

UM Expert Co-Authors New Recommendations to Improve Stroke Systems of Care

A neurologist with UHealth – the University of Miami Health System and the Miller School of Medicine co-authored newly released guidelines to translate the latest advances in stroke care to improve patient outcomes. The statement emphasizes the need for certified stroke treatment centers to turn major advances in scientific knowledge and innovations in stroke care into better patient outcomes, and says comprehensive stroke systems of care must be in place in communities to ensure optimal stroke care delivery.



Dileep R. Yavagal, M.D.

Dileep R. Yavagal, M.D., professor of clinical neurology and neurosurgery, and director of interventional neurology at UM/Jackson Memorial Hospital and University of Miami Hospital and Clinics, co-authored the policy statement, released May 20 by the American Stroke Association, a division of the American Heart Association, in the journal *Stroke*.

“Given the tremendous advancements in stroke treatments, including intravenous tPA and mechanical thrombectomy that are very time-sensitive, stroke hospitals and centers should be

organized so that severe acute stroke patients receive the most advanced stroke care possible as rapidly as possible,” said Dr. Yavagal, a prolific stroke researcher. “Even though a person who suffers an acute stroke in the U.S. has a much better chance of not being disabled than in previous years, many systems of care in communities still need to be revamped to provide the best chance for avoiding permanent disability from severe strokes.”

Stroke is the leading cause of permanent disability in the U.S. and worldwide.

The Miller School has one of the largest stroke teams in the country and has played an active role in advancing stroke care through continuous research, cutting-edge technology and aggressive treatment times. In Miami-Dade County, UM has been instrumental in training Emergency Medical Services workers to recognize the symptoms and severity of stroke in the field. UHealth also oversees the comprehensive stroke center at UM/Jackson Memorial Hospital and offers leading-edge neurosurgical options.

Overall, the new recommendations support policies that standardize the delivery of stroke care, lower barriers to emergency care for stroke, ensure stroke patients receive care at appropriate hospitals in a timely manner, and improve access to secondary prevention and rehabilitation and recovery resources after stroke.

The policy statement, released during National Emergency Medical Services (EMS) Week, comes as stroke systems of care have seen

vast improvements in availability of endovascular therapy, neurocritical care and stroke center certification over the past decade. In addition, innovations such as telestroke and mobile stroke units have increased access for stroke patients to alteplase, a lifesaving, clot-busting drug.

“These policies tell us what needs to be done and now it is up to communities to help implement the guidelines,” said Ralph L. Sacco, M.D., M.S., an internationally renowned stroke neurologist, chair of the Department of Neurology, Olemberg Family Chair in Neurological Disorders, Miller professor of neurology, public health sciences, human genetics and neurosurgery, executive director of the Evelyn F. McKnight Brain Institute, and director of the Florida Stroke Registry. “At the Miller School, we are coordinating the state-supported Florida Stroke Registry, which is helping to assure that acute stroke recommendations and policies are implemented in an equitable manner throughout the stroke centers in the state.”

The statement recommends that when more than one intravenous alteplase-capable hospital is within reach, EMS should consider additional travel time of up to 15 minutes to reach a hospital capable of performing endovascular thrombectomy (also called stent retrievers) for patients suspected of having a severe stroke. Both intravenous alteplase, a clot-dissolving therapy, and endovascular thrombectomy, a procedure to remove a clot mechanically, must be administered quickly to be effective, but not every hospital is able to deliver these services.

“In South Florida, our close collaboration with EMS, and through

regional coordination guided by data from the Florida Stroke Registry, we have achieved some of the fastest treatment times in the country,” said Jose G. Romano, M.D., professor of neurology and chief of the Miller School’s stroke division. “This is important to improve outcomes as approximately 1.9 million neurons die each minute during an ischemic stroke. These efforts need to be maintained and expanded to afford those affected by a stroke the best chance for recovery.”

The statement also addresses disparities in care among racial and ethnic minorities, who are less likely to use EMS and have the lowest awareness of the causes and symptoms of stroke. Among Hispanic and black populations in particular, lack of knowledge of the risk factors and symptoms of stroke can hamper timely stroke care. In response, the statement recommends that public health leaders and medical professionals implement public education programs focused on stroke systems and the need to seek emergency care by calling 9-1-1 in response to stroke symptoms.

The statement also includes the following recommendations:

- Education: Stroke systems of care should support local and regional public education initiatives to increase awareness of stroke symptoms with an emphasis on at-risk populations.
- Triage: EMS leaders, governmental agencies, medical authorities and local experts should work together to adopt consistent, standardized triage protocols to rapidly identify patients with a known or suspected stroke.

- **Secondary Prevention:** Certified stroke centers should help stroke survivors reduce the risk of subsequent strokes, consistent with the national guidelines for secondary prevention.
- **Rehabilitation and Support:** A stroke system should provide comprehensive post-stroke care including ongoing primary care and specialized stroke services such as physical, occupational, speech or other therapies on discharge.
- **Federal and State Policies:** Policies should be enacted to standardize the organization of stroke care, lower barriers to seeking emergency care for stroke, ensure stroke patients receive care at appropriate hospitals in a timely manner, and facilitate access to secondary prevention and rehabilitation and recovery resources after stroke.

A stroke occurs every 40 seconds in the U.S., and someone dies of a stroke every four minutes. An estimated 7.2 million Americans aged 20 and older have had a stroke, and approximately 800,000 people in the U.S. have a new or recurrent stroke each year. Optimized stroke systems of care that span health care delivery from primordial prevention to rehabilitation and recovery help to ensure patients, caregivers and providers have the tools needed for prevention, treatment and recovery. Implementation of the American Heart Association's "Get With The Guidelines – Stroke" at U.S. hospitals has been associated with an 8 percent reduction in mortality at one year and improved functional outcome at hospital discharge.

"This statement has tremendous guidance for health policy

makers, political leaders and hospital administrators to bring the most effective brain saving and stroke recovery treatments to stroke patients in their communities in a timely manner,” Dr. Yavagal said.

About the American Stroke Association

The American Stroke Association is devoted to saving people from stroke – the No. 2 cause of death in the world and a leading cause of serious disability. The association teams with millions of volunteers to fund innovative research, fight for stronger public health policies and provide lifesaving tools and information to prevent and treat stroke. The association officially launched in 1998 as a division of the American Heart Association.

About the American Heart Association

The American Heart Association is a leading force for a world of longer, healthier lives. With nearly a century of lifesaving work, the Dallas-based association is dedicated to ensuring equitable health for all. The AHA is a trustworthy source empowering people to improve their heart health, brain health and well-being. It collaborates with numerous organizations and millions of volunteers to fund innovative research, advocate for stronger public health policies, and share lifesaving resources and information.