More heads are better than one: Stroke team offers best results

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Stroke is the third leading cause of death in the United States. Strokes do not happen just to older people. In fact, 28% of strokes occur in people under age 65, including children.¹ Like a heart attack, a stroke is an emergency. It is a brain attack. If you have signs of a stroke (table), you need to get to a hospital immediately. Some strokes are treated with medications that must be given within 3 hours of the first signs of a stroke. Other strokes may require surgical treatment. Many patients with a stroke need special training (called rehabilitation) to learn how to move and speak again. Where are you likely to get the best care to increase your odds of surviving a stroke?

In this issue of *Neurology*, Birbeck and others² asked this question. They discovered that a stroke team offered the best odds for surviving a stroke.

What is a stroke team?

A stroke team is a group of health care providers with training and experience in stroke care. A stroke team usually includes one or more nurses and one or more neurologists (doctors with specialized training in disorders of the

brain and nervous system) with added training in stroke. The team may also include a neurosurgeon, a neuroradiologist, a rehabilitation doctor, and rehabilitation therapists. For this reason, a stroke team is often called a multi-specialty, multidisciplinary stroke team.

How do we measure good stroke care?

Mortality is one way to measure whether or not patients received good stroke care. Mortality is defined as the number of people who die during a certain period of time. For example, 30-day stroke mortality is the number of persons who have died in the first month following their stroke. About 10% of persons who have a stroke die in the first month after a stroke. If fewer persons died after a stroke, it could be because they received better health care. However, it might also be because their strokes were milder. Researchers try to find out why certain patients are less likely to die after a stroke. It is important that the researchers make sure that the reason why one group of patients was less likely to die is because they had better care and not because they had milder strokes.

What did this study show?

Two very important findings came from this study. The first is that persons who are admitted to a hospital in California for a stroke and are seen by a multidisciplinary, multispecialty stroke team are less likely to die in the first month—and even the first year—after a stroke. This was true regardless of whether the hospital was a teaching hospital or a non-teaching hospital. As a result, the researchers estimated that 1,000 deaths would have been prevented during this 2-year period if all patients who were admitted to a hospital for a stroke had been seen by a stroke team. The second important finding was that only 7.4% of surveyed

hospitals had a stroke team. The good news is that patients who were transferred to a hospital with a stroke team were just as likely to survive as patients who were first admitted to a hospital with a stroke team.

How do I find out if the hospital near me has a stroke team?

If you have risk factors for stroke, one of the most important things you can do is to sit down with your primary care provider or neurologist and discuss where you should go and what you should do if you have symptoms of a stroke. Planning ahead may prevent mishaps when you are in an emergency situation. The Joint Commission on Accreditation of Healthcare Organizations provides a list of Stroke Centers in the United States. You can visit the Web site—<http://www.strokeassociation.org/presenter.jhtml?identifier=3016808>—to find a hospital near you. If there are no hospitals near you on this list, you can go to your hospital's Web site. If your hospital has a dedicated stroke team, the hospital may list the stroke nurse coordinator, the neurologist, and the neurosurgeon on their Web site. Some larger hospitals with stroke centers may cover outlying hospitals, thus ensuring a rapid transfer of patients to the main stroke center. Finally, if you have spoken with your primary care provider or neurologist ahead of time, your doctor may be able to arrange your transfer to a hospital with a stroke team, if necessary. Remember, time to proper care is brain saved.

References

1. Heart disease and stroke statistics—2006 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation* 2006; 113:e85–151.
2. Birbeck GL, Zingmond DS, Cui X, Vickrey BG. Multispecialty stroke services in California hospitals are associated with reduced mortality. *Neurology* 2006;66:1527–1532.

Table Signs of a stroke

Sudden weakness or numbness of the face, arm, or leg (especially on one side of the body)
Loss of speech; trouble talking or understanding language
Sudden loss of vision, particularly in only one eye
Sudden, severe, “worst of your life” headache with no apparent cause
Unexplained dizziness, loss of balance or coordination (especially if associated with any of the above symptoms)

Preventive care for stroke

Preventing strokes is the best medicine. Your primary care provider (doctor or nurse practitioner) can help you identify your risk factors for stroke and work with you to reduce those risks (table 1). Many different diseases and habits increase your risk for stroke. One of the most important is high blood pressure. Often people are unaware they have high blood pressure, so regular visits to have it checked are very important. Other risk factors, often related to diet, are high cholesterol, obesity, and diabetes. Heart disease (for example, a heart attack) is another risk factor for stroke. It is interesting that most of the risk factors for heart disease are the same as those for stroke. This is because blood vessels of the heart and brain are both affected by the same factors. Smoking is a risk factor for both diseases and should certainly be avoided. You and your doctor can work together to eliminate or reduce these diseases. Changing bad habits (smoking and unhealthy eating) as well as exercising can make big differences in your life. In addition, your doctor may choose a medication to reduce your risk of having a first stroke. It is also important that you and your primary care provider or neurologist discuss whom you will call and where you will go if you have a stroke.

Emergency care for stroke

If you experience any of the symptoms of stroke (table 2), you will need to go to an emergency room as soon as possible, best within 3 hours of the first symptoms. You should not try to “sleep” it off. Many strokes progress over several hours until you cannot

Table 1 Treatable risk factors for stroke

High blood pressure
Smoking
Diabetes
High cholesterol
Heart disease
Obesity
Physical inactivity

Table 2 Warning signs of stroke

Sudden weakness or numbness of the face, arm, or leg, especially on one side of the body
Trouble speaking or understanding
Sudden loss of vision, particularly in only one eye
Sudden, severe headache with no clear cause
Dizziness, loss of balance or coordination
Sudden confusion

speak, see, or move a part of your body. In the emergency room, you will have a CT scan. If you have arrived early enough, the emergency room doctor or the neurologist on-call may be able to reverse your stroke using thrombolytic therapy to dissolve the clot in your brain. If you have arrived too late or do not qualify for this treatment, then the doctor will try other treatments to keep the stroke from progressing. Not all hospital emergency rooms are able to give patients thrombolytic therapy. Speak with your primary care provider or neurologist to find out which hospital emergency rooms are able to give this treatment.

Critical care for stroke

You may be admitted to the hospital for your stroke. Your doctor will order additional tests, such as an MRI or angiogram, to define better the extent, location, and cause of the stroke. These studies sometimes require a neuroradiologist (doctor with special training in reading changes in the brain). If you have swelling or serious bleeding in your brain, a neurosurgeon may be consulted. Your doctors will try to prevent seizures, aspiration pneumonia (due to difficulty swallowing), blood clots (usually in your legs), and other life-threatening illnesses that can result from a stroke. Because many patients with stroke also have serious heart conditions, your doctors may also monitor your heart and, if necessary, a cardiologist may examine you. If your condition is severe, you may go to an intensive care unit, where the doctors can watch

more closely your level of alertness, heart, blood pressure, and breathing.

Recovery after a stroke

Stroke is the leading cause of disability in the United States. The most common disability after stroke is difficulty walking and simply getting around. Patients may also have trouble speaking, understanding, seeing, and remembering. A doctor with training in stroke rehabilitation helps patients relearn these skills. The rehabilitation doctor will design a plan for you which may include physical, occupational, and speech therapy. The therapists will help you relearn to walk, speak, eat, and even drive. Studies show that patients with stroke who have early rehabilitation are more likely to be alive 1 month and 1 year after stroke. In addition, 35% of patients who survive a stroke have depression. Patients may also have difficulty thinking, personality changes, anxiety, and sleep problems. All of these symptoms may respond to medications.

Preventive care for a second stroke

The most likely time to have a stroke is just after you have had one. In fact, 14% of patients will have a second stroke in the year after their first stroke. Because of this, your doctors will immediately begin medications to prevent a second stroke. Your doctors may also order special studies of your heart and, if you have a heart condition that can cause strokes, may put you on a blood thinner. In some cases, prevention of further strokes requires surgery. One example is carotid endarterectomy. The surgeon opens and cleans out the narrowed or clogged arteries in your neck that provide blood to your brain. If you have had a small stroke or a stroke that resolved, carotid endarterectomy may be done right away to prevent a second larger stroke.

For more information

For more information on strokes or stroke care, please visit <http://www.strokeassociation.org/presenter.jhtml?identifier=1200037>

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Neurology 2006;66;E37-E38

DOI 10.1212/01.wnl.0000221745.58886.2e

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