



# Stroke is a Brain Attack

## Here are some facts about stroke:

### ■ Stroke is a brain attack

Stroke occurs when the blood supply is cut off to a part of the brain, either by an artery that becomes clogged, cutting off the supply of oxygen and nutrients to the brain, or by an artery bursting and bleeding into the brain. In either situation, the damaged portion of the brain may temporarily stop functioning or die. This may cause problems ranging from paralysis and complete loss of independence, to mild effects on language or mobility.

### ■ Stroke is largely preventable

Modifiable risk factors for stroke include high blood pressure, cigarette smoking, diabetes mellitus, heavy alcohol use, and high blood cholesterol. Many of these risks can be reduced by increasing exercise, reducing dietary fats, and not smoking. This is easy to do — there are several activities ranging from going for a walk, joining an exercise class, and changes in diet, such as switching from whole to 1% milk, and adding a serving or two of fresh fruits and vegetables.

## Quiz:

## What do you know about stroke?

To test your knowledge about stroke, please answer the following questions:

- Stroke is an injury to your:
  - heart
  - brain
  - eyes
- A sign of a stroke might be:
  - one-sided weakness, numbness, or inability to move muscles
  - sudden blindness or blurred vision in one or both eyes
  - slurring or garbled speech or the inability to speak
  - sudden difficulty understanding words or statements
  - all or any of the above
- Stroke is usually caused by:
  - a tumor
  - bleeding or clot in a brain blood vessel
  - heart attack
- What should you do when a stroke occurs?
  - call your doctor
  - call the Emergency Room
  - call 911 immediately
- Factors that increase the risk of having a stroke include:
  - smoking
  - high blood pressure
  - have had previous stroke warning signs
  - heart disease
  - high blood cholesterol
  - diabetes
  - all of the above
- I can make these changes and reduce my risk of stroke by:
 

a. increasing my exercise	yes	no
b. decrease dietary fats and increase fruits and vegetables	yes	no
c. regularly monitor my blood pressure	yes	no

## Stroke is a Brain Attack

### ■ The brain is a very complex organ

The brain controls various body functions, and if blood flow is cut off from a region that controls a particular function, this results in a loss of that function. For example, if the blood flow is cut off from the portion of the brain that controls speech, the person may not be able to speak or say the words he/she wants to say. If blood flow is cut off to the brain centers that control motor function of the arm, the person may drop what he/she is holding or be unable to pick something up. If a stroke occurs in the vision centers of the brain, blindness may result, which can be total or one-sided. The effects depend upon the location of the obstruction and how much of the brain is affected.

### ■ Stroke symptoms are often one-sided

Because the left side of the brain controls functions on the right side of the body and vice versa, stroke symptoms are likely to be one-sided. For example, if the stroke occurs on the right side of the brain, the left side of the body will have loss of function, affecting personality and language in a way that the person may have quick, impulsive behaviors and speak inappropriately. If the stroke occurs on the left side of the brain, the right side of the body will be affected and the person may be unable to speak. They may exhibit a slow, more cautious behavior style. In both cases, memory and sensation may be affected.

## Quiz:

## Assess your Stroke Risk

*The more boxes you check, the greater your risk*

- You are a woman over 55 years old or have passed menopause or had your ovaries removed
- You are a man over 45 years old
- You have diabetes or take medicine to control your blood sugar
- You have coronary artery disease or have had a heart attack
- A doctor said you have carotid artery disease or have had a stroke
- You have an abnormal heartbeat
- You have a close blood relative who had a stroke
- You have a close blood relative who had a heart attack before age 55 (if father or brother) or before age 65 (if mother or sister)
- Your blood pressure is 140/90 mmHg or higher, or you have been told that your blood pressure is too high
- You don't know what your blood pressure is
- You smoke, or live or work with people who smoke every day
- Your total cholesterol level is 240 mg/dL or higher
- Your HDL ("good") cholesterol level is less than 35 mg/dL
- You don't know your total cholesterol or HDL levels
- You get less than 30 minutes of physical activity at least 3 days per week
- You are 20 pounds or more overweight

*American Stroke Association, a division of AHA, 1999*

Promote Healthier and Safer Lives

Brain Attack is  
a medical emergency-  
Call 911

Stroke is a Brain Attack

■ How are strokes treated?

Because hemorrhagic (*hem- or- adj- ic*) strokes, (those caused by bleeding into the brain) and ischemic (*ih-skeem-ic*) strokes, (those caused by blockage from a clot or piece of cholesterol plaque (*plak*)), have different methods of action, each treatment is different. Hemorrhagic strokes must have an obstruction introduced surgically. Ischemic strokes are treated by removing the obstruction and restoring blood flow. The newer treatments for ischemic strokes are medications that “break up” blood clots in the brain. This treatment **MUST** be administered within the first three hours after symptoms occur. It is therefore important that people at high risk be instructed about the warning signs and make their families aware of the symptoms as well. TIA’s (transient ischemic attacks) are a temporary loss of brain circulation. TIA’s are often called light strokes, mini-strokes, or warning strokes; they may precede a major stroke. These are generally treated with aspirin or other medications that interfere with the blood’s ability to clot. Nationally, only 3 to 5 percent of people reach the hospital in time for these new treatments. Calling 911 at the first sign of stroke is vitally important.

*American Stroke Association, a division of American Heart Association*

Risk Factors

Here’s how much these risk factors increase  
your likelihood of stroke:

**The more risk factors a person has, the greater the risk for stroke.**

Age – risk more than doubles each decade after age 55

Gender – risk is 30% higher for men than for women

Race – African-Americans have a greater than 60% higher risk than Caucasians

Previous stroke or TIA increases risk ten times

Hypertension (blood pressure uncontrolled over 140 systolic and/or 90 diastolic) raises the risk six times

Atrial fibrillation (irregular heart beat) increases risk 5.6 times

Excessive alcohol use (over 300 gr/week) increases risk four times

Carotid bruit (*broo ee*), a sound signaling obstruction in the neck artery, increases risk three times

Coronary heart disease, heart attack, or an enlarged left side of the heart, can increase your risk 2.2 times

Congestive heart failure increases the risk 1.7 times

Diabetes increases risk 1.7 times

Smoking increases risk 1.5 times

**Responding to warning signs of stroke:** People at high risk, and their close relatives and friends, must learn to recognize the signs of stroke and know which hospital has the ability to rapidly diagnose and use the new thrombolytic treatments for stroke. **The key – stroke symptoms are those that signal that the “message” isn’t getting from the brain to the body (inability to move a body part) or from the body to the brain (inability to feel a body part). Because the brain is divided, stroke symptoms are likely to be one-sided.**

- Sudden numbness or weakness of face, arm, or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache with no known cause

## References

*Heart and Stroke Facts*, American Heart Association, 1999

*Stroke / Brain Attack Briefing*, a publication of the National Stroke Association, 1996

*Controlling High Blood Pressure*, Kansas Cooperative Extension Service,  
Kansas Rural Stroke Prevention Project, K-State Research and Extension  
Office of Community Health

Susan George, ARNP-C Box 755, Hays, Kansas 67601

---

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available on the World Wide Web at: <http://www.oznet.ksu.edu>. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Susan George, ARNP, *Stroke is a Brain Attack*, Kansas State University, April 2000.

**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

MF-2456

April 2000

It is the policy of Kansas State University Agricultural Experiment Station and Cooperative Extension Service that all persons shall have equal opportunity and access to its educational programs, services, activities, and materials without regard to race, color, religion, national origin, sex, age or disability. Kansas State University is an equal opportunity organization. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Marc A. Johnson, Director.