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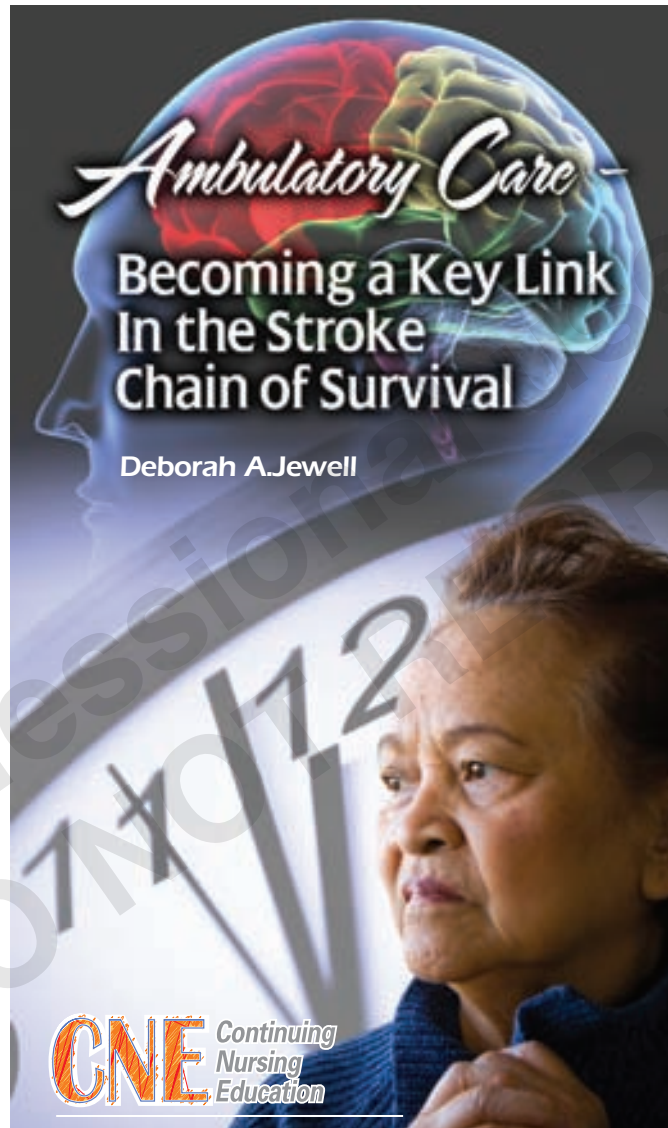
The Voice of Ambulatory Care Nursing

A 72-year-old woman telephones her physician's office immediately after recovering from a 20-minute episode of difficulty speaking and weakness of the right side of the face and right arm. Her medical history is unremarkable. How should this patient be managed?

Despite major advances in the effective treatment for stroke, there are substantial difficulties in delivering these treatments to patients. Delay in seeking care is the weak link in the chain of events leading to effective interventions. The development and use of appropriate interventions to decrease treatment-seeking delay by patients could produce important gains in reducing death and disability from stroke (Moser et al., 2006). The ambulatory care setting is often the first medical contact for patients experiencing stroke symptoms. Calling a physician's office, clinic, or telephone call center is commonly the initial response to reporting stroke symptoms or transient deficits. What happens once that call is received can be crucial in the "Stroke Chain of Survival."

The Stroke Chain of Survival

The Stroke Chain of Survival is described in the American Stroke Association's *Guidelines for the Early Management of Adults with Ischemic Stroke* (Adams et al., 2007). It begins with *Detection* of symptoms and follows successive steps, including *Dispatch* of



Emergency Medical Services (EMS), *Delivery* to an appropriate hospital, *Door* or rapid triage once a patient arrives, and ultimately, administration of appropriate *Drugs* or other interventions.

According to the American Heart Association (2005), about 700,000 individuals will have a stroke each year; 167,000 of those who experience a stroke will die, and more will suffer a major disabilities. Stroke

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remains the third leading cause of death and the leading cause of long-term disability among Americans. Many of these deaths and significant disabilities could be prevented if patients received earlier treatment. Health care professionals in the ambulatory care setting have a great opportunity to educate patients at risk in the 3 Rs of stroke – **R**ecognizing symptoms, **R**esponding by calling 9-1-1, and **R**educing risk factors. Further, it is equally important that all members of the ambulatory care team should be able to recognize stroke symptoms and have an effective action plan for their patients.

What Is a Stroke?

Stroke, sometimes clinically known as cerebrovascular accident or more recently referred to as “brain attack,” is caused by an interruption of blood flow to the brain. When this occurs, brain cells begin to die almost immediately from lack of oxygen and nutrients. The part of the brain affected will cease to function effectively, and a neurologic deficit or stroke symptom will result. Approximately 85% of occurrences are *ischemic* events caused by a clot that either forms within a blood vessel itself (thrombus) or a clot that travels to the brain from the heart or other large blood vessel along the cerebrovascular circulation (embolus). A transient ischemic attack (TIA) is a brief episode of stroke-like symptoms that typically lasts less than an hour. Generally, individuals notice no permanent loss of abilities after a TIA.

More rarely, a stroke results from a rupture of a blood vessel that bleeds into the brain. This is referred to as a *hemorrhagic stroke*. Hemorrhage occurs in about 15% of all strokes. Its treatment is significantly different than that for ischemic stroke.

Time Is Brain

Intravenous thrombolytic therapy for acute ischemic stroke was approved by the U.S. Food and Drug Administration (FDA) in 1996, and is now generally accepted as an effective intervention. It is the only FDA-approved medical therapy for treatment of patients with acute ischemic stroke. The medication used for thrombolytic therapy is called tissue plasminogen activator (t-PA).

t-PA must be administered to a stroke patient within *three hours of symptom onset*. The earlier in that three-hour period the drug is given, the greater the likelihood that the patient’s outcome will be improved. t-PA is a clot-dissolving drug. Its action is on the clot that is blocking the blood flow in a blood vessel within the brain, although its “clot busting” action impacts any area of the vascular system. Just as thrombolytic therapy is used to dissolve a blood clot in coronary arteries during a heart attack, t-PA is used to dissolve a blood clot in cerebral arteries during a brain attack (stroke).

Time becomes critical because the average patient loses 32,000 brain cells per second during an acute ischemic stroke (Saver, 2006). Once a patient reaches a hospital emergency department, a computerized axial tomography (CT) scan of the head, laboratory studies, and medical evaluation must be performed prior to administering the drug. This time period is often referred to as “Door to Needle”

time, and the goal is to deliver t-PA within one hour of the patients’ arrival to the emergency department. Once the three-hour window between symptom onset and the opportunity of giving the drug has passed, the patient is no longer eligible to receive intravenous thrombolytic therapy. All delays in patient arrival to an appropriate hospital should be avoided so that patients may be eligible to receive treatment.

Plan Ahead

A response plan for patients calling or presenting to an ambulatory care setting with stroke symptoms is crucial in avoiding delays. There are no published guidelines specifically delineating response to stroke in the ambulatory care setting. Community resources, as well as attitudes and current practice of primary care physicians (Roebbers et al., 2007), will likely dictate the response. Coordination with the local EMS system and identifying local hospital resources, such as hospital-based stroke centers, should be considered when developing a response plan for stroke patients. Educating staff involved in the triage of calls and walk-in patients is a foundation for any response plan.

EMS Coordination

The American Stroke Association Policy Statement, *Implementation Strategies for Emergency Medical Services within Stroke Systems of Care* (Acker et al., 2007), clearly includes EMS as a significant player in the stroke chain of survival. Several studies demonstrate that arrival to the hospital by ambulance significantly impacts length of delay and stroke outcome (Kothari et al., 1999; Rosamond, Gorton, Hinn, Hohenhaus, & Morris, 1998). Transport protocols address provision of appropriate prehospital care to the patient and transporting the patient to the most appropriate hospital within the shortest amount of time. The most appropriate hospital is the closest hospital with a stroke center, if the stroke center is located within a reasonable transport distance and transport time (Acker et al., 2007).

Stroke Centers

Effective stroke systems of care include two types of hospital stroke centers: primary and comprehensive. *Primary stroke centers* include facilities recognized as providing high-quality stroke care designed to improve patient outcomes. These centers have systems and technology in place to provide rapid thrombolytic therapy for ischemic stroke. Primary stroke centers may be certified by the Joint Commission and/or designated by state departments of public health.

Comprehensive stroke centers provide stroke services available through primary stroke centers, as well as advanced services needed by patients experiencing a complicated stroke. Many comprehensive stroke centers have treatment modalities that expand the window of time for thrombolytic therapy and other interventions. If a comprehensive stroke center is available, it is important to know the center’s advanced services and which patients may be eligible for therapies beyond the three-hour window of IV t-PA.

Figure 1.

5 Warning Signs and Symptoms of Stroke

- Sudden numbness or weakness in the face or one side of the body.
- Sudden confusion or difficulty speaking.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, or loss of balance.
- Sudden severe headache with no known cause.

Source: Tri-State Stroke Network (2005).

Adapted with permission from the Heart Disease and Stroke Prevention Branch, North Carolina Division of Public Health (www.startwithyourheart.com).

Staff Recognition of Stroke and TIA Symptoms

Increasing staff awareness of stroke and TIA and stressing that stroke and TIA are high priority medical emergencies are the most important aspects of preparing a rapid response for patients calling or presenting to the ambulatory care setting with symptoms. Figure 1 (Tri-State Stroke Network, 2005) represents the most common complaints and are warning signs of a stroke. Acute vertigo or sudden double vision and vomiting may be less common symptoms. Important characteristics of stroke symptoms exist that can help identify a stroke. Stroke symptoms have a “sudden” nature of onset. Patients may report feeling fine then suddenly there is a change. Stroke symptoms can develop in seconds and be quite severe from the onset or can rapidly worsen or improve. Asking when symptoms began is clinically important information and should be carefully ascertained from the patient or family member.

Highly suspicious of stroke symptoms are those in which patients complain of a problem on only one side of their body. For example, they may complain of right face numbness and pins and needles in their right hand, difficulty seeing to the left side, or weakness in the right arm. Patients may perceive symptoms as unusual and not like anything they have experienced before. Stroke symptoms are usually negative phenomena. This means that symptoms usually involve a loss of function, loss of sensation, or loss of some ability. It is important to recognize that stroke can happen to anyone; being a younger patient or a patient without any known risk factors does not mean a stroke cannot occur.

Transient Ischemic Attack – An Ominous Warning

It is estimated that 240,000 TIAs are diagnosed every year in the U.S. Many patients may experience a TIA but never seek medical care for its symptoms. A TIA leaves no lasting injury to the brain, but a TIA should still be considered an emergency. The risk of stroke following a TIA is high, particularly in the first few days. Decisions regarding referral to the emergency department versus emergent evaluation in the office or clinic needs to be part of a

response plan. Whether hospitalization or expedited ambulatory care is decided, speed is key. National Stroke Association guidelines recommend that patients with a suspected TIA who are not admitted to the hospital should have rapid (within 12 hours) access for urgent assessment and investigation, including CT scan or MRI brain imaging, EKG, and carotid Doppler examination (Johnston et al., 2006). Additionally, the guidelines state that patients managed in the outpatient setting should be fully educated about the need to return immediately if symptoms recur.

Helping Patients Make the Right Decisions – ‘FAST’

In a meta-analysis of 54 studies evaluating the delay in delivery of medical care to patients with stroke, 21 studies identified poor recognition of stroke symptoms among patients and their families or a lack of urgency in seeking care as the primary barrier to timely care (Kwan, Hand, & Sandercock, 2004). Ambulatory care physicians and nurses must tell patients about stroke risk and stroke symptoms during each visit. Patients need to know that calling 9-1-1, *not the clinic*, is the correct response to stroke symptoms. Because stroke symptoms are seldom painful, patients and families do not view stroke symptoms with the same level of urgency as symptoms such as chest pain. Patients and families can be armed with the knowledge of calling 9-1-1 as advised by their physician or nurse, who should encourage them to take that action in the event of stroke symptoms.

The Heart Disease and Stroke Prevention and Central Program of the Massachusetts Department of Public Health (2008) has created a variety of educational materials that teach the signs of stroke using the “F.A.S.T” acronym – **F**ace, **A**rm, **S**peech, **T**ime (see Figure 2). The National Stroke Association (www.stroke.org) and the American Stroke Association (www.strokeassociation.org) are also good resources for patients. Contacting the stroke center director can be an excellent way to obtain materials and coordinate community education. For more information on F.A.S.T materials, call the Massachusetts Department of Public Health at 800-487-1119 or e-mail at heart.stroke@state.ma.us

Risk Focus

Patient education is especially important for individuals who are high-risk candidates for stroke. Some high-risk groups include patients with prior stroke or TIA, or known atherosclerotic disease in another vascular bed, such as coronary artery disease or peripheral arterial disease. High-risk groups also include older patients (the risk of stroke doubles for each successive decade after age 55), African Americans, and patients with atrial fibrillation. Other well-documented risk factors include hypertension (a major risk factor for both ischemic stroke and cerebral hemorrhage), exposure to cigarette smoke, diabetes, dyslipidemia, obesity, and physical inactivity. The 3 Rs message needs to be given consistently to high-risk patients.

A Call to Action

The human brain is a wonder of nature. Saving brain cells and preserving function in patients suffering acute

stroke should be paramount, allowing no chance for miscommunication, lack of knowledge, or avoidable delays. Patients and families look to their primary care providers as the source for critical decision making when an emergency arises. Thrombolytic therapy has proven to be an effective treatment for ischemic stroke; however, it continues to be significantly underutilized. The ambulatory care setting is an appropriate link within established systems to rapidly respond to acute stroke and deliver acute interventions. Community education in stroke symptom recognition and response must be supported and reinforced in the ambulatory care setting. It is also equally important to assess current processes within the ambulatory care setting to identify gaps that may contribute to delays for patients with acute stroke.

Back to the Patient

The 72-year-old female patient calls immediately after recovering from a 20-minute episode of difficulty speaking and weakness of the right side of the face and right arm. She is clearly identifying symptoms that are highly suspicious of a stroke. She is also able to indicate the exact time of onset of symptoms. This is important information, and her swift response to stroke symptoms makes her a very good candidate for rapid evaluation. An immediate neurologic examination will help reveal if her symptoms have truly resolved or if she continues to have some degree of neurologic deficit. She also may be experiencing a waxing and waning of symptoms as part of the evolution of a stroke. She needs to have immediate evaluation as a potential candidate for t-PA therapy. If she is having a stroke, her best chance to receive timely intervention is initiating the Stroke Chain of Survival. Rapid EMS transport to a stroke center will allow pre-hospital care and early notification to the emergency department to alert the stroke team of a possible stroke patient who is time-eligible for acute intervention.

The timeliness and appropriateness of the response to this patient's phone call or presentation to the clinic will be critical in the outcome for this patient. The first step in the Stroke Chain of Survival is **D**etection; the first person the patient speaks to must be knowledgeable of stroke symptoms and the processes that are in place for rapid decision making. Who will be responsible for evaluating and responding to this patient? How quickly can this caller speak to the right person? The second step is **D**ispatch of EMS – will this patient's complaint be recognized as a "brain attack" and responded to as an emergency? Will the professional on the phone have the authority and support to call EMS or advise the patient to do so? Will the patient be **D**elivered to a hospital facility with a stroke program and receive rapid evaluation when arriving at the **D**oor? Can this hospital deliver treatment with the **D**rug t-PA or other acute stroke interventions?

Conclusion

Having the right answers to these questions makes *Ambulatory Care a Key Link in the Stroke Chain of Survival!* We need to assure that all ambulatory care centers participate in this effort. Stroke is the leading cause of disability of this country and the third leading cause of death. We can posi-

Figure 2.
"F.A.S.T" – Face, Arm, Speech, Time



Source: Heart Disease and Stroke Prevention and Control Program, Massachusetts Department of Public Health (2008). Used with permission.

tively change that statistic by recognizing the important and vital role played by the ambulatory care team.

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References

- Acker, J.E., 3rd, Pancioli, A.M., Crocco, T.J., Eckstein, M.K., Jauch, E.C., Larrabee, H., et al. (2007). Implementation strategies for emergency medical services within stroke systems of care. *Stroke*, 38(11), 3097-3115.
- Adams, H., del Zoppo, G., Alberts, M., Bhatt, D., Brass, L., Furlan, L., et al. (2007). Guidelines for the early management of adults with ischemic stroke. *Stroke*, 38, 1655-1711.
- American Heart Association. (2005). *Heart disease and stroke statistics – 2005 update*. Dallas: Author.
- Johnston, S.C., Nguyen-Huynh, M.N., Schwarz, M.E., Fuller, K., Williams, C.E., Josephson, S.A., et al. (2006). National Stroke Association guidelines for the management of transient ischemic attacks. *Annals of Neurology*, 60(3), 301-313.
- Heart Disease and Stroke Prevention and Control Program, Massachusetts Department of Public Health. (2008). *Stroke heroes act FAST education guide*. Boston: Author.
- Kothari, R., Jauch, E., Broderick, J., Brott, T., Sauerbeck, L., Khoury, J., et al. (1999). Acute stroke: Delays to presentation and emergency department evaluation. *Annals of Emergency Medicine*, 33, 3-8.
- Kwan, J., Hand, P., & Sandercock, P. (2004). A systematic review of barriers to delivery of thrombolysis for acute stroke. *Age Ageing*, 33, 116-121.
- Moser, D., Kimble, L., Alberts, M., Alonzo, A., Croft, J., Dracup, K., et al. (2006). Reducing delay in seeking treatment by patients with acute coronary syndrome and stroke. *Circulation*, 114, 168-182.
- Roebers, S., Wagner, M., Ritter, M., Dornbach, F., Wahle, K., & Heuschmann, P.U. (2007). Attitudes and current practice of primary care physicians in acute stroke management *Stroke*, 38, 1298-1303.
- Rosamond, W.D., Gorton, R.A., Hinn, A.R., Hohenhaus, S.M., & Morris, D.L. (1998). Rapid response to stroke symptoms: The Delay in Accessing Stroke Healthcare (DASH) study. *Academy of Emergency Medicine*, 5, 45-51.
- Saver, J. (2006). Time is brain – Quantified. *Stroke*, 37, 263-266.
- Tri-State Stroke Network. (2005). *5 warning signs & symptoms of stroke*. Retrieved April 28, 2008, from <http://www.tristatestrokenetwork.org>

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Ambulatory Care – Becoming a Key Link in the Stroke Chain of Survival

To Obtain CNE Credit

1. For those wishing to obtain CNE credit, please use the evaluation form inserted in this newsletter, or visit the AAACN Web site (www.aaacn.org). Read the article and complete the answer/evaluation form.
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3. Evaluation forms must be postmarked by June 30, 2010. Upon completion of the answer/evaluation form, a certificate for 1.1 contact hour(s) will be awarded and sent to you.

Objectives

The purpose of this continuing education article is to increase the awareness of stroke and brain attacks. After studying the information presented in this article, you will be able to:

1. Explain the Stroke Chain of Survival.
2. List the 3 Rs of stroke.
3. Describe the warning signs of stroke.

Note: The author disclosed that she is on the Speakers' Bureau for Genentech. The editor and Editorial Board reported no actual or potential conflict of interest in relation to this continuing nursing education article.

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Objectives

The purpose of this continuing nursing education article is to increase the awareness of stroke and brain attacks in nurses and other health care providers.

If you applied what you have learned from this activity into your practice, what would be different?

Evaluation	Strongly disagree				Strongly agree
1. By completing this activity, I was able to meet the following objectives:					
a. Explain the Stroke Chain of Survival.1	2	3	4	5	
b. List the 3 Rs of stroke.1	2	3	4	5	
c. Describe the warning signs of stroke.1	2	3	4	5	
2. The content was current and relevant.1	2	3	4	5	
3. The objectives could be achieved using the content provided.1	2	3	4	5	
4. This was an effective method to learn this content.1	2	3	4	5	
5. I am more confident in my abilities since completing this material.1	2	3	4	5	

6. The material was (check one) ___new ___review for me

Time required to complete the reading assignment: _____ minutes

I verify that I have completed this activity: _____

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