Seize the Stent: New Carotid Guidelines Set

Neurovascular specialties have banded together to develop training and credentialing standards.

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A coalition of the neurovascular medical specialties has outlined a set of training and credentialing standards for performing carotid stenting that goes far beyond similar guidelines released by interventional cardiologists and vascular surgeons.

The guidelines, entitled "Training, Competency, and Credentialing Standards for Diagnostic Cervicocerebral Angiography, Carotid Stenting, and Cerebrovascular Intervention," were developed by the American Academy of Neurology, the American Association of Neurological Surgeons, the American Society of Interventional and Therapeutic Neuroradiology, the American Society of Neuroradiology, the Congress of Neurological Surgeons, and others. They were simultaneously published in several medical journals.

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DR. CONNORS

These standards come at a critical time, said Anthony Furlan, M.D., a neurologist who helped develop the guidelines.

The Food and Drug Administration recently approved the Guidant Rx ACCULINK carotid stent and issued conditional approval to Cordis Corp.'s PRECISE OTW Nitinol Self-Expanding Stent.

And officials at the Centers for Medicare and Medicaid Services are poised to allow coverage for carotid stenting outside of clinical trials in patients who would be high-risk candidates for endarterectomy and who have symptomatic carotid artery stenosis of at least 70%.

"Our role here is to provide guidance to credentialing committees," said Dr. Furlan, who serves on the American Academy of Neurology's Stroke Systems Task Force and heads the section of stroke and neurologic intensive care in the department of neurology at the Cleveland Clinic Foundation.

The new standards are also an attempt to combine the broad knowledge of the broad neurological communities, said John J. Connors III, M.D., immediate past president of the American Society of Interventional and Therapeutic Neuroradiology and director of interventional neuroradiology at Baptist Hospital of Miami.

"Due to the inherent complexity of the neurosciences, our specialties have been somewhat compartmentalized," Dr. Connors said in an interview. "With the potential for so many different specialties to be performing carotid stenting, these standards are an opportunity to provide quality assurance based on the collective knowledge of experts in the fields of the neurological sciences."

"Many physicians may be experts in one area, but with carotid stenting they need to have a basic fund of knowledge in addition to being masters of a variety of skills," he said.

Importantly, a basic knowledge of the brain is required, Dr. Connors said. The neurovascular guidelines call for any physician performing cervicocerebral interventional procedures, including carotid stenting, to have had a minimum of 6 months of formal training approved by the Accreditation Council for Graduate Medical Education (ACGME) in at least one of the neurosciences—neuroradiology, neurosurgery, neurology, or vascular neurology.

In addition, before beginning postgraduate training in cervicocerebral interventional procedures, physicians must be appropriately trained in and must competently complete at least 100 diagnostic cervicocerebral angiograms. The document also recommends the creation of a defined training pathway for carotid stenting.

Under these standards, many physicians would need to engage in additional training in order to achieve competency in these procedures, Dr. Connors said.

But he noted that even these guidelines are a low bar considering that the potential adverse outcomes in carotid stenting are stroke and death.

The Neurovascular Coalition guidelines are aimed at creating a minimal standard for training in these procedures, Dr. Connors said, but they aren't aimed at locking any specialties out of the field.

However, Dr. Connors said he is concerned that guidelines developed jointly by the Society for Cardiovascular Angiography and Interventions (SCAI), the Society for Vascular Medicine and Biology, and the Society for Vascular Surgery do not require sufficient training.

For example, the guidelines released by the interventional cardiologists and vascular surgeons call for physicians to perform a minimum of 30 diagnostic carotid angiograms and 25 carotid-stenting procedures in order to attain competence in carotid stenting.

"This is exactly one-tenth of the training required for coronary artery stenting," Dr. Connors said.

But Dr. William A. Gray, M.D., director of endovascular care at the Swedish Heart Institute in Seattle and one of the authors of the SCAI guidelines, does not agree that performing 100 angiograms is necessary to show proficiency.

In fact, he sees that requirement as a bit excessive.

"We look at this as a potential barrier to entry for otherwise qualified operators," Dr. Gray said in an interview.

Instead, Dr. Gray said the threshold of 30 diagnostic angiograms is consistent with the experience of many cardiologists who have been working in the field for years, and with the experience of operators in the recently completed carotid stent trials.

"It reflects the qualifications of operators in these trials, which resulted in excellent outcomes," he said.

Dr. Gray said he respects the work that went into the neurovascular document, but believes the guidelines developed by the interventional cardiologists and vascular surgeons are a better reflection of the reality of performing carotid stenting and its program development.

And interventional cardiologists have other concerns about the neurovascular guidelines.

For example, the requirement for physicians to complete 100 angiograms could lead to some unnecessary procedures, Kenneth Rosenfield, M.D., director of cardiac and vascular invasive services at Massachusetts General Hospital in Boston and an author of the SCAI guidelines, told CLINICAL NEUROLOGY NEWS.

With the need for diagnostic angiograms declining, some physicians might be inclined to perform the procedure just to satisfy the requirements for performing carotid artery stenting, he said.

Another provision in the neurovascular guidelines that calls for 6 months of ACGME-approved training in the neurosciences doesn't match up with the training of most experienced physicians who are successfully performing carotid artery stenting, Dr. Rosenfield said.

"It should not be about setting barriers," he said. "It should be about allowing patients access to these procedures."

And not all the criticism is coming from the cardiology side. Nick Hopkins, M.D., professor and chair of neurosurgery and professor of radiology at the State University of New York at Buffalo, said the guidelines developed by the Neurovascular Coalition lack credibility.

The problem with the guidelines, he said, is that they don't include input from those subspecialties that are performing carotid stenting.

"To make guidelines for others when you don't do it yourself just doesn't compute," he said.

Dr. Hopkins predicts that hospital credentialing committees will adopt standards closer to those outlined by the interventional cardiologists, vascular surgeons, and vascular medicine physicians because they have the most experience in this area. ■

Comparing the Recommendations

SCAI/SVMB/SVS Writing Group	Neurovascular Coalition
Cognitive Skills	
Recommends that physicians understand the basic epidemiology, pathophysiology, natural history, diagnostic methods, and therapeutic alternatives for both extracranial carotid artery disease and stroke, and the relationship between the two.	Requires a minimum of 6 months of formal cognitive neuroscience training in an ACGME-approved training program in radiology, neuroradiology, neurosurgery, neurology, and/or vascular neurology. Mandates training on stroke syndromes and formal training and competency in the National Institutes of Health Stroke Scale.
Technical Skills	
In cerebral angiography, requires interventionalists with the proper credentials and experience in noncerebrovascular vessels to perform 30 supervised angiograms, half as the primary operator in a supervised setting. In carotid intervention, requires interventionalists to perform a minimum of 25 patient procedures in a supervised setting, half as a primary operator. Prior to this training, the physician is expected to demonstrate a baseline proficiency in a broad base of catheter-based intervention.	Recommends appropriately supervised cervicocerebral angiography training and credentialing with a total of 100 diagnostic cervicocerebral angiograms before postgraduate training in cervicocerebral interventional procedures, including carotid stenting.
Clinical Skills	
Recommends that physicians have specific clinical management skills, including the ability to weigh risks and benefits, counsel patients and families, admit patients, write orders, obtain informed consent, monitor hemodynamic and cardiac rhythm status, and coordinate poststent surveillance and clinical outpatient follow-up.	Recommends that physicians have the ability to recognize and manage procedural complications through studying, performing, and correctly interpreting a large number of diagnostic procedures with proper instruction.

Sources: Neurology 2005;64:190-8; Catheter. Cardiovasc. Interv. 2005;64:1-11