



# Stroke Prevention

By Dan Otten, M.D., F.A.C.C.

Stern Cardiovascular Center

To many, it's a fate worse than death. A cerebrovascular accident (CVA), better known as a "stroke," is the third leading cause of death in the US, but it is the number one cause of serious, long-term disability. Given the often permanent neurological impairment that results from a stroke, prevention is critically important. Awareness of what one can do to lower the risk of stroke, therefore, is extraordinarily useful.

Stroke is thought to derive its name from those who believed the victim was "struck from God." A stroke in medicine is defined as death of brain tissue due to a sudden interruption of blood supply, and thus oxygen, to that tissue. Stroke is not rare. In the US, stroke occurs approximately every 40 seconds, leading to about 800,000 strokes a year and over 140,000 deaths. One's age, extent of physical disability from stroke, and how quickly one receives medical help are what will most determine the extent of recovery. But only this last part, along with prevention, is controllable by you.

High blood pressure, smoking, and diabetes are the most important stroke risk factors to control. For most patients, cardiovascular risk increases

for blood pressure above 115/75. High blood pressure is the controllable risk factor most often associated with stroke. Smoking more than doubles one's risk of stroke. Quitting smoking clearly is very important. All of the above become even more important in patients with diabetes, and diabetics should optimize their blood sugar levels. Furthermore, lowering blood cholesterol with "statin" medicines reduces the risk of stroke, particularly those involving the body's large arteries, such as the carotid arteries in the neck, and the aorta where cholesterol plaque or clots may form. A vascular screening exam is helpful to define risk, and may help determine whether medication such as aspirin is appropriate preventively.

As noted above, a stroke is caused by insufficient oxygen reaching brain tissue. This can occur in different ways. Ninety percent of the time, a stroke is due to a blockage of a blood vessel providing blood to the brain, an event called "ischemia." About 10% of the time, the loss of oxygen is due to a bleed in the brain, an event called "hemorrhage." While the blockage of blood in ischemic stroke can occur from a clot forming in a blood vessel, it can also result from conditions such as atrial fibrillation

or flutter. In these situations, a blood clot can go from the heart to an artery feeding the brain, causing a blockage there. For these conditions, stroke prevention includes making sure one's blood thinning therapy, with aspirin or Warfarin (Coumadin), is appropriate to prevent blood clots from forming in the hearts. On occasion, surgery or stents for narrowed carotid arteries in the neck may help prevent stroke.

The most common symptoms of a stroke are: sudden onset of weakness and/or numbness usually on one side of the body, such as an arm, leg, or the face; a sudden change in vision; sudden difficulty speaking clearly or understanding what you hear; sudden difficulty with balance or walking, or even sudden dizziness; or a sudden headache, one that often one would refer to as "the worst headache of my life." A key aspect of stroke is that symptoms occur suddenly. Any of the above symptoms can occur in isolation, or along with each other. While other medical conditions can cause the above symptoms, few are as dangerous and demand such speedy medical attention as with stroke.

*Continued on Next Page*

A stroke can be a devastating event. Recovery is uncertain, regardless of age. While medical progress and education of the public have helped reduce the mortality from stroke over the past few decades, life affected by a stroke is a terrible fear shared by many. Attention to the controllable stroke risk factors is of critical importance. If one thinks symptoms of stroke are present, call 911 immediately to seek medical help. My colleagues and I are eager to help with your preventive care. When it comes to stroke, an ounce of prevention is worth a ton of cure!



### About The Author

Dan Otten, M.D., F.A.C.C. is a cardiologist with the Stern Cardiovascular Center, which he joined in 2007. He graduated Princeton University, Vanderbilt Medical School, was chief resident of medicine in Indiana, where he did his residency, and trained in cardiology at Columbia University Medical Center in New York City. His grandfather is from Memphis, and he enjoys time with his family here. Dr. Otten speaks four languages, is a gourmet, and is fond of traveling. He has a medical variety segment on Forrest Goodman's radio news show Thursdays on 600 AM WREC at 6:40am.

## World leaders focus on stroke prevention, care as Stroke journal turns 40

On the 40th anniversary of the journal *Stroke: Journal of the American Heart Association*, stroke leaders from around the world celebrated stroke research accomplishments and set an agenda for the future, according to a special report in the journal.

“The past 40 years have seen more

### Midsouth Wellness Guide

advances in stroke than the previous four millennia,” said Vladimir Hachinski, M.D., editor of *Stroke* and distinguished university professor of neurology at the University of Western Ontario in London, Canada. “We’ve accomplished a lot but we need to accelerate that progress.”

Since 1970, stroke advances include: identification of stroke risk factors such as hypertension, evidence that anti-platelet drugs can prevent stroke, the formation of dedicated stroke units and the approval of a clot-busting drug to treat acute stroke.

For the journal anniversary, seven working groups of stroke leaders made recommendations for the future direction of stroke research on specific topics.

“The participants made prevention a top priority,” Hachinski said. “That’s where the biggest gaps currently are, and the largest potential gains for greater effort.

“Although stroke is preventable, it is increasing globally. While a few known risk factors (such as high blood pressure) account for many leading health problems in the world, they remain uncontrolled in most people.”

The recommendations from the seven working groups include:

- Basic science, drug development and technology: Encourage collaboration between specialists. For example, laboratory scientists and clinicians could work more closely on specific stroke problems, and stroke researchers could pursue common mechanisms that are involved in other neurological diseases of the aging brain (such as Parkinson’s and Alzheimer’s disease).
- Stroke prevention: Make stroke a major focus of chronic disease prevention globally. Recognize the importance of severely disabling strokes and common and subtle subclinical strokes that disrupt executive functioning

(such as the ability to plan and prioritize tasks).

- Acute stroke management: Continue establishing specialized treatment centers that have improved outcomes, including stroke centers, hospital stroke units, regional systems of emergency stroke care, and telecommunications networks to guide treatment in isolated areas.
- Brain recovery and rehabilitation: Standardize post-stroke rehabilitation based on the best evidence from research and continue rigorous clinical research.
- Web, technology and communications: Work towards global unrestricted access to stroke-related information for better public education, easier communication between professionals, and a way for patients to connect with their physicians and peers. Build centralized electronic archives and registries.
- Stakeholders: Foster cooperation among large stroke organizations, nongovernmental organizations, governments, patient organizations and industry to enable joint educational efforts and enhance stroke care.
- Education of professions, patients, the public and policy makers: Promote the concept of “Brain Health” to encourage prevention.

Coalitions will be vital in reducing the amount of death and disability from stroke, Hachinski said. “Stroke is a big problem, but still a small professional field. We need to work very closely with the public, health practitioners and other health organizations to protect brains and prevent strokes.”

The group also said evidenced-based treatment will probably save time, money and effort.

“Although the challenges are daunting, the achievements of the past four decades are inspiring . . . [and