Brain Attack Coalition Strengthens PSC Guidelines

Cheryl Clark, for HealthLeaders Media, September 6, 2011

Hospitals should dramatically improve their acute stroke programs in 13 key areas to better care for 800,000 people in the U.S. who will suffer a stroke this year, according to recommendations from the Brain Attack Coalition, a group of experts dedicated to reducing stroke occurrence.

According to the coalition members, 77% of counties in the nation "lack a hospital with neurological services," and as a result "many patients with stroke are not treated according to contemporary guidelines."

The expanded guidelines, the first issued since 2000, are published in the September issue of the journal Stroke by lead author Mark J. Alberts, M.D., director of the stroke program at Northwestern Medical Center in Chicago and a longtime researcher on the causes and treatments for stroke. The article is co-authored with 18 members of the Brain Attack Coalition.

These guidelines apply to hospitals that wish to establish or improve a Primary Stroke Center (PSC). Such centers offer fewer services than a Comprehensive Stroke Center but are able to provide acute care, use acute therapies, and admit patients to a designated stroke unit. There are 800 PSCs certified by the Joint Commission and another 200 to 250 certified by various state agencies. PSCs typically treat around 400 stroke patients each year, are operated by facilities located in urban areas that are not academic medical centers.

"It is anticipated that if hospitals adopt and follow these recommendations, patients will achieve more accurate diagnoses, more timely therapies, and improved overall outcomes," Alberts and colleagues write.

Stroke is the fourth highest cause of death and carries lifetime care costs ranging from about $140,000 for an ischemic stroke to $225,000 for a subarachnoid hemorrhage, with annual costs exceeding $73 billion across the nation, according to a report from the American Heart Association.

The guidelines hospital leaders should implement include:

- Form an acute stroke team (AST) with at least two members – a physician and one other healthcare provider – who could be at the bedside of a stroke patient within 15 minutes at any time of the day or week. These teams are "a key element in the screening and delivery of acute therapies (such as clot busting drug, intravenous tissue plasminogen activator, or tPA)." While the previous stroke guidelines included the formation of an AST, the update is more specific about elements and operations. Emergency department personnel should have a well-organized system for activating the AST through pagers, cell phones, or overhead calling.
- Develop written protocols for patients with ischemic or hemorrhagic stroke, "including stabilization of vital functions, initial diagnostic tests, and the use of various medications," the authors write.
- Establish a protocol for 911 systems to send stroke patients to a designated PSC. "This should be the case unless there is another concomitant imminent life-threatening condition," such as cardiac arrest that would require transport to the nearest emergency department.
- Because 911 response systems are not nationally regulated, the authors write, it's difficult to design and mandate educational programs and care protocols, which leads to variability in training and stroke care across the country. For this reason, the authors recommend that hospitals train each EMS system in basic stroke emergency care so that they recognize strokes and can establish time of onset, can assess severity, can stabilize and treat onsite and during transport, bring all medications, and communicate well with the hospital.
- Mandate that physician assessment for patients suspected of strokes should take place within 15 minutes of entering an emergency room.
- Designate a hospital stroke unit, which is a defined group of beds, staff, and protocols. Patients treated in these settings show reduced death rates of 17% to 28%, an 8% reduction in length of hospital stay, and a 7% increase in ability to live at home. These units should be staffed by personnel with training and expertise in stroke.
- Establish policies so that neurosurgical care is available within two hours of the time deemed clinically necessary, in case the patient requires decompressive hemicraniectomy, a ventricular drainage catheter, or evacuation of a hematoma.
- Be able to conduct brain MRI scans, which are more sensitive than head CT scans for detecting small strokes, acute strokes, and many lesions and processes that could produce stroke-like symptoms, such as small tumors or areas of infection. Brain magnetic resonance angiography techniques, with CT angiography, "are capable of detecting abnormalities that can be missed by routine carotid Doppler," the authors say. Most hospitals already have MRI and CT in place, and the angiographic capability "accrues only modest additional costs for equipment and software." MRA and CT angiography do not need to be available on a "hyperacute" basis.
- Provide early assessment for rehabilitation services. These services do not need to be on site, however.
- Assure administrative support and a Primary Stroke Center director who, if he or she is not a neurologist or neurosurgeon, should have expertise in stroke, such as the experience of a vascular neurology fellowship or board certification and other specialty education. A study of more than 38,000 Medicare patients with stroke found that those "cared for by a neurologist had a 90-day mortality rate of 16%, compared with 23% for internists and 25% for family practitioners."
- Obtain certification for the PSC, such as that offered by the Joint Commission, Healthcare Facilities Accreditation Program, or a state health department, rather than relying on self-certification.

Research validates that these actions "have improved the overall care for these patients with stroke throughout the United States and in many other countries," say Alberts and other members of the coalition.
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