SOUTH CAROLINA FAMILY AND COMMUNITY LEADERS
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Associated Country Women of the World and in partnership with Clemson University Cooperative Extension Service
SCFCL website: http://www.scfcl.com

Leader Training Guide

Signs of a Stroke

Objective:
Inform members what is a stroke, the signs of stroke (F. A. S. T.), what are the kinds of stroke and what to do if you are having a stroke (Call 9 1 1).

Lesson Overview/Introduction:
What is Stroke? Stroke is a disease that affects the arteries leading to and within the brain. It is the No. 5 cause of death and 50% of stroke deaths occur before they reach the hospital. A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts (or ruptures). Stroke some is sometimes called "brain attack" which is the sudden death of brain cells due to lack of oxygen. When that happens, part of the brain cells die. If you're having a stroke, it's critical that you get medical attention right away. Immediate treatment may minimize the long-term effects of a stroke and even prevent death. If certain drugs are administered within 3 hours, they may improve the chances of recovering from a stroke.

Lesson:
It's critical to diagnose a stroke in progress because the treatment for stroke depends on the type of stroke, and, in some cases, the location of the injury to the brain. Other conditions with similar symptoms to stroke and transient ischemic attack (TIA) will need to be ruled out to diagnose stroke. Some of these include seizures, fainting, migraine headaches, heart problems or other general medical conditions.

How is a stroke diagnosed?
The type of stroke must be determined. **Ischemic** strokes are caused by a blocked artery in the brain. A ruptured blood vessel causes a **hemorrhagic** stroke. Treatment for ischemic stroke is different than it is for a hemorrhagic stroke.

ISCHEMIC STROKE accounts for about 87 percent of all cases. Ischemic strokes occur as a result of an obstruction within a blood vessel supplying blood to the brain. The underlying condition for this type of obstruction is the development of fatty deposits lining the vessel walls. This condition is called atherosclerosis. These fatty deposits can cause two types of obstruction: Cerebral thrombosis refers to a thrombus (blood clot) that develops at the clogged part of the vessel. Cerebral embolism refers generally to a blood clot that forms at another location in the circulatory system, usually the heart and large arteries of the upper chest and neck. A portion of

the blood clot breaks loose, enters the bloodstream and travels through the brain's blood vessels until it reaches vessels too small to let it pass. A second important cause of embolism is an irregular heartbeat, known as atrial fibrillation. It creates conditions where clots can form in the heart, dislodge and travel to the brain. Silent cerebral infarction (SCI), or "silent stroke," is a brain injury likely caused by a blood clot interrupting blood flow in the brain. It's a risk factor for future strokes which could lead to progressive brain damage due to these strokes.

HEMORRHAGIC STROKE accounts for about 13 percent of stroke cases. It results from a weakened vessel that ruptures and bleeds into the surrounding brain. The blood accumulates and compresses the surrounding brain tissue. The two types of hemorrhagic strokes are intracerebral (within the brain) hemorrhage or subarachnoid hemorrhage. Hemorrhagic stroke occurs when a weakened blood vessel ruptures. Two types of weakened blood vessels usually cause hemorrhagic stroke: aneurysms and arteriovenous malformations (AVMs).

What are the types of diagnostic tests?

Diagnostic tests examine how the brain looks, works and gets its blood supply. Most are safe and painless. These tests fall into two categories: 1) imaging tests and 2) blood flow tests.

IMAGING TESTS:

- **CT** (computed tomography) or CAT scan. It uses radiation to create a picture (like an X-ray) of the brain. It's usually one of the first tests given to a patient with stroke symptoms. CT test results give valuable information about the cause of stroke and the location and extent of brain injury.
- **MRI** (magnetic resonance imaging). This test uses a large magnetic field to produce an image of the brain. Like the CT scan, it shows the location and extent of brain injury. The image produced by MRI is sharper and more detailed than a CT scan, so it's often used to diagnose small, deep injuries.
- **CTA** (computed tomographic angiography). In CTA, a special contrast material (dye) is injected into a vein and images are taken of the blood vessels to look for abnormalities such as an aneurysm.
- **MRA** (magnetic resonance angiography). In this test, the blood vessels are imaged through a magnetic resonance scanner to locate a cerebral aneurysm.

BLOOD FLOW TESTS:

These tests give information about the condition of arteries in your head and neck that supply blood to your brain.

• **CEREBRAL ANGIOGRAPHY** (or cerebral arteriography).

Special substances are injected into the blood vessels and an X-ray is taken. This test gives a picture of the blood flow through the vessels. This allows the size and location of blockages to be reviewed. This test is very valuable in diagnosing aneurysms and malformed blood vessels.

RISK FACTORS FOR STROKE THAT ARE CONTROLLABLE:

Smoking

If you smoke cigarettes, take steps to stop. Recent studies confirm that cigarette smoking is another crucial risk factor for stroke. On average, every 3 minutes someone in the USA dies of a stroke. The nicotine and carbon monoxide in cigarette smoke damage the cardiovascular system and pave the way for a stroke to occur. Additionally, the use of birth control pills combined with cigarette smoking can greatly increase the risk of stroke.

High Blood Pressure

If you have high blood pressure (or hypertension), know your numbers and keep them low. On average, every 45 seconds someone in the USA has a stroke. High blood pressure is the leading cause of stroke and the most significant controllable risk factor for stroke. Many scientists attribute our current decline in stroke-related deaths to the successful treatment of high blood pressure, high cholesterol

Heart Disease

If you have other heart disease, manage related conditions and work with your healthcare provider. African American have a significantly higher death rate than any other ethnic group. People who have coronary heart disease or heart failure are at higher risk of stroke than people who have healthy hearts. Family history of stroke has been shown to be a risk factor. Dilated cardiomyopathy (an enlarged heart) heart valve disease and some types of congenital heart defects can also raise the risk of stroke.

Diet

If your diet is poor or (are obese), eat foods that improve your heart and brain health. Diets high in saturated fat, trans fat and cholesterol can raise blood cholesterol levels. Diets high in sodium (salt) can increase blood pressure. Diets with high calories can lead to obesity. Also, a diet containing five or more servings of fruits and vegetables per day may reduce the risk of stroke.

What are the effects of stroke?

Emotional and behavioral changes are a common effect of stroke. Not only can stroke impact one's mood and outlook, but the area of the brain injury and chemical changes may have significant effects on the brain. The brain is an extremely complex organ that controls various body functions. If a stroke occurs and blood flow can't reach the region that controls a particular body function that part of the body won't work as it should. If the stroke occurs toward the back of the brain, for instance, it's likely that some disability involving vision will result. The effects of a stroke depend primarily on the location of the obstruction and the extent of brain tissue affected.

Right Brain

The effects of a stroke depend on several factors, including the location of the obstruction and how much brain tissue is affected. However, because one side of the brain controls the opposite side of the body, a stroke affecting one side will result in neurological complications on the side of the body it affects. For example, if the stroke occurs in the brain's right side, the left side of the body (and the left side of the face) will be affected, which could produce any or all of the following:

1. Paralysis on the left side of the body
2. Vision problems
3. Quick, inquisitive behavioral style
4. Memory loss

Left Brain

If the stroke occurs in the left side of the brain, the right side of the body will be affected, producing some or all of the following:

1. Paralysis on the right side of the body
2. Speech/language problems
3. Slow, cautious behavioral style
4. Memory loss

Brain Stem

When stroke occurs in the brain stem, depending on the severity of the injury, it can affect both sides of the body and may leave someone in a ‘locked-in’ state. When a locked-in state occurs, the patient is generally unable to speak or achieve any movement below the neck.

Face Does one side of the face droop or is it numb? Ask the person to smile. Is the person's smile uneven or lopsided?
Arm Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?
Speech Is speech slurred? Is the person unable to speak or hard to understand? Ask the person to repeat a simple sentence, like "The sky is blue." Is the person able to correctly repeat the words?
Time If someone shows any of these symptoms, even if the symptoms go away, call 9-1-1 and say, "I think this is a stroke" to help get the person to the hospital immediately. Time is important! Don't delay, and also note the time when the first symptoms appeared. Emergency responders will want to know.

Lesson Summary:
Hope members learned what to do if (F. A. S. T.) symptoms occur suddenly, become familiar with kinds of strokes and what tests are needed to identify a stroke and to call 911 immediately.

Suggested Activities:
Visit: The American Stroke Association website to learn the parts of the brain and what each part does.
Tour of the Brain: http://www.strokeassociation.org/idc/groups/stroke-public/@wcm/@hcm/@sta/documents/downloadable/ucm_310375.pdf
If a member or family member has had a stroke, discuss what took place.
May is National Stroke Awareness Month-good time for this lesson.
Take: Stroke Awareness QUIZ (Answers: 1-e, 2-b, 3-c, 4-e, 5-h, 6-a, 7-d, 8-a,b,c,e, 9-c, 10-b)

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Sources/References:
American Stroke Association (www.strokeasssociation.org)
American Heart Association (www.heart.org)

Stroke Awareness QUIZ

Know the Warning Signs:

1. Which are warning signs of a stroke?
a. Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
b. Sudden confusion, trouble speaking or understanding
c. Sudden, severe headache with not know cause
d. All of the above

2. Where in the body does a stroke occur?
a. In the stomach
b. In the brain
c. In the heart
d. In the eyes

3. What happens during a stroke?
a. The heart suddenly stops beating
b. A blot clot enters the lungs, causing extreme coughing fits
c. A blood vessel or artery in the brain bursts or is blocked by a clot, stopping oxygen from getting to the brain
d. A high fever causes fainting or difficulty breathing

4. Stroke Facts. Which is true?
a. On average, every 45 seconds someone in the United States has a stroke
b. On average, every 3 minutes someone in the United States dies of a stroke
c. 50% of stroke deaths occur before people reach the hospital
d. African Americans have a significantly higher death rate from strokes than any other race/ethnic group
e. All of the above

5. What are some risk factors for strokes?
a. High Blood Pressure
b. Diabetes
c. Heart Disease
d. Smoking
e. Family History of Stroke
f. Obesity
g. High Cholesterol
h. All of the above

6. Once you've had a stroke, how much time is there to get treatment for the best chances of a full recovery?
a. 3 hours
b. 8 hours
c. 12 hours
d. 24 hours
e. 48 hours

7. What is a transient ischemic attach (TIA)?
a. A silent stroke
b. A obstruction within a blood vessel
c. A blood clot breaks loose traveling to the brain reaching vessels that are too small for it to pass.
d. All of the above

8. Which of the following are controllable risk factors for stroke?
a. Smoking
b. High Blood Pressure
c. Heart Disease
d. Increasing Age
e. Diet

9. What should you do if you or someone is experiencing the symptoms of a stroke?
a. Take two aspirin and call the doctor in the morning
b. Rest in bed until the symptoms subside
c. Call 911 immediately
d. Keep talking to stay awake.
e. Drive yourself to the hospital.

10. What is the acronym to help determine the signs of a stroke?
a. HELP
b. FAST
c. SWEEP
d. START
e. FIRST