americans (12 percent) and other Hispanics (8 percent). Almost three-quarters of the Hispanics live in California, Texas, New York, Florida, New Jersey and Illinois.

Hemorrhagic Strokes Are More Common

Stroke is the fourth-leading cause of death among Hispanics. Studies indicate that they have a higher rate of hemorrhagic strokes at a younger age than non-Hispanic whites. One study found that hemorrhagic strokes occurred more commonly in Hispanics than in any other sub-group.

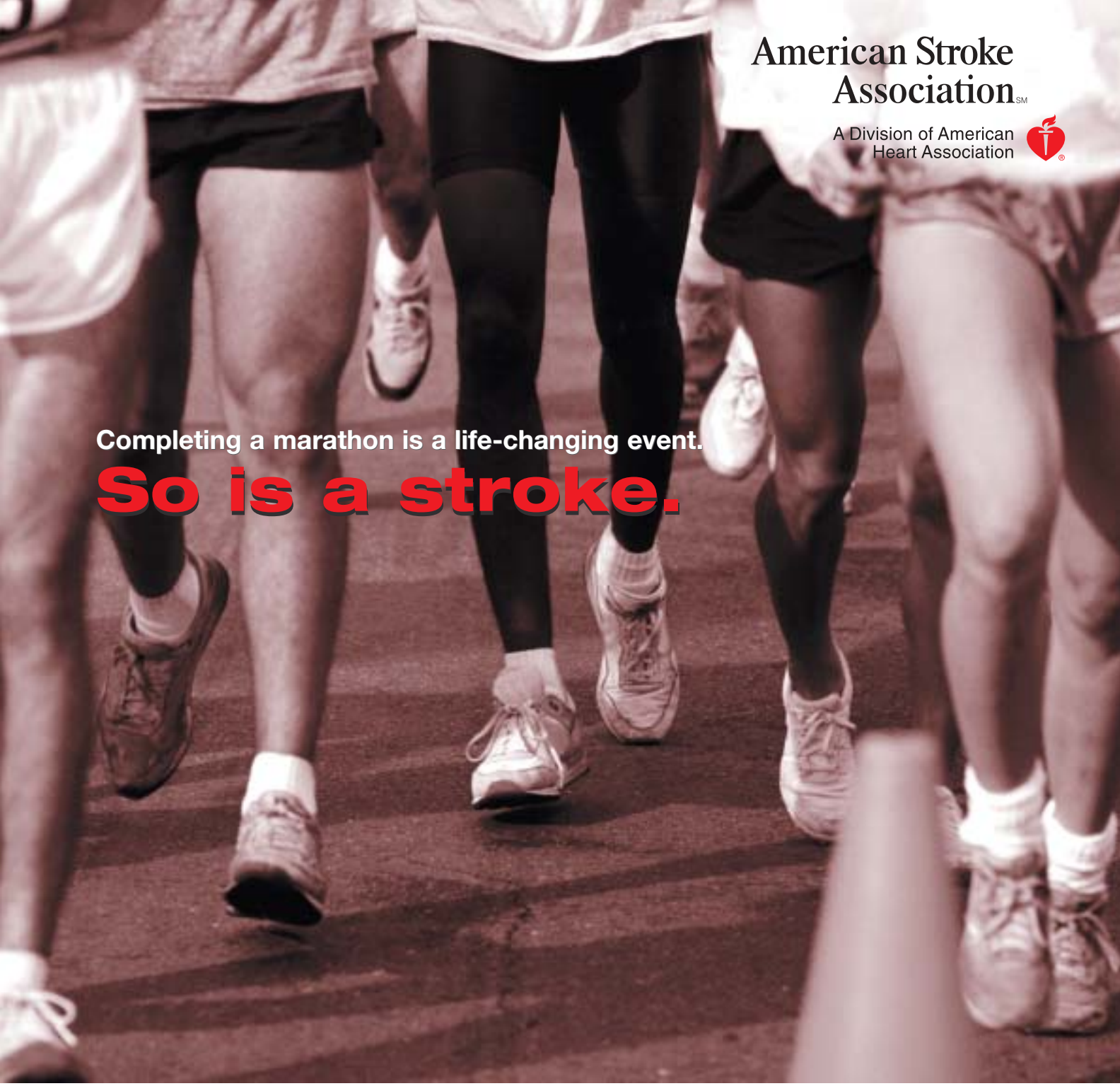
Different Prevalence of Risk Factors

Hispanics have a different prevalence of risk factors for stroke when compared with non-Hispanic whites. For instance, they have strokes at younger ages. The Northern Manhattan Stroke Study a large, urban stroke investigation, found that the average age for stroke in Hispanics was 67 compared to 80 for non-Hispanic whites. Other findings include:

- Diabetes is more prevalent among Hispanics, with estimates that 30 percent of adults have the disease, and as many as half do not know. The prevalence of previously diagnosed diabetes in Mexican Americans and Puerto Ricans between ages 24–74 was 2.4 times greater than non-Hispanic whties.
- The Barrow Neurological Institute Stroke Database found that Hispanics have the greatest proportion of hypertension. It was found in 72 percent of Hispanics with stroke (66 percent in non-Hispanic whites).
- The Northern Manhattan Stroke Study found that Hispanics in general are less likely to have cardiac disease — 32 percent compared to 61 percent for non-Hispanic whites.
- Several studies indicate high alcohol use among Hispanics. Heavy alcohol use occurs in 40 percent of Latino men age 18–39, and the Barrow Database found that 24 percent of Hispanics have heavy alcohol intake compared to 17 percent in non-Hispanic whites.
- Obesity is more prevalent among Hispanics than among non-Hispanic whites. The American Heart Association reports that 75 percent of Mexican-American men and 72 percent of women ages 20 and older were overweight or obese and 29 percent of men and 40 percent of women were obese.
- The National Health and Nutrition Examination Survey reported that 65 percent of Mexican-American men and 74 percent of Mexican-American women did not participate in leisure time physical activity.
- Hispanics are less likely than non-Hispanic whites to have health insurance (66 percent vs. 89 percent) and more likely to have diseases associated with income (hypertension, diabetes, obesity and alcohol abuse). The uninsured rate of Hispanics is three times that of non-Hispanic whites.
- Language barriers and lack of transportation contribute to poor access to healthcare providers. Because of this, Hispanics are more likely to delay care, drop out of treatment when symptoms disappear and have poor rates of physician and dentist use.

Because of these differences in risk factors as well as cultural and language differences, stroke education in the Hispanic population requires new messages that focus on diabetes, hypertension and weight control. Stroke causes the death of one in four Hispanic males and one in three Hispanic women. If our society is to change those numbers, clearly we must learn to speak the language of stroke in Spanish.

Source: Topics in Stroke Rehabilitation, Winter 2003.



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A Division of American Heart Association

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TRAIN TO END STROKE

Get Fit. Have Fun. Save Lives.

A REHAB REVOLUTION

BY EMILY SPRINGER

Rehab centers across the country are using innovative advances in rehab science. These therapies can either supplement or replace traditional therapy.

Traditional therapy is intended to progress very slowly to prevent abnormal movement. The new therapies are aggressive, focusing on forced movement, repetition and intensity. They also rely on technological advances.

"The more intensive the therapy the better," says Dr. Robert Teasell, professor and chief of the Department of Physical Medicine and Rehabilitation at St. Joseph's Health Care in London, Ontario. Teasell reviewed over 300 stroke rehab trials that took place from 1968 to 2003.

He says that four new therapies showed better results than conventional therapy in two or more randomized controlled trials. Those therapies are constraint-induced movement therapy, biofeedback, electrical stimulation and partially supported treadmill training.

These advances all await large, definitive trials to confirm the promising results from these smaller studies. All of these therapies, with the exception of constraint-induced movement, are reimbursable by Medicare.

Dr. Richard Harvey

MAKING YOU MOVE: CONSTRAINT-INDUCED MOVEMENT THERAPY

Constraint-induced movement therapy (CI) forces the use of the affected side by restraining the unaffected side. With CI therapy, the therapist constrains the survivor's unaffected arm in a sling. The survivor then uses his or her affected arm repetitively and intensively for two weeks.

Dr. Edward Taub, a professor of psychology at the University of Alabama in Birmingham, developed CI therapy. He says that after a stroke, a survivor tries unsuccessfully to use the affected side. Their initial failure discourages them from using that side. Dr. Taub calls this "learned non-use."

After her stroke in 1999, Reva Baughman, 61, of La Crescenta, California, could hardly lift her left arm or move her fingers. This year, she underwent CI therapy at the Advanced Recovery Rehabilitation Center in Sherman Oaks, California. Therapy lasted six hours a day, five days a week, for three weeks.

Today she can raise her arm, hold a bottle steady in her hand and feed herself sandwiches and cookies with her left hand. "Before CI therapy, I did not even try to use my affected hand and arm," she says. "Now I try new things every day with my left arm and hand. I have the impetus to try."

In order to use CI therapy, survivors need to be able to extend their wrists and move their arm and their fingers. Numerous small studies show CI therapy improves movement on the affected side. A June 2000 study published in *Stroke: Journal of the American Heart Association* also showed that brain activity actually improves with the treatment.

"This finding offers hope to researchers who believe it may be possible to stimulate or manipulate brain areas to take over lost functions, a process known as cortical reorganization," says Dr. Taub.

Currently, researchers are studying whether CI therapy improves arm and shoulder movement three to six months after stroke and if the gains last over a period of two years.

At this time, medical insurance does not reimburse for CI therapy. It costs about $5,000 for two weeks of treatment.

GIVE ME A SIGN: THE BENEFITS OF BIOFEEDBACK

The concept of biofeedback is as simple as looking in the mirror to watch yourself move your arm or leg. It's a visual reinforcement that you are moving your limbs in a desired way.

"After a stroke, it is common for survivors to move their arms or legs abnormally," says Dr. Richard L. Harvey, medical director of the Stroke Rehabilitation Center at the Rehabilitation Institute of Chicago. "Biofeedback can train a survivor to move more naturally."

In biofeedback, a wire electrode connected to a metal plate is attached to the skin over an arm or leg muscle. When the survivor moves this muscle, an electrical signal travels from the electrode to an attached monitor, where it produces a particular image. The survivor gets reinforcement every time he or she moves the muscle and creates this image. Biofeedback gives a visual cue that the survivor is moving muscles in a desired way.

After his stroke in 1995, Dr. Howard Rocket of Toronto, Ontario, had left-side paralysis. In rehab, a therapist attached an electrode to the bicep muscle in his arm and attached the wire to a monitor. When Rocket moved that muscle, a line would move up on a graph on the monitor screen. The more he moved the bicep muscle, the higher the line climbed on the screen.

"It was like making a cursor move on a computer screen," he says.

Biofeedback is helpful in isolating which muscle to use when two opposing muscles are working against each other after a stroke. For example, a survivor may not be able to open his fist if one muscle in his hand is working to open the hand but an opposing muscle is overactive.

After isolating which muscle needs to be relaxed in order to allow the opposing muscle to do its job, the therapist attaches an electrode to the overactive muscle. Every time that muscle relaxes, an image appears on a screen. The survivor receives visual feedback that teaches him to relax the correct muscle.

Biofeedback has been used for pain management for years. "There are no risks with biofeedback," says Dr. Harvey. "It can train a survivor to open his or her hand by extending the fingers and relaxing the finger flexors. Its main drawback is it's usually not helpful for learning a functional task like drinking from a cup. So biofeedback can improve motor control but does not focus on improved functional use."

A biofeedback session usually lasts an hour, is billed like a regular hour of physical therapy, and is reimbursable by Medicare.

A SHOCKING THERAPY: FUNCTIONAL ELECTRICAL STIMULATION

Reva Baughman

Chuck Reisling

Functional electrical stimulation delivers a shock to the survivor's muscle. The shock activates nerves and makes the muscle move. Theoretically, the brain may be able to recapture and relearn this movement without the stimulation. "We don't know exactly why electrical stimulation works, just that it does," says Dr. Harvey.

Electrodes can be placed on the wrist extensor muscles of the forearm, for example. The patient relaxes the hand, then contracts the wrist extensor muscle to cause movement. This movement triggers an electric shock to the wrist extensor muscle, which causes greater movement of the hand than the patient could make. Electrical stimulation can be used on all parts of the body, including the shoulders and legs.

After a stroke affected his left side in January 1985, Chuck Reisling, 23, of Reynoldsburg, Ohio, learned to walk again during two months of therapy. Even though he walked out of the hospital in March that year, he still

could only close his left hand, not open it. "I could use my hand for little more than a paperweight," says Chuck.

While he was surfing the Web for stroke support groups in July 1999, he learned about Neuromove, a type of functional electrical stimulation unit that you can operate at home.

Chuck used electrical stimulation two to three times a day for about 30 minutes each time. As he improved, he started to use it four times a day for 30 minutes. Now he has returned to work so he only uses it once every few months.

The electric shock "can range from a mild tingling sensation to almost a burning sensation depending on the intensity I set on the unit," says Chuck.

"My spasticity dramatically reduced almost immediately after using electrical stimulation," Chuck says. He could open his left hand. "I could hold a jar with my left hand. I could program the microwave. I could do simple things like wash my hands. The list continues to grow. My progress using electrical stimulation also helped my recurring depression by giving me hope of a fuller recovery."

"The benefits are improved movement and enhanced motor control," says Dr. Harvey. "The drawback is some survivors can't tolerate the sensation."

The electrical stimulation unit Chuck used cost $5,000. An electrical stimulation session at a rehabilitation center is billed like an ordinary physical therapy session and is reimbursable through Medicare.

A CASE FOR SUPPORT: TREADMILL TRAINING WITH PARTIAL BODY SUPPORT

Partially supported treadmill training helps survivors learn to walk again although neither their legs nor upper body can support them. Therapists hope this will rewire the brain so survivors can eventually make these movements on their own.

In treadmill therapy, the therapist places the survivor in a harness with their legs suspended over a treadmill. The harness eliminates the risk of falling. One therapist stands by the survivor and moves their affected leg forward on the treadmill to keep pace with the unaffected leg. A second therapist operates the treadmill.

The drawback is that this training requires two therapists, making it more expensive than conventional therapy. This type of treadmill training is available at large academic centers around the country, like the Rehabilitation Institute of Chicago.

NO PLATEAU IN SIGHT: F.T.M. ARM TRAINING PROGRAM

Developed by occupational therapists Henry Hoffman and John Farrell, the F.T.M. (Functional Tone Management) Arm Training Program uses an orthotic that helps patients open their hand and grasp and release objects. Even patients who can't extend their wrists or fingers on their own can still use this orthotic. They do need some shoulder and elbow movement.

John Gooden demonstrates the F.T.M. orthotic

Since the F.T.M. Arm Training Program works for survivors with limited movement in their hand and fingers, it can prepare survivors to qualify for constraint-induced therapy.

John Farrell, co-founder of the program, says it uses high-repetition and task-specific exercises to encourage use of the hand and fingers. A 45-minute session can involve as many as 250-400 repetitions using the orthotic to grasp and release objects like rubber balls.

Kim McKenzie was 21 years post-stroke when she started the program. Before she started, she could not open her hand and fingers. After a week of therapy, she regained hand and finger movement. One year after his stroke, John Gooden recovered movement in one hand and fingers after using the orthotic for 45 minutes three times a week for three weeks.

No clinical studies of F.T.M have been published, but Farrell and his partner, Henry Hoffman, are currently working with researchers from Emory University and the University of Maryland on the first case study using the orthotic.

"Our motto is 'no plateau in sight,'" says Farrell. Many survivors come to him after being discharged from therapy. Their therapists or doctors tell them they are not making progress. "Nothing could be further from the truth," says Farrell. "Survivors can still make significant

gains. The truth is, the survivor has not reached a plateau. Instead, it's the current treatment for the upper extremity that has failed them."

ON THE FRONTIER

Rehab scientists are investigating other areas as well. Here are three new treatment methods.

1. CI Therapy for Aphasia

One study in 2000 extended the principle of constraint-induced (CI) therapy to treat aphasia. Participants significantly improved their ability to speak after CI therapy in comparison to traditional speech and language therapy. CI therapy forces the patient to communicate verbally without using gestures, non-word sounds or writing. Therapy is intensive over short periods of time.

After his stroke in February 2003, Ed McNally labored over single words and mostly used gestures and sounds to communicate. For four weeks he underwent 3½ hours a day of CI aphasia therapy at Advanced Recovery Rehabilitation Center in Sherman Oaks, Calif. Today, Ed can speak in paragraphs and with fewer pauses.

2. Neural Growth Factors

Since stroke causes the loss of vital brain tissue, the ultimate treatment for stroke would be to restore that lost tissue. To do that, researchers are studying neural growth factors, chemicals that a fetus produces that cause the brain to grow.

Scientists are injecting these growth factors into animal brains to see if they stimulate the growth of brain tissue, enhance the connections between neurons or cause neural stem cells to multiply. Neural stem cells are cells that have the ability to regenerate and to change into other types of cells. So far animal studies have shown growth factors improve recovery after stroke.

3. Stem Cell Implants

Animal studies of stem cell implants have also been initiated. Since stem cells can regenerate and change into other types of cells, researchers are hoping they will stimulate other cells to grow in the brain and form new connections among cells to help restore motor function.

Stem cell implants have only been studied in humans at the University of Pittsburgh under Dr. Douglas Kondziolka. (The American Heart Association supports adult stem cell research but doesn't fund any research involving stem cells derived from human embryonic or fetal tissue.)

The risk of treatment in humans and animals is that both humans and animals need an immunosuppressant to keep their bodies from rejecting cells taken from other animals. A breakthrough in research has been to remove cells from bone marrow in rats and re-inject them in the same rats' brain cells. The rats don't reject these cells like they do foreign cell injections.

Scientists hope neural growth factors and stem cell injections may be used successfully alongside physical therapy to promote recovery from stroke.

HOPE FOR THE FUTURE

Although some emerging therapies may take years to be approved for use in humans, this research provides hope that stroke survivors could enjoy increased independence and a better quality of life. And with currently available advances, survivors are making incremental progress. Improvement is not always dramatic; it still takes time and hard work. But with these advances, survivors are gaining strength, enhanced motor control and movement, greater independence and perhaps most important — hope. SC

LIVING with Aphasia

Adults who are living with aphasia every day wrote these words. They are clients of the Tuesday communication program of the York-Durham Aphasia Center in Newmarket, Ontario.

The Tuesday Aphasia Group at York-Durham Aphasia Center

When they said I had aphasia I didn't know what it meant, I only knew I couldn't talk properly.

What does aphasia mean to you?

Josie: After my second stroke I lost my voice. I used to teach English, and losing my voice was worse than being paralyzed.

Maryanne: Reading, writing, spelling — I used to take them for granted. After my three strokes that is all very difficult now.

Jim: Aphasia is like a parking lot. We all get a different car!

Other people need to realize that after a stroke we are not broken people, but we are badly bent. We can get very emotional.

How did you react?

Josie: I got mad. I said no, I am not going to die.

Jim: I said, "What is this? ASSPHASIA?" It helps to find humor and be funny instead of being upset and depressed.

Wayne: I wanted to be better *now*. That doesn't happen. It takes time.

Janice: You need to be patient, but that is hard. I don't like slurring my words. I used to line dance, now I can't remember any of the steps.

Aphasia takes many forms. We may have trouble speaking, reading or writing. We may not understand numbers. We forget things. Sometimes we feel as if our brain is scrambled.

What helps?

Jim: I used a tape recorder. My wife could play it later and listen to things that I thought about but forgot. My grandchildren help me read.

Wayne: I point and use gestures. I pull out my information card to let other people know about my aphasia. I help other people feel good.

Janice: In the beginning I used an alphabet board. Now I can write and help other people.

Maryanne: I use a computer. I tell people who speak too fast "STOP, say again."

Josie: Other people need to talk directly to me. I miss what others are saying if they all talk at once.

Why do we come to the communications program?

Maryanne: I love music. I can sing. I remember the words to songs.

Janice: Everyone understands and is patient even when I slur my words.

Josie: I can tell stories. This group is interested in my life.

Jim: I feel alive again! I can say or ask anything.

We get strength from others in the group.

We have respect for each other.

We are not afraid to speak. We know others will let us have our turn and try to understand.

We remind each other never to stop trying!

Jeff and Missy Rogers with their children Wendy, Hallie and Brandon (L to R)

Stroke and the Meaning of True Love

by Jim Batts

True love for Missy Rogers flows from a few really important things in her life: God, church, home, neighbors, friends — and a husband and two children who take turns shaving her right underarm.

"You appreciate a family like that when a stroke paralyzes your left side and you can't hold a razor in your left hand," Missy said.

That's typical Missy. She had a right-brain ischemic stroke in 2001. She lost the ability to do some things, but never lost her sense of humor. Not even when recalling the frustrating search for what caused her stroke.

"I was relatively young — 41 at the time," she said, "and I had always taken care of myself. I'd always eaten 'right.' I had low blood pressure and low cholesterol and no family history of heart disease or related problems. I had been a runner since college days and I'd never smoked a cigarette in my life. How could I be having a stroke?"

Her doctor was baffled, too, until he asked if she was on any medication. "Then it clicked. I had just started taking oral contraceptives. One of the most dangerous side effects of the Pill is increased risk of stroke," she said.

"Now I'm not telling you this so women will frantically flush their pills down the toilet and drag their husbands screaming to have the next available vasectomy! But that's exactly what many of my friends did."

The stroke came on Dec. 3, 2001, when Missy was discussing work with staff at the landscaping company she

> I am convinced that my life was saved because people in the room knew the warning signs of stroke.

and her husband, Jeff, own in Midlothian, Virginia.

"Literally in mid-sentence, I realized I wasn't making any sense," she said. "No matter how hard I tried, I couldn't make my mouth form the words. And I think the worst thing was that I realized I was drooling right there in front of everyone, but I couldn't do anything to stop it."

Fortunately, her co-workers and Jeff recognized the stroke warning signs, and one of them quickly called 9-1-1. "I am convinced that my life was saved because people in the room knew the warning signs of stroke," Missy said. "And it's a good thing, because I was totally clueless."

At the hospital, a CT scan revealed a blocked vein in the right side of her brain. Missy's initial treatment included receiving tPA, the clot-dissolving drug that can minimize ischemic stroke effects if given within three hours of when a stroke begins. Missy got it with 5 minutes to spare.

The stroke affected Missy's left leg, left arm and hand, and the left side of her face. Residual disabilities include limited use of her left arm and hand. And sometimes, when she is tired or nervous, it's hard for her to eat or speak.

"But I am one of the lucky ones," Missy said. "I got medical treatment quickly, and I am here today. I can do just about everything I used to do. I just had to figure out new ways to do them. For instance, I've learned to use my knees as clamps when I'm trying to open something, like a peanut butter jar. And I use my teeth to open smaller things like a tube of mascara. My dentist loves that one!

"I have learned to focus on what I can still do." That includes getting back to running just two months after the stroke. "Fortunately, I never had a problem with pain," she said.

Missy said she is also learning to be "graciously dependent" on others. "My support has been mostly my family, including my parents and two sisters, along with the women in my Bible study. I depend a lot on my faith, and now I've experienced personally how God can use all things to work together for good. Faith becomes real when you must exercise it in your own life."

To Missy, what helps most is helping others — "not just stroke survivors, but people with some sort of injury or in some kind of crisis." She has been active in the visitation program of a hospital in Richmond, Va., and sometimes she is asked to encourage a neighbor or friend. "It blesses me more than it helps them," she said.

Missy received minimal physical therapy early in her recovery and is participating in constraint-induced therapy at Taub Therapy research program at the University of North Carolina at Chapel Hill. For more information, visit taubtherapy.com. SC

Know the warning signs of stroke:

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden trouble seeing in one or both eyes
- Sudden confusion, trouble speaking or understanding
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache with no known cause

Call 9-1-1 IMMEDIATELY if you experience symptoms!

Time lost is brain lost!

Up-N-Swingin'

by Jon Caswell

Steven Wolf, Chad Shimek and Kevin Spooner (L to R)

Genevieve Silva and Barb Lund (L to R)

Chad Shimek was 32 when he decided to do something meaningful with his life. That's when he combined two things he has a lot of experience in — stroke and golf — and created Up-N-Swingin'.

The program rehabilitates stroke survivors and their golf games. It's headquartered in the popular golf destination of Scottsdale, Arizona. It was first implemented at HEALTHSOUTH Scottsdale Rehabilitation Hospital and Eagle Mountain Golf Club. Chad is currently seeking other golf facilities and rehabilitation centers to answer the demands for the program.

In 1992 while attending the University of Minnesota, Duluth, Chad enrolled in the Professional Golfers Association of America to become a teaching professional. He had earned his teaching credentials about the same time he finished school.

Chad has not always been so open about his stroke. It happened when he was 15. Although he experienced hemiparesis for the first six months, he was determined to get back to the greens — even if he had to use a walker. As the stroke receded into his past, Chad found little reason to talk about it. He had recovered pretty well, about 90 percent by his own estimate, and without obvious deficits. "I stopped thinking about it," says Chad. "It's not a topic that comes up, so I just moved on. I didn't want to be known as a stroke 'victim' because I don't want sympathy."

Instead, he went to work on his golf game and got control of his swing, although he is quick to point out that it's not perfect. "My left side is still weaker than my right," he says, "so my left side can't restrain my right side as well. That means that I have what's called an over-the-top swing."

Up-N-Swingin' uses golf as rehab. "We're not trying to give them adaptations — playing with one hand or from an adjustable cart," says Chad. "We're exercising the parts of the body that aren't working. When people want to get back to golf, the therapists call me. Anybody has to have goals and motivation to get through rehab, and golf can be one of those motivations as well as a goal.

Genevieve Silva

"Most of the session is spent on the putting and chipping greens. We start with putting because it's a small swing and uses less strength. I want them to have the experience of solid contact. You're just looking for balance, like a pendulum swinging right to left — good structure, good balance.

"As that improves, we move to longer putts, up to 30 feet. When they feel they're ready, we go to chipping, progressively increasing the length of the swing. Their confidence improves as the swing does. It's really an eye-opener because they see themselves progressing."

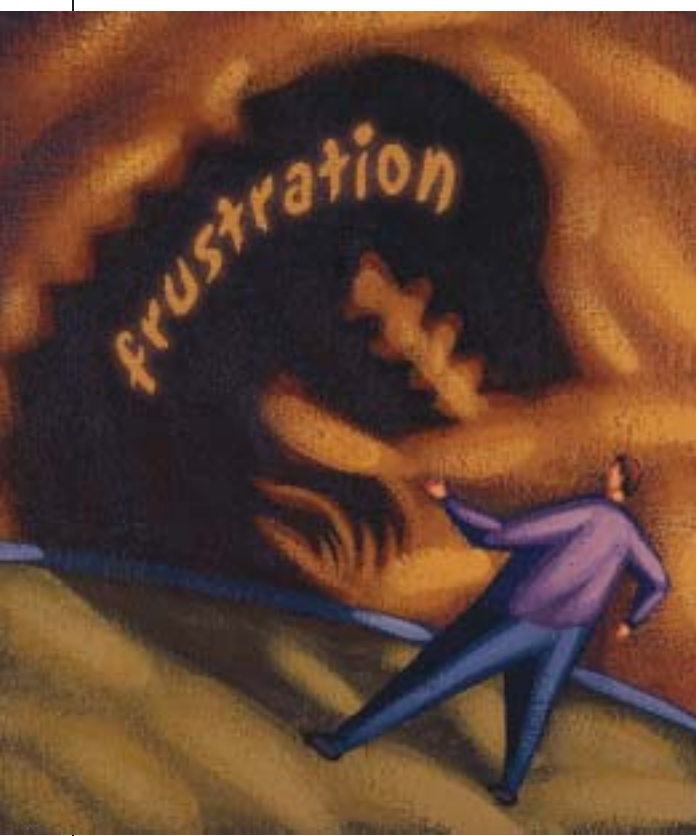
The bi-weekly golf lessons have morphed into a stroke support group, capitalizing on the camaraderie that has developed along with the golf skills. "We put up challenges — one-on-one competitions, chipping, putting, maybe a five-hole tournament. It's fun because it's fulfilling physically, mentally and emotionally."

Up-N-Swingin' has helped Chad come to terms with his stroke after 18 years. "I only accepted it about two years ago," he says. "Up-N-Swingin' has allowed me to take something negative and turn it into a positive." SC

> "Anybody has to have goals and motivation to get through rehab, and golf can be one of those motivations as well as a goal."

Feeling Frustrated

Strategies for Caregivers



Studies show that stroke survivors' caregivers are physically and emotionally stressed out, which can lead to physical illness and depression. Frustrations arise as caregivers deal with the physical demands of helping their survivors function and the psychological demands of handling their survivors' personality changes following stroke.

Fending off Frustration

When you find yourself frustrated, distinguish between what you can and can't change. Trying to change an uncontrollable circumstance always produces frustration. And remember, no matter the circumstance, you do control one thing: how you respond.

Taking a Timeout

Before frustration boils over, head it off with an activity to help you calm down. Count to 10 slowly or take a few deep breaths. If possible, take a brief walk or go to another room to collect your thoughts. Try calling a friend, praying, meditating, singing, listening to music or taking a bath.

Cognitive Therapy for Caregivers

An effective way to reduce stress and frustration is to reframe your thoughts. Cognitive therapy helps you identify unhelpful thought patterns and substitute more adaptive thoughts.

Examples of unhelpful thought patterns and adaptive responses:

Over-generalization: You take one negative situation or characteristic and multiply it. For example, you are preparing to go to a doctor's appointment when you discover your car battery is dead. You conclude, "Something always goes wrong."

Adaptive response: "This doesn't happen all the time. Usually my car works just fine."

Discounting the positive: You overlook the good things about you and your circumstances. You say, "I could do more" or "Anyone could do what I do."

Adaptive response: "Caregiving isn't easy. It takes courage, strength and compassion to do what I do. I'm not always perfect, but I do a lot and try to be helpful."

Mindreading: You assume a friend who has not called is angry with you.

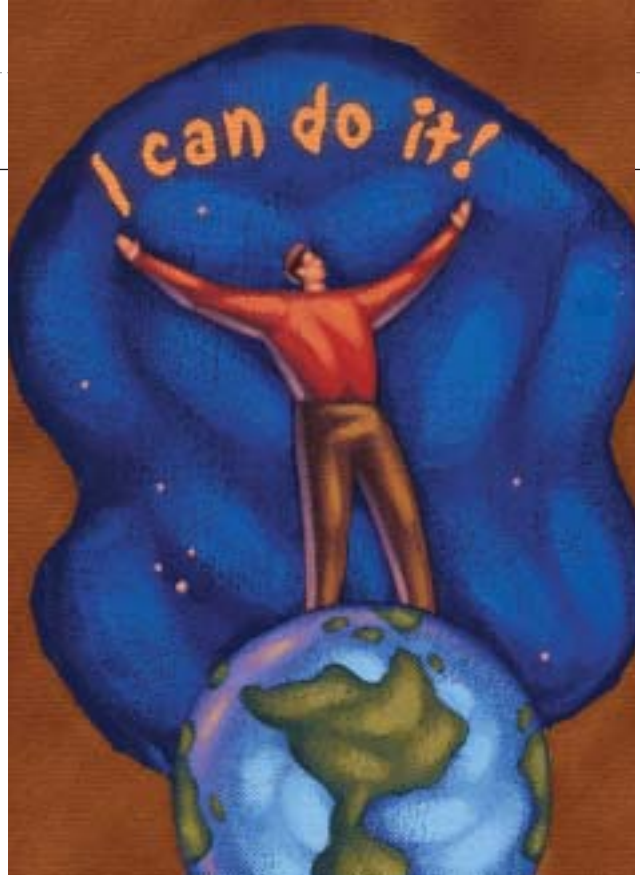
Adaptive response: "I don't know what my friend is thinking. Maybe she did not get the message or is busy. If I want to know what she is thinking, I'll have to ask her."

Fortune-telling: You predict a negative outcome in the future. For example, you won't try adult day care because you assume your survivor won't enjoy it.

Adaptive response: "I can't predict the future. He may not like it, but we won't know for sure unless we try it."

Adapted from "Family Caregiver Alliance: Dementia, Caregiving and Controlling Frustration."

Tips for Survivors



Survivor Paul Berger had a stroke as a young man. He was left with significant disabilities and has written about his recovery. Here are a few tips from his book:

- To clean my eyeglasses, I hold one end of the glasses in my mouth, then use a cloth in my unaffected hand to wipe the lens.
- Because I drag my affected foot, I scuff the toe on that shoe. To protect it, I get toe and heel taps. I have a nice shoe repairman who fixes the taps and then, after a lot of wear, replaces the sole.
- I found a local tailor who sews clothes for people with disabilities. She made me custom gloves of warm, insulated material with Velcro to close them tightly.
- I have made progress in reading over the years. First words, then sentences, then pages. At first, I read children's books. Now I can read a newspaper or magazine or the Internet. Books are hard, but I try. I read about my interests in politics, space, transportation and building. Try to read about your interests to give yourself motivation. What are your interests — gardening, history, sports, science?
- Keep a daily routine and set goals. Before I returned to work, I woke up early every morning with my wife. I ate breakfast, showered, dressed. I had a list of things to do. Starting the day early helps me since it takes me longer to do the things I want to do. I also try to plan to do something out of the house each day.
- My first post-stroke job was volunteer work for a non-profit organization, two or three days a week. Volunteer work helps you meet people, prove to yourself that you can work, practice your skills and learn new ones, collect experience and references to show a future employer.
- List what you like to do. List the skills you have. Explore new and different types of work you can do part-time, full-time or as a volunteer.
- When I feel nervous, I say out loud, "I can do it!" Practice saying this out loud — I mean loud — raise your voice!

Paul Berger is a professional speaker and author of three books, including You Can Do It! *from which these tips are excerpted. For a free newsletter, visit www.strokesurvivor.com.*

The National Family Caregivers Association offers these 10 tips for family caregivers.

1 Choose to **take charge** of your life, and don't let your loved one's illness or disability always take center stage.

2 Remember to **be good to yourself.** Love, honor and value yourself. You're doing a very hard job and you deserve some quality time, just for you.

3 **Watch out** for signs of depression, and don't delay in getting professional help when you need it.

4 When people offer to help, **accept the offer** and suggest specific things that they can do.

5 **Educate yourself** about your loved one's condition. Information is empowering.

6 There's a difference between caring and doing. **Be open to technologies and ideas** that promote your loved one's independence.

7 **Trust your instincts.** Most of the time they'll lead you in the right direction.

8 Grieve for your losses, and then allow yourself to **dream new dreams.**

9 **Stand up for your rights** as a caregiver and a citizen.

10 **Seek support** from other caregivers. There is great strength in knowing you are not alone.

Resources

American Diabetes Association

People with diabetes have an increased risk for stroke and heart disease. They also require a special diet to help control blood glucose. On the American Diabetes Association Web site, you can take a risk test for diabetes. The Web site also offers recipes, healthy food choices and meal planning advice. You can preview articles and subscribe to their magazine, *Diabetes Forecast,* or join discussions on their message boards. Their site provides contact information for summer camps for kids with diabetes. Once you provide your zip code, city and state, their Web site will provide a list of ADA events in your community.

http://www.diabetes.org

Phone: 1-800-342-2383
E-mail: AskADA@diabetes.org
American Diabetes Association
ATTN: National Call Center
1701 North Beauregard Street
Alexandria, VA 22311

Stroke Trials Directory

This Web site offers a continuously updated registry of randomized controlled trials. This project is a joint effort of the American Stroke Association, National Institute of Neurological Disorders and Stroke and the Internet Stroke Center at Washington University of Medicine. View descriptions of ongoing trials and results of completed trials in stroke prevention, treatment and rehabilitation across the country. Read the latest stroke news and educational pieces on stroke, including illustrations of the parts and functions of the brain.

http://www.strokecenter.org/trials

American Stroke Association

1-888-4-STROKE (478-7653)
Fax: (214) 706-5231
www.StrokeAssociation.org

National Family Caregivers Association

Voice: (800) 896-3650
Fax: (301) 942-2302
www.nfcacares.org

Americans With Disabilities Act (ADA)

Voice: (800) 514-0301
TTY: (800) 514-0383
www.usdoj.gov/crt/ada/adahom1.htm

National Aphasia Association

Voice: (800) 922-4622
Fax: (410) 729-5724
www.aphasia.org

National Rehabilitation Information Center (NARIC)

(800) 346-2742
www.naric.com

PLAVIX®

clopidogrel bisulfate tablets

BRIEF SUMMARY— Please see package insert for full prescribing information.

INDICATIONS AND USAGE: PLAVIX (clopidogrel bisulfate) is indicated for the reduction of thrombotic events as follows:

- **Recent MI, Recent Stroke or Established Peripheral Arterial Disease**
  For patients with a history of recent myocardial infarction (MI), recent stroke, or established peripheral arterial disease, PLAVIX has been shown to reduce the rate of a combined endpoint of new ischemic stroke (fatal or not), new MI (fatal or not), and other vascular death.
- **Acute Coronary Syndrome**
  For patients with acute coronary syndrome (unstable angina/non-Q-wave MI) including patients who are to be managed medically and those who are to be managed with percutaneous coronary intervention (with or without stent) or CABG, PLAVIX has been shown to decrease the rate of a combined endpoint of cardiovascular death, MI, or stroke as well as the rate of a combined endpoint of cardiovascular death, MI, stroke, or refractory ischemia.

CONTRAINDICATIONS: The use of PLAVIX is contraindicated in patients with a hypersensitivity to the drug substance or any component of the product, and those with active pathological bleeding such as peptic ulcer or intracranial hemorrhage.

WARNINGS: *Thrombotic thrombocytopenic purpura (TTP):* TTP has been reported rarely following use of PLAVIX, sometimes after a short exposure (<2 weeks). TTP is a serious condition requiring prompt treatment. It is characterized by thrombocytopenia, microangiopathic hemolytic anemia (schistocytes [fragmented RBCs] seen on peripheral smear), neurological findings, renal dysfunction, and fever. TTP was not seen during clopidogrel's clinical trials, which included over 17,500 clopidogrel-treated patients. In world-wide postmarketing experience, however, TTP has been reported at a rate of about four cases per million patients exposed, or about 11 cases per million patient-years. The background rate is thought to be about four cases per million person-years.

PRECAUTIONS: General: As with other antiplatelet agents, PLAVIX prolongs the bleeding time and therefore should be used with caution in patients who may be at risk of increased bleeding from trauma, surgery, or other pathological conditions (particularly gastrointestinal and intraocular). If a patient is to undergo elective surgery and an antiplatelet effect is not desired, PLAVIX should be discontinued 5 days prior to surgery. Due to the risk of bleeding and undesirable hematological effects, blood cell count determination and/or other appropriate testing should be promptly considered, whenever such suspected clinical symptoms arise during the course of treatment (see ADVERSE REACTIONS). *GI Bleeding:* In CAPRIE, PLAVIX was associated with a rate of gastrointestinal bleeding of 2.0%, vs 2.7% on aspirin. In CURE, the incidence of major gastrointestinal bleeding was 1.3% vs 0.7% (PLAVIX + aspirin vs placebo + aspirin, respectively). PLAVIX should be used with caution in patients who have lesions with a propensity to bleed (such as ulcers). Drugs that might induce such lesions should be used with caution in patients taking PLAVIX. *Use in Hepatically Impaired Patients:* Experience is limited in patients with severe hepatic disease, who may have bleeding diatheses. PLAVIX should be used with caution in this population. *Use in Renally-Impaired Patients:* Experience is limited in patients with severe renal impairment. PLAVIX should be used with caution in this population.

Information for Patients: Patients should be told that it may take them longer than usual to stop bleeding when they take PLAVIX, and that they should report any unusual bleeding to their physician. Patients should inform physicians and dentists that they are taking PLAVIX before any surgery is scheduled and before any new drug is taken.

Drug Interactions: Study of specific drug interactions yielded the following results: *Aspirin:* Aspirin did not modify the clopidogrel-mediated inhibition of ADP-induced platelet aggregation. Concomitant administration of 500 mg of aspirin twice a day for 1 day did not significantly increase the prolongation of bleeding time induced by PLAVIX. PLAVIX potentiated the effect of aspirin on collagen-induced platelet aggregation. PLAVIX and aspirin have been administered together for up to one year. *Heparin:* In a study in healthy volunteers, PLAVIX did not necessitate modification of the heparin dose or alter the effect of heparin on coagulation. Coadministration of heparin had no effect on inhibition of platelet aggregation induced by PLAVIX. *Nonsteroidal Anti-Inflammatory Drugs (NSAIDs):* In healthy volunteers receiving naproxen, concomitant administration of PLAVIX was associated with increased occult gastrointestinal blood loss. NSAIDs and PLAVIX should be coadministered with caution. *Warfarin:* The safety of the coadministration of PLAVIX with warfarin has not been established. Consequently, concomitant administration of these two agents should be undertaken with caution. (See **Precautions–General.**) *Other Concomitant Therapy:* No clinically significant pharmacodynamic interactions were observed when PLAVIX was coadministered with **atenolol, nifedipine**, or both atenolol and nifedipine. The pharmacodynamic activity of PLAVIX was also not significantly influenced by the coadministration of **phenobarbital, cimetidine or estrogen.** The pharmacokinetics of **digoxin** or **theophylline** were not modified by the coadministration of PLAVIX (clopidogrel bisulfate). At high concentrations *in vitro*, clopidogrel inhibits P_{450} (2C9). Accordingly, PLAVIX may interfere with the metabolism of **phenytoin, tamoxifen, tolbutamide, warfarin, torsemide, fluvastatin**, and many **non-steroidal anti-inflammatory agents,** but there are no data with which to predict the magnitude of these interactions. Caution should be used when any of these drugs is coadministered with PLAVIX. In addition to the above specific interaction studies, patients entered into clinical trials with PLAVIX received a variety of concomitant medications **including diuretics, beta-blocking agents, angiotensin converting enzyme inhibitors, calcium antagonists, cholesterol lowering agents, coronary vasodilators, antidiabetic agents (including insulin), antiepileptic agents, hormone replacement therapy, heparins** (unfractionated and LMWH), and **GPIIb/IIIa antagonists** without evidence of clinically significant adverse interactions. The use of oral anticoagulants, non-study anti-platelet drug and chronic NSAIDs was not allowed in CURE and there are no data on their concomitant use with clopidogrel.

Drug/Laboratory Test Interactions: None known.

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of tumorigenicity when clopidogrel was administered for 78 weeks to mice and 104 weeks to rats at dosages up to 77 mg/kg per day, which afforded plasma exposures >25 times that in humans at the recommended daily dose of 75 mg. Clopidogrel was not genotoxic in four *in vitro* tests (Ames test, DNA-repair test in rat hepatocytes, gene mutation assay in Chinese hamster fibroblasts, and metaphase chromosome analysis of human lymphocytes) and in one *in vivo* test (micronucleus test by oral route in mice). Clopidogrel was found to have no effect on fertility of male and female rats at oral doses up to 400 mg/kg per day (52 times the recommended human dose on a mg/m^2 basis).

Pregnancy: Pregnancy Category B. Reproduction studies performed in rats and rabbits at doses up to 500 and 300 mg/kg/day (respectively, 65 and 78 times the recommended daily human dose on a mg/m^2 basis), revealed no evidence of impaired fertility or fetotoxicity due to clopidogrel. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of a human response, PLAVIX should be used during pregnancy only if clearly needed.

Nursing Mothers: Studies in rats have shown that clopidogrel and/or its metabolites are excreted in the milk. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the nursing woman.

Pediatric Use: Safety and effectiveness in the pediatric population have not been established.

ADVERSE REACTIONS: PLAVIX has been evaluated for safety in more than 17,500 patients, including over 9,000 patients treated for 1 year or more. The overall tolerability of PLAVIX in CAPRIE was similar to that of aspirin regardless of age, gender and race, with an approximately equal incidence (13%) of patients withdrawing from treatment because of adverse reactions. The clinically important adverse events observed in CAPRIE and CURE are discussed below.

Hemorrhagic: In CAPRIE patients receiving PLAVIX, gastrointestinal hemorrhage occurred at a rate of 2.0%, and required hospitalization in 0.7%. In patients receiving aspirin, the corresponding rates were 2.7% and 1.1%, respectively. The incidence of intracranial hemorrhage was 0.4% for PLAVIX compared to 0.5% for aspirin.

In CURE, PLAVIX use with aspirin was associated with an increase in bleeding compared to placebo with aspirin (see Table 3). There was an excess in major bleeding in patients receiving PLAVIX plus aspirin compared with placebo plus aspirin, primarily gastrointestinal and at puncture sites. The incidence of intracranial hemorrhage (0.1%), and fatal bleeding (0.2%), was the same in both groups.

In patients receiving both PLAVIX and aspirin in CURE, the incidence of bleeding is described below.

CURE Incidence of bleeding complications (% patients)

Event	PLAVIX (+ aspirin)* (n=6259)	Placebo (+ aspirin)* (n=6303)	P-value
Major bleeding†	3.7 ‡	2.7 §	0.001
Life-threatening bleeding	2.2	1.8	0.13
Fatal	0.2	0.2	
5 g/dL hemoglobin drop	0.9	0.9	
Requiring surgical intervention	0.7	0.7	
Hemorrhagic strokes	0.1	0.1	
Requiring inotropes	0.5	0.5	
Requiring transfusion (≥4 units)	1.2	1.0	
Other major bleeding	1.6	1.0	0.005
Significantly disabling	0.4	0.3	
Intraocular bleeding with significant loss of vision	0.05	0.03	
Requiring 2-3 units of blood	1.3	0.9	
Minor bleeding¶	5.1	2.4	<0.001

* Other standard therapies were used as appropriate.
† Life threatening and other major bleeding.
‡ Major bleeding event rate for PLAVIX + aspirin was dose-dependent on aspirin: <100 mg=2.6%; 100-200 mg=3.5%; >200 mg=4.9%
§ Major bleeding event rate for placebo + aspirin was dose-dependent on aspirin: <100 mg=2.0%; 100-200 mg=2.3%; >200 mg=4.0%
¶ Led to interruption of study medication.

Ninety-two percent (92%) of the patients in the CURE study received heparin/LMWH, and the rate of bleeding in these patients was similar to the overall results.

There was no excess in major bleeds within seven days after coronary bypass graft surgery in patients who stopped therapy more than five days prior to surgery (event rate 4.4% PLAVIX + aspirin; 5.3% placebo + aspirin). In patients who remained on therapy within five days of bypass graft surgery, the event rate was 9.6% for PLAVIX + aspirin, and 6.3% for placebo + aspirin.

Neutropenia/agranulocytosis: Ticlopidine, a drug chemically similar to PLAVIX, is associated with a 0.8% rate of severe neutropenia (less than 450 neutrophils/µL). In CAPRIE severe neutropenia was observed in six patients, four on PLAVIX and two on aspirin. Two of the 9599 patients who received PLAVIX and none of the 9586 patients who received aspirin had neutrophil counts of zero. One of the four PLAVIX patients in CAPRIE was receiving cytotoxic chemotherapy, and another recovered and returned to the trial after only temporarily interrupting treatment with PLAVIX (clopidogrel bisulfate). In CURE, the numbers of patients with thrombocytopenia (19 PLAVIX + aspirin vs 24 placebo + aspirin) or neutropenia (3 vs 3) were similar.

Although the risk of myelotoxicity with PLAVIX thus appears to be quite low, this possibility should be considered when a patient receiving PLAVIX demonstrates fever or other sign of infection.

Gastrointestinal: Overall, the incidence of gastrointestinal events (e.g. abdominal pain, dyspepsia, gastritis and constipation) in patients receiving PLAVIX (clopidogrel bisulfate) was 27.1%, compared to 29.8% in those receiving aspirin in the CAPRIE trial. In the CURE trial the incidence of these gastrointestinal events for patients receiving PLAVIX + aspirin was 11.7% compared to 12.5% for those receiving placebo + aspirin.

In the CAPRIE trial, the incidence of peptic, gastric or duodenal ulcers was 0.7% for PLAVIX and 1.2% for aspirin. In the CURE trial the incidence of peptic, gastric or duodenal ulcers was 0.4% for PLAVIX + aspirin and 0.3% for placebo + aspirin.

Cases of diarrhea were reported in the CAPRIE trial in 4.5% of patients in the PLAVIX group compared to 3.4% in the aspirin group. However, these were rarely severe (PLAVIX=0.2% and aspirin=0.1%). In the CURE trial, the incidence of diarrhea for patients receiving PLAVIX + aspirin was 2.1% compared to 2.2% for those receiving placebo + aspirin.

In the CAPRIE trial, the incidence of patients withdrawing from treatment because of gastrointestinal adverse reactions was 3.2% for PLAVIX and 4.0% for aspirin. In the CURE trial, the incidence of patients withdrawing from treatment because of gastrointestinal adverse reactions was 0.9% for PLAVIX + aspirin compared with 0.8% for placebo + aspirin.

Rash and Other Skin Disorders: In the CAPRIE trial, the incidence of skin and appendage disorders in patients receiving PLAVIX was 15.8% (0.7% serious); the corresponding rate in aspirin patients was 13.1% (0.5% serious). In the CURE trial the incidence of rash or other skin disorders in patients receiving PLAVIX + aspirin was 4.0% compared to 3.5% for those receiving placebo + aspirin.

In the CAPRIE trial, the overall incidence of patients withdrawing from treatment because of skin and appendage disorders adverse reactions was 1.5% for PLAVIX and 0.8% for aspirin. In the CURE trial, the incidence of patients withdrawing because of skin and appendage disorders adverse reactions was 0.7% for PLAVIX + aspirin compared with 0.3% for placebo + aspirin.

Adverse events occurring in ≥2.5% of patients on PLAVIX in the CAPRIE controlled clinical trial are shown below regardless of relationship to PLAVIX. The median duration of therapy was 20 months, with a maximum of 3 years.

Adverse Events Occurring in ≥2.5% of PLAVIX Patients in CAPRIE

Body System Event	% Incidence (% Discontinuation) PLAVIX [n=9599]		Aspirin [n=9586]	
Body as a Whole — general disorders				
Chest Pain	8.3	(0.2)	8.3	(0.3)
Accidental/Inflicted Injury	7.9	(0.1)	7.3	(0.1)
Influenza-like symptoms	7.5	(<0.1)	7.0	(<0.1)
Pain	6.4	(0.1)	6.3	(0.1)
Fatigue	3.3	(0.1)	3.4	(0.1)
Cardiovascular disorders, general				
Edema	4.1	(<0.1)	4.5	(<0.1)
Hypertension	4.3	(<0.1)	5.1	(<0.1)
Central & peripheral nervous system disorders				
Headache	7.6	(0.3)	7.2	(0.2)
Dizziness	6.2	(0.2)	6.7	(0.3)
Gastrointestinal system disorders				
Abdominal pain	5.6	(0.7)	7.1	(1.0)
Dyspepsia	5.2	(0.6)	6.1	(0.7)
Diarrhea	4.5	(0.4)	3.4	(0.3)
Nausea	3.4	(0.5)	3.8	(0.4)
Metabolic & nutritional disorders				
Hypercholesterolemia	4.0	(0)	4.4	(<0.1)
Musculo-skeletal system disorders				
Arthralgia	6.3	(0.1)	6.2	(0.1)
Back Pain	5.8	(0.1)	5.3	(<0.1)
Platelet, bleeding, & clotting disorders				
Purpura/Bruise	5.3	(0.3)	3.7	(0.1)
Epistaxis	2.9	(0.2)	2.5	(0.1)
Psychiatric disorders				
Depression	3.6	(0.1)	3.9	(0.2)
Respiratory system disorders				
Upper resp tract infection	8.7	(<0.1)	8.3	(<0.1)
Dyspnea	4.5	(0.1)	4.7	(0.1)
Rhinitis	4.2	(0.1)	4.2	(<0.1)
Bronchitis	3.7	(0.1)	3.7	(0)
Coughing	3.1	(<0.1)	2.7	(<0.1)
Skin & appendage disorders				
Rash	4.2	(0.5)	3.5	(0.2)
Pruritus	3.3	(0.3)	1.6	(0.1)
Urinary system disorders				
Urinary tract infection	3.1	(0)	3.5	(0.1)

Incidence of discontinuation, regardless of relationship to therapy, is shown in parentheses.

Adverse events occurring in ≥2.0% of patients on PLAVIX in the CURE controlled clinical trial are shown below regardless of relationship to PLAVIX.

Adverse Events Occurring in ≥2.0% of PLAVIX Patients in CURE

Body System Event	% Incidence (% Discontinuation) PLAVIX (+ aspirin)* [n=6259]		Placebo (+ aspirin)* [n=6303]	
Body as a Whole–general disorders				
Chest Pain	2.7	(<0.1)	2.8	(0.0)
Central & peripheral nervous system disorders				
Headache	3.1	(0.1)	3.2	(0.1)
Dizziness	2.4	(0.1)	2.0	(<0.1)
Gastrointestinal system disorders				
Abdominal pain	2.3	(0.3)	2.8	(0.3)
Dyspepsia	2.0	(0.1)	1.9	(<0.1)
Diarrhea	2.1	(0.1)	2.2	(0.1)

*Other standard therapies were used as appropriate.

Other adverse experiences of potential importance occurring in 1% to 2.5% of patients receiving PLAVIX (clopidogrel bisulfate) in the CAPRIE or CURE controlled clinical trials are listed below regardless of relationship to PLAVIX. In general, the incidence of these events was similar to that in patients receiving aspirin (in CAPRIE) or placebo + aspirin (in CURE).

Autonomic Nervous System Disorders: Syncope, Palpitation. *Body as a Whole - general disorders:* Asthenia, Fever, Hernia. *Cardiovascular disorders:* Cardiac failure. *Central and peripheral nervous system disorders:* Cramps legs, Hypoaesthesia, Neuralgia, Paraesthesia, Vertigo. *Gastrointestinal system disorders:* Constipation, Vomiting. *Heart rate and rhythm disorders:* Fibrillation atrial. *Liver and biliary system disorders:* Hepatic enzymes increased. *Metabolic and nutritional disorders:* Gout, hyperuricemia, non-protein nitrogen (NPN) increased. *Musculoskeletal system disorders:* Arthritis, Arthrosis. *Platelet, bleeding & clotting disorders:* GI hemorrhage, hematoma, platelets decreased. *Psychiatric disorders:* Anxiety, Insomnia. *Red blood cell disorders:* Anemia. *Respiratory system disorders:* Pneumonia, Sinusitis. *Skin and appendage disorders:* Eczema, Skin ulceration. *Urinary system disorders:* Cystitis. *Vision disorders:* Cataract, Conjunctivitis.

Other potentially serious adverse events which may be of clinical interest but were rarely reported (<1%) in patients who received PLAVIX in the CAPRIE or CURE controlled clinical trials are listed below regardless of relationship to PLAVIX. In general, the incidence of these events was similar to that in patients receiving aspirin (in CAPRIE) or placebo + aspirin (in CURE). *Body as a whole:* Allergic reaction, necrosis ischemic. *Cardiovascular disorders:* Edema generalized. *Gastrointestinal system disorders:* Gastric ulcer perforated, gastritis hemorrhagic, upper GI ulcer hemorrhagic. *Liver and Biliary system disorders:* Bilirubinemia, hepatitis infectious, liver fatty. *Platelet, bleeding and clotting disorders:* hemarthrosis, hematuria, hemoptysis, hemorrhage intracranial, hemorrhage retroperitoneal, hemorrhage of operative wound, ocular hemorrhage, pulmonary hemorrhage, purpura allergic, thrombocytopenia. *Red blood cell disorders:* Anemia aplastic, anemia hypochromic. *Reproductive disorders, female:* Menorrhagia. *Respiratory system disorders:* Hemothorax. *Skin and appendage disorders:* Bullous eruption, rash erythematous, rash maculopapular, urticaria. *Urinary system disorders:* Abnormal renal function, acute renal failure. *White cell and reticuloendothelial system disorders:* Agranulocytosis, granulocytopenia, leukemia, leukopenia, neutrophils decreased.

Postmarketing Experience: The following events have been reported spontaneously from worldwide postmarketing experience: *Body as a whole:* hypersensitivity reactions, anaphylactoid reactions. *Central and Peripheral Nervous System disorders:* confusion, hallucinations, taste disorders. *Liver and Biliary system disorders:* abnormal liver function test, hepatitis (non-infectious). *Platelet, Bleeding and Clotting disorders:* cases of bleeding with fatal outcome (especially intracranial, gastrointestinal and retroperitoneal hemorrhage), agranulocytosis, aplastic anemia/pancytopenia, thrombotic thrombocytopenic purpura (TTP) – see WARNINGS, conjunctival, ocular and retinal bleeding. *Respiratory system disorders:* bronchospasm *Skin and Appendage disorders:* angioedema, erythema multiforme *Urinary system disorders:* glomerulopathy, abnormal creatinine levels

OVERDOSAGE: One case of deliberate overdosage with PLAVIX was reported in the large, CAPRIE controlled clinical study. A 34-year-old woman took a single 1,050-mg dose of PLAVIX (equivalent to 14 standard 75-mg tablets). There were no associated adverse events. No special therapy was instituted, and she recovered without sequelae. No adverse events were reported after single oral administration of 600 mg (equivalent to 8 standard 75-mg tablets) of PLAVIX in healthy volunteers. The bleeding time was prolonged by a factor of 1.7, which is similar to that typically observed with the therapeutic dose of 75 mg of PLAVIX per day. A single oral dose of clopidogrel at 1500 or 2000 mg/kg was lethal to mice and to rats and at 3000 mg/kg to baboons. Symptoms of acute toxicity were vomiting (in baboons), prostration, difficult breathing, and gastrointestinal hemorrhage in all species.

Recommendations About Specific Treatment: Based on biological plausibility, platelet transfusion may be appropriate to reverse the pharmacological effects of PLAVIX if quick reversal is required.

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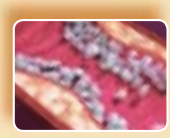
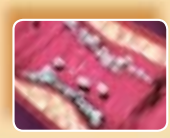
PLAVIX,® added to aspirin and your current medications, helps raise your protection against future heart attack or stroke. If you've been hospitalized for heart-related chest pain or a certain type of heart attack, conditions that doctors call ACS or Acute Coronary Syndrome, ask your doctor about adding PLAVIX.



For most, heart attack or stroke is caused when platelets form clots that block the flow of blood to the heart or brain. Think aspirin and your other medications alone are enough? Adding PLAVIX could help protect you against a future heart attack or stroke.



PLAVIX and your other medications work in different ways. Adding PLAVIX can go beyond your current treatment. Prescription PLAVIX, taken with aspirin, plays its own role in keeping platelets from sticking together and forming clots — which helps keep blood flowing.

Talk to your doctor about PLAVIX.
For more information, visit
www.plavix.com or call 1-800-300-3501.

ONCE-A-DAY
Plavix®
(clopidogrel bisulfate) 75mg tablets

Add more protection against heart attack or stroke

IMPORTANT INFORMATION: If you have a medical condition that causes bleeding, such as stomach ulcer, you shouldn't use PLAVIX. The risk of bleeding may increase with PLAVIX, and when you take PLAVIX with certain other medicines, including aspirin. Review your medicines with your doctor to minimize this risk. Additional rare, but serious, side effects could occur.

Please see important product information on the previous page.

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A Division of American Heart Association

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