Speaking of Stroke
Speech problems that aren’t aphasia

Enjoying My Second Chance
Survivor Gary Drach felt he was living on borrowed time

Unsteady on Your Feet?
Reducing risk of falls

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Gary Drach knew he had an AVM from age 13. At 47 he survived the stroke it caused. At 55 he has found satisfaction and meaning in being a stroke survivor.
Your online resource for high blood pressure.

Assess your risk and learn how to prevent this silent killer at heart.org/hbp

American Heart Association® | American Stroke Association®
Learn and Live®
No one can predict a heart attack.
But your stroke may be your first clue.

If you’ve had a stroke, you may be facing a major risk of having another one.
But did you know you may also be at increased risk of a heart attack?

PLAVIX is the only prescription antiplatelet medicine that helps protect against a stroke and heart attack.

Once you’ve experienced a stroke, your risk of both a stroke and a heart attack never goes away. PLAVIX can help reduce your risk. PLAVIX is proven to help keep clots from forming, the leading cause of heart attacks and strokes. So if you’ve recently had a stroke, PLAVIX can help protect against another stroke or even a heart attack. Talk to your doctor to find out if PLAVIX is right for you.

IMPORTANT SAFETY INFORMATION: People with stomach ulcers or other conditions that cause bleeding should not use PLAVIX. Taking PLAVIX alone or with some other medicines, including aspirin, may increase bleeding risk, so tell your doctor when planning surgery. Certain genetic factors and some medicines, such as Prilosec, may affect how PLAVIX works. Tell your doctor all the medicines you take, including aspirin, especially if you’ve had a stroke. If fever, unexplained weakness or confusion develops, tell your doctor promptly. These may be signs of TTP, a rare but potentially life-threatening condition, reported sometimes less than 2 weeks after starting PLAVIX. Other rare but serious side effects may occur.

PLAVIX offers protection.
PLAVIX is proven to help keep blood platelets from sticking together and forming clots, which helps keep your blood flowing. Clots are the leading cause of strokes and heart attacks. PLAVIX helps you stay protected.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Talk to your doctor about PLAVIX.
For more information, visit www.plavix.com or call 1-800-470-4097.

Blood platelets can stick together and form clots.
PLAVIX helps keep blood platelets from sticking together.

Please see important product information for PLAVIX on the following page.
PLAVIX (clopidogrel bisulfate) tablet, film coated

WHO IS PLAVIX FOR?
PLAVIX® (clopidogrel bisulfate) is a prescription-only medicine that helps keep blood platelets from sticking together and forming clots. PLAVIX is for patients who have:
• had a recent heart attack.
• had a recent stroke.
• poor circulation in their legs (Peripheral Artery Disease).

PLAVIX in combination with aspirin is for patients hospitalized with:
• heart-related chest pain (unstable angina).
• heart attack.

Doctors may refer to these conditions as ACS (Acute Coronary Syndrome).

Clots can become dangerous when they form inside your arteries. These clots form when blood platelets stick together, forming a blockage within your arteries, restricting blood flow to your heart or brain, causing a heart attack or stroke.

WHO SHOULD NOT TAKE PLAVIX?
You should NOT take PLAVIX if you:
• are allergic to clopidogrel (the active ingredient in PLAVIX).
• have a stomach ulcer.
• have another condition that causes bleeding.
• are pregnant or may become pregnant.
• are breast feeding.
• have certain genetic factors.

WHAT SHOULD I TELL MY DOCTOR BEFORE TAKING PLAVIX?
Before taking PLAVIX, tell your doctor if you’re pregnant or are breast feeding, if you are taking any other drugs or if you have any of the following:
• gastrointestinal ulcer
• stomach ulcer(s)
• liver problems
• kidney problems
• a history of bleeding conditions

WHAT IMPORTANT INFORMATION SHOULD I KNOW ABOUT PLAVIX?
Genetics: People with a specific genetic makeup may get less protection against heart attack or stroke with PLAVIX.

Drug interactions: Some medicines, such as Prilosec, may affect how PLAVIX works. Tell your doctor about all the medications you are taking, including prescription or over-the-counter medications. You should tell your doctor about any other medications you are taking, including prescription or over-the-counter Prilosec (omeprazole). Taking Prilosec with PLAVIX may reduce the effect of PLAVIX. Antacids and most H2 blockers, except Tagamet (cimetidine), are not known to interfere with how PLAVIX works.

TTP: A very serious blood condition called TTP (Thrombotic Thrombocytopenic Purpura) has been rarely reported in people taking PLAVIX. TTP is a potentially life-threatening condition that involves low blood platelet and red blood cell levels, and requires urgent referral to a specialist for prompt treatment once a diagnosis is suspected. Warning signs of TTP may include fever, unexplained confusion or weakness (due to a low blood count, what doctors call anemia). To make an accurate diagnosis, your doctor will need to order blood tests. TTP has been reported rarely, sometimes in less than 2 weeks after starting therapy.

Gastrointestinal Bleeding: There is a potential risk of gastrointestinal (stomach and intestine) bleeding when taking PLAVIX. PLAVIX should be used with caution in patients who have lesions that may bleed (such as ulcers), along with patients who take drugs that cause such lesions.

Bleeding: You may bleed more easily and it may take you longer than usual to stop bleeding when you take PLAVIX alone or in combination with aspirin. Report any unusual bleeding to your doctor.

Geriatrics: When taking aspirin with PLAVIX the risk of serious bleeding increases with age in patients 65 and over.

Stroke Patients: If you have had a recent TIA (also known as a mini-stroke) or stroke taking aspirin with PLAVIX has not been shown to be more effective than taking PLAVIX alone, but taking aspirin with PLAVIX has been shown to increase the risk of bleeding compared to taking PLAVIX alone.

Surgery: Inform doctors and dentists well in advance of any surgery that you are taking PLAVIX so they can help you decide whether or not to discontinue your PLAVIX treatment prior to surgery.

WHAT SHOULD I KNOW ABOUT TAKING OTHER MEDICINES WITH PLAVIX?
You should only take aspirin with PLAVIX when directed to do so by your doctor. Certain other medicines should not be taken with PLAVIX. Be sure to tell your doctor about all of your current medications (prescription or over-the-counter), especially if you are taking the following:
• aspirin
• nonsteroidal anti-inflammatory drugs (NSAIDs)
• warfarin
• heparin
• heartburn or stomach ulcer medicines, like Prilosec

Be sure to tell your doctor if you are taking PLAVIX before starting any new medication.

WHAT ARE THE COMMON SIDE EFFECTS OF PLAVIX?
The most common side effects of PLAVIX include gastrointestinal events (bleeding, abdominal pain, indigestion, diarrhea, and nausea) and rash. This is not a complete list of side effects associated with PLAVIX. Ask your doctor or pharmacist for a complete list.

HOW SHOULD I TAKE PLAVIX?
Only take PLAVIX exactly as prescribed by your doctor. Do not change your dose or stop taking PLAVIX without talking to your doctor first.

PLAVIX should be taken around the same time every day, and it can be taken with or without food. If you miss a day, do not double up on your medication. Just continue your usual dose. If you have any questions about taking your medications, please consult your doctor.

OVERDOSAGE
As with any prescription medicine, it is possible to overdose on PLAVIX. If you think you may have overdosed, immediately call your doctor or Poison Control Center, or go to the nearest emergency room.

FOR MORE INFORMATION
For more information on PLAVIX, call 1-800-633-1610 or visit www.PLAVIX.com. Neither of these resources, nor the information contained here, can take the place of talking to your doctor. Only your doctor knows the specifics of your condition and how PLAVIX fits into your overall therapy. It is therefore important to maintain an ongoing dialogue with your doctor concerning your condition and your treatment.

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**Virtual reality game technology using the Wii™ may help recovering stroke patients improve their motor function. The study found the virtual reality gaming system was safe and feasible strategy to improve motor function after stroke.**

The study focused on movements with survivors’ impaired arms to help both fine (small muscle) and gross (large muscle) motor function.

Twenty survivors (average age 61) of mild to moderate ischemic or hemorrhagic strokes were randomized into two groups. One played recreational games (cards or Jenga, a block stacking and balancing game), and the other played Wii™ tennis and Wii™ Cooking Mama, which uses movements that simulate cutting a potato, peeling an onion, slicing meat and shredding cheese.

Both groups received an intensive program of eight sessions, about 60 minutes each over two weeks, initiated about two months following a stroke.

The study found no adverse effects in the Wii™ group, reflecting safety. The Wii™ group used the technology for about 364 minutes in total session time, reflecting its feasibility. The recreational therapy group’s total time was 388 minutes.

Researchers recognized that the use of a virtual-reality system allowed them to apply the concept of repetitive tasks, high-intensity tasks and task-specific activities. These activate special neurons involved in brain plasticity.

Researchers found significant motor improvement in speed and extent of recovery with the Wii™ technology. The Wii™ group achieved a better motor function, both fine and gross, manifested by improvement in speed and grip strength.

The Wii™ is a virtual reality video gaming system using wireless controllers that interact with the user. A motion detection system allows patients to follow their actions on a television screen with nearly real-time sensory feedback.

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**Ultrasound Used in Stroke Treatment**

Sound-wave powered clot busters safe for draining bleeding in brain

**Dissolving clot-causing strokes with ultrasound can safely drain bleeding in the brain, according to a new study.** Researchers tested the safety and efficacy of combining the use of ultrasound with clotbusters delivered precisely into bleeding areas during an intraventricular (IVH) bleed (bleeding inside fluid-filled spaces of the brain) and intracerebral (ICH) bleed (bleeding in brain tissue).

Nine ICH and IVH patients (average age 63) underwent treatment with the clot-busting drug tPA in conjunction with 24 hours of continuous ultrasound applied at the end of the probe placed directly in the blood clot. The liquefied blood clots were drained through a tube.

All nine patients had significant reductions in bleeding. Twenty-four hours after treatment, volume was reduced an average 59 percent for ICH patients and 45 percent in IVH patients. There were no significant instances of re-bleeding. Functional outcomes improved in seven of the nine patients at 30 days. One patient died. Compared to previous studies that did not use ultrasound with tPA, blood clots appeared to resolve faster in this study.
## What Works; What Doesn’t

Study evaluates treatments for acute ischemic strokes

Techniques that keep brain arteries open (intracranial stenting) or inject clot-busting drugs directly to the brain (intra-arterial tPA) may be more effective than other urgent ischemic stroke treatments.

In a study of 1,056 severe stroke patients treated with one or more therapies within eight hours of symptom onset, blood flow was restored in 76 percent of stented patients and 72 percent of those receiving tPA directly to the brain (intra-arterial tPA). Overall, blood flow was restored in only 69 percent of patients treated with other drug techniques or interventions.

Researchers studied several treatment techniques:
- intra-arterial tPA
- intracranial stenting
- intravenous delivery of tPA via the arm
- Merci Retriever™ - a corkscrew-like device that is threaded into the blocked blood vessel to grab and pull out clots
- Penumbra™ aspiration catheter - uses suction to remove blood clots
- glycoprotein IIb/IIIa antagonists
- angioplasty (without stenting)

Only results for intra-arterial tPA and intracranial stenting reached statistical significance.

“Essentially, there is no standard currently as to which interventions are performed for acute stroke,” said Rishi Gupta, M.D., senior author of the study and an assistant professor at Vanderbilt University Medical Center’s Department of Neurology in Nashville, Tenn. “We decided to study treatment at 12 of the busiest stroke centers in the country to determine which of the therapies currently in use may be yielding the best results in terms of opening the blood vessel without creating hemorrhage.”

Researchers said 534 patients received more than one therapy and 75 percent of the time (or in 400 patients) it was successful. The next phase of the study will examine whether the initial success of these two treatments continues through three months of follow-up, Gupta said.

## Tongues and Arms

Motor rehab therapy also may improve language skills in stroke patients

Therapy designed to improve arm function in stroke survivors also improved their language skills, according to a new study. The study includes the first data supporting a long-held clinical tenet that motor rehabilitation efforts can also cause changes in language.

Brain scientists have known for some time that brain structures supporting language and motor systems operate similarly. Neuroscientist Stephen Page of the University of Cincinnati hypothesized that patients with one-sided paralysis (hemiparesis) would exhibit language changes along with changes in arm motor function.

Dr. Page and his team studied five patients with chronic hemiparesis and aphasia. The patients received two arm function tests along with a standard language assessment before and after up to six weeks of weekday arm training. Functional magnetic resonance imaging (fMRI) monitored affected arm and brain changes.

All five survivors showed improved motor and language abilities after motor therapy for upper extremity hemiparesis. The three subjects with the greatest improvement on one of the arm tests also showed the most improvement on the language assessment. Researchers said task-related activity changes between pre- and post-fMRI scans revealed distinct brain activation patterns associated with high improvements on language and motor tests. Better understanding of the neural mechanisms underlying functional recovery in stroke may lead to efficient therapy delivery, researchers said.
Survey Results

Awareness of primary stroke centers

In anticipation of Stroke Awareness Month (May), the American Stroke Association did a survey to measure public awareness of primary stroke centers (PSC). These are hospitals that specialize in acute stroke care. Research studies indicate that survivors who receive care at PSCs have better outcomes. The association surveyed 1,000 members of the general public and 460 Stroke Connection subscribers, 256 survivors and 204 caregivers.

The survey results demonstrate that having a stroke focuses the mind regarding PSCs. Nearly six in 10 (58 percent) respondents among the general public did not know if their local hospital was a PSC. By contrast, only 45 percent of survivors and caregivers did not know whether their hospital was a PSC. Less than a third of the general public felt this knowledge was important, while 84 percent of the Stroke Connection respondents rated this as very important knowledge to have.

Awareness of stroke hospitals, and the importance of that information, was significantly higher among people over age 40, 80 percent of whom said this was very important, compared with only 23 percent of those under 40.

Among survivors and caregivers taken to the hospital by ambulance, only 10 percent reported that EMS personnel told them they would be taken to a PSC. On the other hand, almost 90 percent of this group received helpful post-stroke information from their hospital: 70 percent received rehab referrals and 55 percent received information about medications.

According to the survey, 22 percent of the general public has had a stroke or been taken to the hospital with stroke-like symptoms, or is related to someone who has. Of these, 63 percent felt the hospital staff was knowledgeable about stroke, compared to 59 percent of Stroke Connection respondents.

Overall, the survey indicates that awareness of PSCs, and the importance of that information, is fairly low among the general public until they or a loved one has a stroke, at which time the issue becomes a high priority.
I am a stroke survivor. For more than 10 years. No one thought I would still be here today.

But with hard work and a supportive family, I am, and I have a story to tell.

I was a smoker since I was a teenager. Even after experiencing throat cancer and several TIA's, I thought I could escape the dangers of smoking. Then in September 1998, my eye felt funny. I didn’t feel well. I wasn’t sure what was happening, but after arguing about it for hours, my wife, Georgia, made me go to the emergency room. While being checked in, I “stroked out.”

I don’t remember the next two days. I was in the hospital for four weeks and came home with limited speech, a right arm that did not move and limited movement in my right leg.

I did the normal therapies and learned to walk with a cane. I exceeded the expectations of my doctor. I got my driver’s license. I started speech therapy with someone who specialized in augmentative communication, not strokes. My speech therapist took my desire to talk and read seriously and showed me computer programs such as text-to-speech and Bungalow Software. Years after discontinuing speech therapy with her, people still comment on how my speech improves every time I see them. I credit her with my language gains.

Throughout the past 10 years, I have spent hours on the Internet learning about strokes. I sought second opinions when my doctor said there was no use in trying new things. Guess what? I’ve switched doctors. My advice is to be your own advocate and don’t give up. Ever! Even as I have had some setbacks, I continue to push forward and have a fulfilling life.

My advice is to be your own advocate and don’t give up. Ever! Even as I have had some setbacks, I continue to push forward and have a fulfilling life.

Stroke support groups and stroke camps for caregivers and survivors are now a major part of my life. Some people are scared to get involved in the support group or camps. They think they aren’t as bad off as I am, or think they don’t need any help. A stroke survivor who hated his first support group experience is now my best friend. His wife made him come back, and now she is the organizer of the camps. I shudder to think about what it would be like if he hadn’t been willing to give the support group a second chance.

Georgia and I have attended over a dozen stroke camps and traveled across the state to help other communities begin their own. For more information about our weekend camps, visit strokecamp.org.

We’ve made great friends at the support group, even vacationing together in Alaska and Hawaii. At camp we have a chance to hear other people’s stories, their setbacks and successes. It encourages me and gives me purpose, knowing that I am helping others find their way as survivors or caregivers. My stroke was not the end of my life. It was a new beginning.

Larry Morris, Survivor
East Peoria, Illinois
t has been more than 16 years since my stroke—January 29, 1994, Super Bowl Sunday. It was caused by an arteriovenous malformation (AVM) and I was hospitalized for eight months. I could not eat, so I was fed intravenously, nor could I speak or walk. Not knowing when or if any of these things would return, I became determined not to live that way. Because of that attitude, I did whatever my therapists said to do plus some extra. When doors of possibilities closed, I sought out other avenues. I was determined not to be satisfied with “good enough.” I wanted to be “cane free.” With God’s help I took some radical steps, and amazing things started happening. I teamed up with Train To End Stroke and walked three half-marathons (13.1 miles) over five years in Jamaica, Arizona and Hawaii. Training was the easy part; fund raising was the hard part. That was totally opposite what I thought. I figured since everyone knew I’d had a stroke, how hard could fund raising be?

I had to overcome many obstacles to get to the first event in Jamaica. One was to gain the confidence to travel alone outside the United States after 9/11. Traveling alone was very frightening for me. I showed the greatest gains physically at the Jamaica half-marathon. By then I had been on a straight cane for seven years and could barely walk to the end of my street. I went to Jamaica on my cane, and 13.1 miles later I was without it.

I have now been cane-free for nine years, and it has given me the confidence to do things I never thought possible. For instance, today I produce a nationwide cable TV show called “Surviving Everyday.” I have kept my cane around as a security blanket, thinking I might need it again when it snowed. However, I have yet to use it, and I am very proud of that.

Leslie Pavia, Survivor
Woburn, Massachusetts

When a stroke occurs and one is in the rehabilitation process, you are not fully aware of what lies ahead. It has been 144 months since my stroke. I was in great physical condition—ate properly, exercised daily, etc. In May 1998, the last thing on my mind was having a stroke. Mine was hemorrhagic. Fortunately I was at work, and someone called 9-1-1 immediately. The ambulance arrived quickly and I was in the emergency room in less than 20 minutes.

The stroke left me paralyzed on my left side. About two years later my wife, Marie Antoinette, wanted me to visit a neurologist. The examination went fine. They did X-rays showing the area where the blood vessel erupted. When I saw the X-rays, I asked the doctor, “Does that mean I will walk with a cane for the rest of my life?” He said that I likely would. Then I asked, “Can I tell everyone I have a hole in my head?” The X-rays showed it was so.

My stroke was on the 14th of the month, so now on the 14th of every month, Marie Antoinette and I celebrate my gift of life with a bottle of good champagne, a steak dinner, ice cream, chocolate cake and love. We remember what could have been.

I plan to live to be 104 years old, unless something happens in between, but that would be a shock to me.

Frank Mangano, Survivor
Atlantic City, New Jersey

Leslie Pavia (in yellow shirt) celebrates the completion of a half-marathon.

Frank Mangano and wife Marie Antoinette
Invisible Wounds

Recovering from the psychological wounds of a stroke can often be just as challenging as recovering from the physical wounds.

by Rina Terry, Survivor | Cordova, Maryland
The first time a friend heard me say, “I have invisible wounds,” she didn’t understand what I meant. Maybe she thought I meant some internal physical problem from the stroke I’d had in 2005. Actually I was referring to the psychological wounds I am struggling with that so many people are simply unaware of. These cannot be fixed with an operation.

While I was in the hospital after my stroke, I wanted to be at home, eating at my own table and sleeping in my own bed. I had never liked the fact that I had to be on somebody else’s schedule. At home I could eat when I was hungry or sleep when I was tired. I knew it was going to be wonderful, having my husband Greg and our children around me in our normal setting.

But when I came home from the hospital, my invisible wounds began to hurt. Quickly, I began to feel their pain. Being back in a more normal setting involved seeing more and more people from the world outside the hospital. Anyone who has spent time in the hospital knows that there is a certain security being where you know people are there for the sole purpose of caring for you. In the hospital I was so protected from most of the real world. Coming home was traumatic because what I wanted and what happened were two different things.

**Facing the dark cloud**

At first, allowances were made daily. I was treated as an invalid in recovery, which is basically what I was. Back in the spring and summer of 2005, I needed a lot of help. Believing in and trusting myself was almost impossible. That was when the most debilitating wound began to surface: frustration!

I had always been very independent. I was the only person living in our house who did not have attention deficit disorder. Before the stroke my role had been very clear, and I had prided myself in being the organized one, the dependable one, the coordinator of everything. Meeting the demands of both my job and my family was an everyday occurrence for me. It was frustrating not to be able to do all those things.

When I started to socialize, I noticed another frustration. I saw women handling their kids, their husbands and their jobs without difficulty. I couldn’t do that anymore. I felt less worthy.

Another invisible wound came from facing my fierce sense of pride. Recovery has required unbelievable humility. It wasn’t easy for me to ask for help with something I was once able to do myself. I know now that I took my previous self-sufficiency for granted. At first, I had to have help with bathing, dressing, undressing, fixing things, doing the laundry, cooking meals and all the many tasks easily done with the use of two hands. I can only use one hand, so I’ve had no choice but to swallow my pride and ask, and often wait, for help.

I had never really had a problem with depression until after the stroke. But then it became an ever present condition that needed to be dealt with. To this day, five years later, I am being carefully monitored and medicated to control this debilitating disease. When depression comes into my life it feels like a great weight on my shoulders. I can clearly recall the first dark cloud that enveloped me post-stroke, and I knew I never wanted to sink into that hole again. Although very visible to me, depression is a wound nobody would know I had unless I told them. Five years later, I am being monitored and medicated to control the depression.

**Sagging self-confidence**

Gradually, as I am mending, I’m venturing out into the public a little more. At first glance, I look and act like everybody else. Because most of my body is working, people assume that I am just fine. My face looks normal, and I walk with an acceptable gait. If somebody notices my left hand, which is useless, it’s often mistaken for a birth defect.

Only when I speak does someone realize that there is something a bit different. Even then, it’s not always obvious. My major post-stroke difficulty with pronouns

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**Recovery has required unbelievable humility. It wasn’t easy for me to ask for help with something I was once able to do myself.**
For the most part, I think I am able to hide my feelings but I have a long way to go to regain my old self.

Negative feelings – like sadness, anger and fear – come with the trauma of stroke and recovery. Don’t deny those feelings. Instead, find acceptable ways to express them. For some people it helps to write about their feelings or talk to someone about them. For others, meditation or physical exercise are an effective outlet for negative feelings. Those forms of expression may be direct or indirect, physical or verbal. Explore options like these to find a personally preferred route of expression.

Use your negative feelings as a means of understanding dysfunctional thoughts that are exaggerated, judgmental or unrealistic. Thoughts like these can drive a negative self-image. A stroke can shake your self-concept and prompt a need to “reinvent yourself.” Take an inventory of your strengths and talents in order to find new ways to implement them.

Learn to ask for help as a way of feeling less dependent. Manage the negativity associated with dependence by taking responsibility to reach out for help. You take back control when you acknowledge weaknesses. When you think of it, we all have some. Also take the time to educate others about your strengths and weaknesses after stroke and how you do and don’t need help.

Keep the drive to recover alive by celebrating even the small steps of recovery. And look ahead to the future by planning events and activities that accentuate that life goes on and that you have a future.

Recognize recovery as a process and an opportunity. Any sudden, dramatic change in life is disruptive, but in the long run it may present opportunities to reprioritize your life goals and redirect you in healthy ways. Recovery takes time and is a process that can reveal hidden strengths. Years from now, when you look back on the challenge of your recovery, what will you say you have learned or gained?

Laugh! Cultivate your sense of humor. It’s part of the toolkit of human survival.

Dr. Robert Hartke is lead psychologist at the Rehabilitation Institute of Chicago. He has worked in the field of rehabilitation psychology for over 25 years.
Do sudden, unpredictable emotional outbursts disrupt your life?

You are not alone.

You may be one of more than a million Americans suffering from Pseudobulbar Affect (PBA).

Pseudobulbar Affect can happen when disease or injury damages the area of the brain that controls how you express your emotions. The result: sudden, unpredictable crying, laughing, or other emotional episodes that can be disruptive and embarrassing.

But you are not alone. More than a million people diagnosed with neurologic disease or injury also have PBA—impacting their lives, and the lives of those close to them.

If you or someone you care for experiences these episodes and has been diagnosed with a condition such as multiple sclerosis (MS), Lou Gehrig's disease (ALS), Parkinson's disease, Alzheimer's disease, stroke, or traumatic brain injury, it may be due to “short circuits” in brain signaling. It may not be depression. Learn more about how you might begin to take control.

Pseudobulbar Affect PBA

To learn more, please visit www.PBAinfo.org
Speech is the most complex of all human movements. In order to speak, numerous muscles that control the tongue, lips, soft palate, jaw and larynx (voice box) need to move very rapidly. These muscles also need to move in a coordinated manner with each other as well as with the muscles that control respiration.

How We Speak

Speech requires that the lungs generate a stream of air that sets the vocal folds (muscles in the larynx) into vibration. The vibrating air stream moves through our throat, mouth and nose. Our vocal folds, tongue, lips, jaw, teeth and soft palate are used to change the air stream into different speech sounds.

The nerves that control our speech muscles are part of a complex and widespread network. Normal speech requires nerve signals to be sent from the highest centers of the brain (cortex) to the nerves that stimulate the muscles, with various connections along the way. Damage to any part of the nervous system that directs speech can result in speech problems. Therefore, a stroke involving the brain, brain stem, cerebellum or spinal cord can cause speech problems. A sudden onset of disturbed speech production can often be one of the earliest signs that a stroke may be occurring.

Speech vs. Language

It should be noted that “speech” problems differ from “language” problems, which also can occur after stroke. When there is damage to the language areas of the brain (for most of us, this is the brain’s left hemisphere), aphasia may result. Aphasia is not a speech problem; the physical act of speaking is intact with aphasia. Instead, aphasia involves language problems such as word-finding difficulties, sentence construction errors, language comprehension problems, etc. Aphasia can exist along with speech disorders.

There are two major types of speech problems that can occur following stroke: apraxia of speech and dysarthria. Symptoms will depend upon the areas of the nervous system that have been damaged.
Apraxia of Speech

Apraxia of speech most often follows a stroke that affects the language-dominant hemisphere of the brain. It is usually associated with damage to the areas of the brain supplied by the left, middle cerebral artery. Apraxia of speech may range in severity from a complete inability to speak to very mild, barely detectable distortions of speech. A person with apraxia of speech may:

- Speak more slowly. Individual sounds may be produced more slowly and there may be abnormally long intervals between words or syllables (e.g., “speak...ing.....o...ccurs... more...slow...ly”).
- Have trouble with words that have more than one or two syllables (e.g., “statistical,” “calculate”).
- Have a harder time saying certain sounds. Speech sounds that are produced incorrectly may sound distorted or imprecise.
- Have trouble saying blends (e.g., STRange, SPLotch, BLush).

Speakers with apraxia of speech usually are well aware of their errors and may become frustrated with their inability to correctly articulate what they wish to say. They may experience difficulty in placing their articulators (for example, lips or tongue) in the correct positions and thus, may appear to be groping for speech. The muscles for speech are not weak and usually function properly during nonspeech tasks (e.g., chewing, kissing, smiling).

Apraxia of speech is thought to occur because the brain has difficulty retrieving the speech movement plans that were learned as a child. As such, speech-language therapy for apraxia of speech often involves repeated practice of speech movements to help improve retrieval of movement plans. Apraxia of speech frequently occurs with aphasia. It may be difficult to determine whether the aphasia or the apraxia of speech interferes more with communication. Therapy may need to address both problems.

Dysarthria

Dysarthria is the second major type of speech disturbance that can result from stroke. There are several types of dysarthria, and each is determined by the portion of the nervous system that is injured. In treatment, it is very important to understand how the damaged nervous system is affecting the muscles and their movements. For example:

- Strokes that damage both hemispheres of the brain can cause the speech muscles to have too much muscle tone (a tight feeling) and to move slowly and with difficulty.
- Strokes that affect the brain stem or spinal cord can cause the speech or respiratory muscles to be weak and lacking in muscle tone.
- A stroke in the cerebellum can affect the ability to coordinate the speech muscles.
- Damage to structures deep in the brain (e.g., basal ganglia) can lead to excessive or extraneous movements of the muscles.

The survivor’s speech-language pathologist (SLP) should be able to identify the specific type of dysarthria. Therapy should address the underlying causes of the disrupted speech. For example, strengthening exercises are appropriate when the muscles are weak, but may be harmful when the muscles have too much tone. During the period of spontaneous recovery, when the nervous system is in the healing process, it can be anticipated that dysarthria symptoms will improve. Therapy may speed this improvement. After the phase of spontaneous recovery has ceased (usually after six to 12 months), speech improvements can be achieved with therapy. If speech continues to significantly interfere with communication, the SLP should be able to recommend options for supplementing speech, known as augmentative and alternative communication (AAC).

Fortunately, the type of dysarthria (i.e., unilateral upper motor neuron dysarthria) that results from a single stroke in either the left or the right hemisphere rarely requires therapy. It is usually mild and often disappears within months after the stroke. Symptoms include imprecise sound production, slightly slowed rate of speech, incoordination of speech and harsh-sounding voice.

Stroke may have a significant impact on speech production and consequently, the ability to communicate. It is important to remember that speech will usually improve in the weeks and months following the stroke. Speech-language therapy may assist the recovery process with apraxia of speech or dysarthria and can result in speech production improvements long after brain healing has stopped.

Resources

1. Access speech-language treatment guidelines for dysarthria and apraxia of speech at ancds.org (Academy of Neurologic Communication Disorders and Sciences).

2. Find information concerning augmentative and alternative communication at www.isaac-online.org/en/aac/what_is.html.

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

by Gary Drach, Survivor | San Carlos, California

At age 13

I experienced a grand mal seizure. I was scared to death. Seizures were soon a common occurrence in my life for the next 34 years. Eventually during one hospital stay it was discovered that I had an arteriovenous malformation (AVM).

An AVM is an abnormal connection of blood vessels. Because of the convoluted way blood flows through an AVM, there is additional strain on the blood vessels and the surrounding tissues. These weakened blood vessels can rupture and cause a stroke. The chance of an AVM bleeding increases 4 percent per year.

Most AVMs can be surgically removed, but mine was inoperable. Because of that I decided not to tell anyone. Of course, my parents knew, but I refused to tell even my closest friends for fear I would be looked upon as someone special. After all I was only 13. My logic was that I was living on borrowed time so why not live life to its fullest? I planned to live into my 30s.

One day 10 years ago, at age 47, I woke up with a terrible headache. I thought it was stress from a new job. I knew I was in trouble when my speech slurred and my right arm went numb. At the ER, my legs seemed to drop out from under me.

I remember I was surprised when my wife Peggy, who is a nurse, told the ER nurse that I was having a stroke. That night the doctors prepared Peggy for the worst: that I might not live.

But I did live. Over several months I had three operations, two to cauterize the AVM and another to remove it completely. Then there were two months in the hospital, countless days in intensive care and five years in rehab. I had a three-word vocabulary: yes, no and “peekles.” In addition, I had short-term memory loss, poor reasoning skills and my entire right side was nonfunctional.

Rehab was where I found out what “motivation” means. Each day was treated with a renewed determination. I spent countless hours over 18 months doing outpatient therapy. When a therapist would say “five more,” I would do 10. My mantras were “It’s possible” and “I think I can.”

The first thing I wanted to do was walk. I think everybody wants that because it makes you feel less handicapped, but actually walking is highly overrated. The ground is a scary place when you fall from six feet. Speech is where I should have concentrated more. I remember all the times I walked to dinner, and then couldn’t carry on a conversation. I wouldn’t be as far along as I am if not for the years of therapy and the incredible therapists. They were ruthless, and I loved them for it.

Life has changed. Today I can walk with the use of an ankle foot orthotic (AFO), speak with a little added effort, and my reasoning skills have returned. However, numbers are still difficult.

I fell downstairs and broke my leg. We moved from our two-story house immediately! I fell another time and ripped the rotator cuff on my good arm—like I said, walking is highly overrated.
I fell downstairs and broke my leg. We moved from our two-story house immediately! I fell another time and ripped the rotator cuff on my good arm—like I said, walking is highly overrated.

I regained my driver’s license and had my car outfitted with a left-foot gas pedal. I’m pretty much independent except for things needing two hands, like those darn cereal box liners and cutting steaks. I’ve learned patience.

Life has simplified. Where I used to travel internationally, Peggy and I enjoy going to the coast for a weekend. There was initially a fallout of friends, but now we’re busy every weekend. I enjoy walking our golden retriever in the park and I love our cat. I go to a personal trainer once a week and I try to work out five times a week. I still see a speech therapist three or four times a year.

I have started a Web site for stroke survivors, strokegazette.com. It is dedicated to Peggy, who has taught me what motivation means and given me the gift of patience. She taught me how to laugh again. I am truly blessed to be her husband.

Last August I got a service dog after a three-year wait. Donald is a black Lab mix, and he has made a huge difference in my life. He helps me with grocery shopping and the telephone—and even helps me take off my sweater. My self-confidence is way up.

Where I used to work 60 hours a week, I now volunteer in the acute rehab units at Stanford and Mills Hospitals in California, where I am affectionately referred to as Trouble, as in “Here comes Trouble.” Yes, life has changed and despite the occasional frustrations, I’m enjoying what I consider to be a second chance! EC

**Editor’s Note:** For more information on Canine Companions for Independence go to cci.org.

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**Constraint:** The constraint is not specified.

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**I fell downstairs and broke my leg. We moved from our two-story house immediately! I fell another time and ripped the rotator cuff on my good arm—like I said, walking is highly overrated.**

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**The Warning Signs of Stroke:**

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

**If you experience some or all of these warning signs, don’t wait. Call 9-1-1 right away.**

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- Word retrieval
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Helen Talley
Caregiver


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It’s never too late—or too early. Start Today!
Stoke survivors are at a high risk for falls whether it is in the hospital right after the stroke, during inpatient rehabilitation or after returning home. Falls often lead to a cycle that begins with loss of confidence and a reluctance to walk and subsequent weakness from limiting mobility. Falls can also result in injury of varying degrees from minor bruising to broken bones or lacerations.

Fortunately, the future does not have to be bleak for those who have survived a stroke. Falls are not an inevitable consequence of having a stroke, and understanding the risk factors can dramatically limit the risk. Much can be done proactively through consultation with healthcare professionals (such as physical therapists) and creating personal strategies to avoid falls.

Risk Factors for Falling after a Stroke

Often falls have more than one cause. Biological factors, behavioral changes, medications and the environment can affect fall risk. Balance problems, difficulty walking, cognitive problems and the location in the brain where the stroke occurred are all biological changes that can put a survivor at risk for falling. People with stroke often find it hard to stand safely in a quiet manner and maintain balance. When that difficulty is combined with slow reaction time and less coordinated muscles, walking can be difficult and risky.

After a stroke, weakness can affect the coordination of muscles that are needed to walk safely. Often there are changes in thinking ability (or cognition), which can affect judgment or cause the survivor to make unsafe decisions. Ignoring a recommendation to use a walker or cane is just one example. A stroke that occurs on the right side of the brain is a biological factor that can put a survivor at a higher risk for falling than a left-side stroke.

Medications that cause drowsiness, such as sleep aids and prescription pain relievers, can also increase the risk of falling. So can blood pressure medications such as antihypertensives, and certain antidepressants. Be aware that medications are most likely to cause side effects that might lead to a fall when starting a new prescription that you’re unaccustomed to, or when the dosage changes.

Environmental risk factors, such as inadequate lighting or loose carpeting, can increase the risk of falls. An object that’s difficult to see in a darkened room may be easy to avoid for a person who has not had a stroke or who has normal reaction time. However, the same object can be dangerous for a survivor with slowed reaction time.

Screening for Fall Risk

Simply being a stroke survivor puts you at risk for falling. A physical therapist, in conjunction with other medical professionals, can screen for fall risk and make recommendations for addressing and modifying that risk. The type of screening will depend on where in the brain the stroke occurred and the survivor’s mobility and cognitive functioning.
**Tips to Prevent Falls**

Here are some recommendations to reduce the risk of falls:

1. Follow the recommendations of your physical therapist regarding activity, exercise and the degree of caregiver supervision required for safe walking.
2. Use the devices recommended by your physical therapist, such as a walker or cane, and any braces that have been prescribed.
3. Wear supportive, non-slip footwear when walking or performing any standing activity.
4. Check your home for environmental hazards:
   - Make sure that all stair treads and handrails are firmly attached.
   - Make sure that there is adequate lighting, and keep all walkways clear of clutter and electrical cords.
   - Consider a lap belt on a wheelchair and a bedrail to make sitting and lying safe.
5. Review medications with all of your healthcare providers at every visit. Ensure that all prescriptions are filled at one pharmacy and medications are taken as prescribed. Inform your doctor if you cannot afford your medications, and ask to be prescribed the lowest effective dose.
6. Have your vision checked annually to ensure that you have the most up-to-date eyewear and maintain the health of your eyes.

Falling should never be considered a “normal” occurrence after stroke. In most cases, falling can be directly or indirectly associated with a biological, behavioral or environmental factor. The cause of every fall should be thoroughly investigated so that the cycle of fear, reluctance to walk and further development of weakness can be prevented.

Physical therapists can help patients reduce pain and improve or restore mobility (in many cases without expensive surgery or the side effects of prescription medications). The American Physical Therapy Association (APTA) represents more than 74,000 physical therapists nationwide. Its purpose is to improve health and quality of life through the advancement of physical therapist practice, education and research. In most states, patients can make an appointment directly with a physical therapist, without a physician referral. Learn more about conditions physical therapists can treat and find a physical therapist in your area at [moveforwardpt.com](http://moveforwardpt.com). Join APTA on Facebook and Twitter.

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[1]: http://www.walkaide.com
It was 10 o’clock Wednesday morning and I was almost out the health club door when Angel the receptionist corralled me and slipped the club’s latest brochure into my hand. “Check it out. We’ve added some awesome new classes,” she chirped. I didn’t need “awesome” new ways to torture myself, but I graciously accepted it.

When I got home I immediately slipped it into Marilyn’s collectible Borden’s Cream Cheese container on our kitchen counter. It’s just an old, funky wooden box but I bet the Antiques Roadshow experts would have a hissy fit if they knew the thing was stuffed to the gills with clippings and take-out menus.

Naturally, when we want a menu we can never find one. They mysteriously disappear like planes in the Bermuda triangle, so I figured I’d never see that pamphlet again. Wrong! It not only stuck around, it managed to work its way to the front of the stack, staring at me every time I went into the kitchen, like there was some unseen voodoo force at work. One day I surrendered, yanked it from the box and glanced at the “new” additions. Lo and behold this caught my eye…

HATHA YOGA: Our calming, relaxing class invigorates the body & mind using breathing techniques, stretches & postures. Attain joy, happiness and enlightenment!

Yup, I bought it. But since the stroke I have explored a lot of unusual modalities. I even developed a meditation practice, and while I’m not levitating (yet), I can attest firsthand to the benefits of a mind-body approach to health and healing.

I put Google in overdrive and immersed myself in everything yoga. I learned: “Traditionally yoga was a method to merge the self with the Supreme Being …” Cool, considering the last thing I merged with was a wheelchair back in the hospital. I could almost hear the soothing drone of a sitar, and smell the exotic healing aroma of burning myrrh wafting through the air. OK, Supreme Being, here comes “Baba” John Kawie.

The club’s yoga room was sandwiched between weightlifting and something called cardio boot camp. Not exactly the tranquil, spiritual setting I imagined. On one side there was grunting and the thud of 400 lb. weights hitting the floor. On the other, there was the endless pounding of footsteps and more grunting. It was like doing “Downward Facing Dog” in the middle of a construction site during the New York City Marathon. Instead of attaining that elusive stillness, my mind somersaulted from thought to thought like The Flying Wallendas.

MY MIND: “I’m no expert, but I don’t think your face should be this close to your crotch.”

ME: “Come on, this has been practiced for centuries.”

MY MIND: “Where? Prisons?”

ME: “Just concentrate.”

MY MIND: “I’m concentrating on the fact that the girl in front of me is wearing spandex two sizes too small.”

ME: “I can’t hear youuuu…..”

MY MIND: “Whoa, did you hear that crack?”

ME: “No. I felt it.”

MY MIND: “Are you crying? There’s no crying in yoga!”

The instructor, with a little help from the paramedics, unfolded my body like I was an origami paper crane.

PLAVIX® (clopidogrel bisulfate) tablet, film coated  
Rx Only

WHO IS PLAVIX FOR?
PLAVIX® (clopidogrel bisulfate) is a prescription-only medicine that helps keep blood platelets from sticking together and forming clots.

PLAVIX is for patients who have:
• had a recent heart attack.
• had a recent stroke.
• poor circulation in their legs (Peripheral Artery Disease).

PLAVIX in combination with aspirin is for patients hospitalized with:
• heart-related chest pain (unstable angina).
• heart attack.

Doctors may refer to these conditions as ACS (Acute Coronary Syndrome).

Clots can become dangerous when they form inside your arteries. These clots form when blood platelets stick together, forming a blockage within your arteries, restricting blood flow to your heart or brain, causing a heart attack or stroke.

WHO SHOULD NOT TAKE PLAVIX?
You should NOT take PLAVIX if you:
• are allergic to clopidogrel (the active ingredient in PLAVIX).
• have a stomach ulcer.
• have another condition that causes bleeding.
• are pregnant or may become pregnant.
• are breast feeding.
• have certain genetic factors.

WHAT SHOULD I TELL MY DOCTOR BEFORE TAKING PLAVIX?
Before taking PLAVIX, tell your doctor if you’re pregnant or are breast feeding, if you are taking any other drugs or if you have any of the following:
• gastrointestinal ulcer
• stomach ulcer(s)
• liver problems
• kidney problems
• a history of bleeding conditions

WHAT IMPORTANT INFORMATION SHOULD I KNOW ABOUT PLAVIX?
Genetics: People with a specific genetic makeup may get less protection against heart attack or stroke with PLAVIX.

Drug interactions: Some medicines, such as Prilosec, may affect how PLAVIX works. Tell your doctor all the medications you are taking, including prescription or over-the-counter medications. You should tell your doctor about any other medications you are taking, including prescription or over-the-counter Prilosec (omeprazole). Taking Prilosec with PLAVIX may reduce the effect of PLAVIX. Antacids and most H2 blockers, except Tagamet (cimetidine), are not known to interfere with how PLAVIX works.

TTP: A very serious blood condition called TTP (Thrombotic Thrombocytopenic Purpura) has been rarely reported in people taking PLAVIX. TTP is a potentially life-threatening condition that involves low blood platelet and red blood cell levels, and requires urgent referral to a specialist for prompt treatment once a diagnosis is suspected. Warning signs of TTP may include fever, unexplained confusion or weakness (due to a low blood count, what doctors call anemia). To make an accurate diagnosis, your doctor will need to order blood tests. TTP has been reported rarely, sometimes in less than 2 weeks after starting therapy.

Gastrointestinal Bleeding: There is a potential risk of gastrointestinal (stomach and intestine) bleeding when taking PLAVIX. PLAVIX should be used with caution in patients who have lesions that may bleed (such as ulcers), along with patients who take drugs that cause such lesions.

Bleeding: You may bleed more easily and it may take you longer than usual to stop bleeding when you take PLAVIX alone or in combination with aspirin. Report any unusual bleeding to your doctor.

Geriatrics: When taking aspirin with PLAVIX the risk of serious bleeding increases with age in patients 65 and over.

Stroke Patients: If you have had a recent TIA (also known as a mini-stroke) or stroke taking aspirin with PLAVIX has not been shown to be more effective than taking PLAVIX alone, but taking aspirin with PLAVIX has been shown to increase the risk of bleeding compared to taking PLAVIX alone.

Surgery: Inform doctors and dentists well in advance of any surgery that you are taking PLAVIX so they can help you decide whether or not to discontinue your PLAVIX treatment prior to surgery.

WHAT SHOULD I KNOW ABOUT TAKING OTHER MEDICINES WITH PLAVIX?
You should only take aspirin with PLAVIX when directed to do so by your doctor. Certain other medicines should not be taken with PLAVIX. Be sure to tell your doctor about all of your current medications (prescription or over-the-counter), especially if you are taking the following:
• aspirin
• nonsteroidal anti-inflammatory drugs (NSAIDs)
• warfarin
• heparin
• heartburn or stomach ulcer medicines, like Prilosec

Be sure to tell your doctor if you are taking PLAVIX before starting any new medication.

WHAT ARE THE COMMON SIDE EFFECTS OF PLAVIX?
The most common side effects of PLAVIX include gastrointestinal events (bleeding, abdominal pain, indigestion, diarrhea, and nausea) and rash. This is not a complete list of side effects associated with PLAVIX. Ask your doctor or pharmacist for a complete list.

HOW SHOULD I TAKE PLAVIX?
Only take PLAVIX exactly as prescribed by your doctor. Do not change your dose or stop taking PLAVIX without talking to your doctor first.

PLAVIX should be taken around the same time every day, and it can be taken with or without food. If you miss a day, do not double up on your medication. Just continue your usual dose. If you have any questions about taking your medications, please consult your doctor.

OVERDOSAGE
As with any prescription medicine, it is possible to overdose on PLAVIX. If you think you may have overdosed, immediately call your doctor or Poison Control Center, or go to the nearest emergency room.

FOR MORE INFORMATION
For more information on PLAVIX, call 1-800-633-1610 or visit www.PLAVIX.com. Neither of these resources, nor the information contained here, can take the place of talking to your doctor. Only your doctor knows the specifics of your condition and how PLAVIX fits into your overall therapy. It is therefore important to maintain an ongoing dialogue with your doctor concerning your condition and your treatment.

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CLO-BSC-SA-OCT09
No one can predict a heart attack. But your stroke may be your first clue.

If you’ve had a stroke, you may be facing a major risk of having another one. But did you know you may also be at increased risk of a heart attack?

PLAVIX is the only prescription antiplatelet medicine that helps protect against a stroke and heart attack.

Once you’ve experienced a stroke, your risk of both a stroke and a heart attack never goes away. PLAVIX can help reduce your risk. PLAVIX is proven to help keep clots from forming, the leading cause of heart attacks and strokes. So if you’ve recently had a stroke, PLAVIX can help protect against another stroke or even a heart attack. Talk to your doctor to find out if PLAVIX is right for you.

IMPORTANT SAFETY INFORMATION: People with stomach ulcers or other conditions that cause bleeding should not use PLAVIX. Taking PLAVIX alone or with some other medicines, including aspirin, may increase bleeding risk, so tell your doctor when planning surgery. Certain genetic factors and some medicines, such as Prilosec, may affect how PLAVIX works. Tell your doctor all the medicines you take, including aspirin, especially if you’ve had a stroke. If fever, unexplained weakness or confusion develops, tell your doctor promptly. These may be signs of TTP, a rare but potentially life-threatening condition, reported sometimes less than 2 weeks after starting PLAVIX. Other rare but serious side effects may occur.

PLAVIX offers protection.

PLAVIX is proven to help keep blood platelets from sticking together and forming clots, which helps keep your blood flowing. Clots are the leading cause of strokes and heart attacks. PLAVIX helps you stay protected.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Talk to your doctor about PLAVIX. For more information, visit www.plavix.com or call 1-800-470-4097.