

2017

# neuroreport

Cerebrovascular Edition



Carolinas HealthCare System  
*Neurosciences Institute*



## A Goal Within Reach: Individualized Care for Ischemic Stroke Patients

By Andrew W. Asimos, MD, medical director of the Carolinas Stroke Network of Carolinas HealthCare System

Today's CT perfusion scanning technologies show increasing promise for individualizing acute ischemic stroke care.

As imaging modalities improve, we are learning how to differentiate between salvageable ischemic brain penumbra and irretrievably lost core infarct. We are rapidly entering an era in which providers will no longer have to rely on inexact time windows to choose the appropriate treatment for ischemic stroke patients.

It turns out time is different for everyone. That's because we're discovering that some patients have highly favorable brain vascular anatomies and perfusion that give both them and us a longer time window to restore blood flow to the region of their stroke.

These lessons stem from intense data collection efforts, such as those conducted at Carolinas HealthCare System Neurosciences Institute, where more imaging data is collected than at most centers in the country.

Equipped with imaging data alongside other diagnostic tests and patient outcomes, our practitioners are working to optimize time of treatment while striving to clarify which patients are best suited for particular interventions, including IV tPA.

The ultimate goal? To use data as a tool that allows us to better understand how advanced imaging can be utilized to help make decisions for our stroke patients.



## For Better Aneurysm Treatment, Expanding the Reach of New Technologies Is Part of the Job

By Joe Bernard, MD, director of neurointerventional services at Carolinas HealthCare System Neurosciences Institute

Today, almost 70 percent of complex cerebral aneurysms can be treated with catheter-based technologies – a nearly sevenfold increase over the past decade.

That number is expected to grow, thanks to the rising adoption of microcatheter delivered flow diverter (FD) stents. Because FD stents are a relatively new technology, the FDA requires the first five procedures be proctored by an experienced neurosurgeon.

Over the past five years I've served as director of neurointerventional services at Carolinas HealthCare System Neurosciences Institute and as one of the nation's few proctors.

There's currently only one FDA approved FD stent: the Pipeline embolization device. This device allows us to treat a much larger range of aneurysms – whether that's in locations that are difficult to get to or ones with unusual geometries, like wideneck aneurysms. The Pipeline is also approved for giant aneurysms.

I've performed more than 200 FD stent implants – and I've spent more than 17 years at Carolinas HealthCare System. This type of experience is not uncommon for many of my colleagues, members of the nation's largest neurosurgery practice.

With decades of experience and thousands of procedures to their credit, the surgeons at the Carolinas HealthCare System Neurosciences Institute have achieved some of the best patient outcomes rates in the country, helping to send aneurysm patients home sooner with higher levels of functioning and capacity.

## A New Stroke Leader Committed to the Cutting Edge

Five months into his new role as stroke medical director at Carolinas Medical Center in Charlotte, Rahul R. Karamchandani, MD, has identified his top leadership priority: Build upon the program's history of cutting-edge, patient-centered care.

Radical change, after all, wasn't called for. Not for a program that successfully treats some of the most challenging cases in the country.

Dr. Karamchandani should know. Trained at the University of Michigan and the University of Texas Health Science Center at Houston – with recent experience as the director of the Stroke Recovery Clinic at the University of Cincinnati – he understands that high volume programs make the greatest impact when they effortlessly blend clinical care and academic research.

He wants to make sure that tradition continues at Carolinas HealthCare System. "We're asking the difficult questions here and answering them with hard data," Dr. Karamchandani says.

According to Dr. Karamchandani, some of the most intriguing stroke questions today involve the use of advanced imaging to treat patients with large artery occlusions. He is also interested in working with cardiologists at Carolinas Medical Center to develop protocols for stroke prevention, such as those that involve implantation of loop recorder devices to detect occult atrial fibrillation.

"We were fortunate that someone with his academic pedigree chose to continue his career at Carolinas Medical Center," says Andrew W. Asimos, MD, medical director of the Carolinas Stroke Network of Carolinas HealthCare System. "Dr. Karamchandani performed his vascular neurology fellowship with Dr. Jim Grotta's group in Houston, and then spent over two years in the stroke division at Cincinnati. Those two neurovascular programs are among the top in the country. I look forward to working with him to continue to build our program here."

