

# Educating First Responders to Improve Stroke Care

## Georgia Stroke Registry



Since 2001, CDC's Paul Coverdell National Acute Stroke Program has supported state-based stroke registries across the country. The program works to ensure that all Americans receive the highest-quality care for stroke and to reduce deaths and disabilities from stroke.

### Challenge

Receiving immediate care after a stroke greatly improves a patient's chances for recovery. Recognizing the signs and symptoms of stroke and getting immediate treatment are paramount to survival. Although doctors and nurses play critical roles in stroke care, often the first responders are emergency medical technicians (EMTs) and paramedics.

A stroke, sometimes called a brain attack, occurs when a clot blocks the blood supply to the brain or when a blood vessel in the brain bursts. A type of medicine called tPA (tissue plasminogen activator) can dissolve the clot, but only if given in the first few hours after the stroke. Patients can often be given the medicine in the emergency room before being transferred to a facility that offers advanced stroke care. EMTs transport more than half of all stroke patients to hospitals.

### Background

Recognizing the key role of EMTs in stroke care is a priority of the Georgia Coverdell Acute Stroke Registry (GCASR). To provide support and education to EMTs, in 2013 the GCASR convened a diverse group of health care professionals—from intensive care doctors to nurses to paramedics—who work in both rural and urban areas. The group developed a set of guidelines on stroke care for emergency medical services (EMS) providers. The guidelines were developed in conjunction with the Georgia State Office of EMS and Trauma, the Georgia Department of Public Health, representatives from Grady Memorial Hospital in Atlanta, and other key stakeholders throughout the state.

The guidelines, called the inter-facility transfer protocol, outline the care that EMTs should provide while transferring stroke patients from small facilities to larger hospitals that are better equipped to treat stroke patients who have just received tPA or who are still receiving tPA during transport. The protocol provides step-by-step instructions to EMTs, including the requirement to record a patient's vital signs every 15 minutes and guidance on what medicines to use to control a patient's blood pressure during transport.

### Accomplishments

The GCASR has helped solidify the role of EMS in stroke care. The protocol was distributed to more than 160 EMS agencies in Georgia and all hospitals participating in the program. It has given EMTs more confidence in the care they provide, and it empowers them to make a difference in the lives of stroke patients in Georgia.

### By the Numbers

#### In Georgia:

- 3,665 people died of a stroke in 2012, representing 4.9% of all deaths that year.
- 2.8% of adults have had a stroke.
- Stroke death rates were 1.4 times higher for African Americans than for whites in 2013.
- The stroke death rate was 14% higher than the national rate in 2013.

**“The protocol doesn’t replace sound clinical judgment, but instead should be used as a guide for health care providers when transporting stroke patients. That golden hour after a patient’s symptoms occur is the most important time.”**

—James Lugtu  
Principal Investigator for GCASR

The protocol will help some patients receive stroke care earlier—even while en route from a remote hospital to a stroke center—and it will likely help to save lives. When the protocol is followed, patients are likely to be more stable and have good documentation of their care when they arrive at the hospital. The hospital will receive a record of the patient’s blood pressure readings and other vital signs from regular intervals during the transfer, which will help guide the patient’s treatment.

### **Building on Success**

Through this process, the GCASR learned many lessons about how to partner successfully with EMTs and improve stroke care in Georgia. For example, they:

- Learned how different EMS agencies (urban and rural) operate and established working relationships with the appropriate contacts at each agency.
- Developed a partnership with the state’s Office of EMS and Trauma.
- Trained EMTs to view their role as a critical part of the patient care team, instead of as mainly transporting patients.

### **What’s Next?**

To extend its educational outreach, the GCASR is training health care providers and EMTs how to recognize the signs and symptoms of stroke and the importance of treating stroke as a medical emergency. It is using Advanced Stroke Life Support, a nationally recognized training course designed for fire rescue, ambulance, and EMS providers.

“In Georgia, we’ve spent a great deal of time engaging paramedics and EMTs in learning about stroke,” said Dr. Michael Frankel, medical director of the Marcus Stroke and Neuroscience Center at Grady Memorial Hospital in Atlanta. “We’ve given hundreds of lectures and interactive conferences with prehospital providers. The process of engaging EMTs in recognizing stroke symptoms also includes the importance of prenotification to the hospital. They can communicate more effectively and with greater confidence that they have a patient who is having a stroke.”

Educating EMTs on stroke care and treatment streamlines the care patients receive once they arrive at the hospital or emergency department and in turn helps to improve their outcome.

**“We’re strengthening the continuum of care throughout the health care team. The first person who touches the stroke patient is a part of the health care team, and that’s EMS. We’re really increasing the high level of care patients receive—from initial contact with a health care professional to the point when they’re released from the hospital and sent home.”**

—James Lugtu  
Principal Investigator for GCASR

### **Key Partners**

- Georgia Department of Public Health
- Georgia State Office of EMS and Trauma
- Grady Health System
- American Heart Association and American Stroke Association
- Georgia Hospital Association

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### **Additional Information**

[Paul Coverdell National Acute Stroke Program](#)

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