Chahira Kozma, MD
Professor of Pediatrics
Georgetown University Hospital

What is a stroke?

A stroke or a brain attack occurs when the blood flow is interrupted to a certain area of the brain either because of a blood vessel ruptures or when a blood clot blocks a blood vessel. According to the National Institute of Health http://www.ninds.nih.gov/disorders/stroke/stroke.htm, there are two forms of stroke: *ischemic* - blockage of a blood vessel supplying the brain, and *hemorrhagic* - bleeding into or around the brain. As a result of lack of blood flow that carries nutrients and oxygen, brain cells die and neurological damage occurs.

What are some of the risks factors for stroke?

1- Advanced age
2- Elevated blood pressure
3- Elevated cholesterol
4- Diabetes
5- Obesity
6- Lack of exercises
7- Poor diet
8- Prior history of a stroke
9- Atrial fibrillation (certain type of irregular heart beat)

What are the consequences of a stroke?

When brain cells die, abilities controlled by that part of the brain is lost. Frequently following a stroke, an affected individual can suffer movement and motor difficulties, speech problems, and or memory problems. How a stroke patient is affected depends on where the stroke occurs in the brain and how much the brain is damaged. Disability that results from stroke can include complete paralysis on one side of the body, called *hemiplegia*. H*emiparesis* is one-sided weakness that is not as severe as paralysis. A stroke may cause problems with thinking, awareness, attention, learning, judgment, and memory. Stroke survivors often have problems understanding or forming speech. A stroke can lead to emotional problems and many stroke patients experience depression.

What are the symptoms of a stroke?

A stroke is suspected if any of the following symptoms are observed:

1- sudden numbness of face, arm, leg, especially on one side of the body
2- confusion, inability to speak
3- sudden trouble seeing in one or both eyes
4- sudden trouble in walking, dizziness, coordination, or balance
5- sudden severe headache

If you think someone may be having a stroke, act ***F.A.S.T.*** and do these simple things:

***F*ACE**: ask the person to smile,
Does one side drop?

***A*RMS**: ask the person to raise one arm,
Does one arm drift downward?

♦***SPEECH***: as the person to speak,
Are the words slurred, can the person repeat the sentence correctly?

***T*IME**: if the person is showing any of those symptoms, time is Important. Call 911, and transport the person to a hospital to prevent brain cells from dying

♦*Keep in mind that some individuals with developmental disabilities are not verbal and will not respond verbally. Try to rely on facial gestures and other non-verbal modes of communications. You may also need to compare their behavior with their regular behavior and communication pattern.*

What is the treatment of stroke?

There are three treatment stages for stroke: 1) prevention, 2) therapy immediately after the stroke, 3) and post-stroke rehabilitation.

1) Prevention:

The most important treatment is prevention. Identification of patients with high risk factors and treating them appropriately is a very important step. Treating high blood pressure, diabetes mellitus, smoking cessation, lowering rates of cholesterol, prevention of obesity, physical exercise, and avoidance of illegal drugs and excessive alcohol consumption are all recommended to reduce the risk of stroke. Medications such as aspirin at a low dose or other

medications to prevent platelets from clumping together and obstructing an artery are frequenlty used to prevent clot formation.

2) Therapy immediately after the stroke:
During an acute attack, it is very important to recognize the early signs of stroke and transport the patient to an emergency room for appropriate treatment. Some hospitals have "brain attack" or "strokes" teams within their neurology departments specifically for swift treatment of stroke. ***It is very important to identify a stroke as early as possible because patients who are treated earlier are more likely to survive and have better recoveries.*** Acute stroke therapies try to stop a stroke while it is happening by quickly dissolving the blood clot by the use of clot-busters (e.g., tPA). The most promising treatment for ischemic stroke is the FDA-approved clot-busting drug tPA, which **must be administered within a three-hour window from the onset of symptoms** to work best. Other treatment modalities include surgery to stop the bleeding of a hemorrhagic stroke.

3) Post-stroke rehabilitation:
Post-stroke rehabilitation helps individuals overcome disabilities that result from stroke damage by using rehabilitative services such as occupational, physical, speech and language, and other services.

In summary, for stroke prevention:

- Manage your diabetes
- Eat right
- Control your high blood pressure
- Exercise
- Don't smoke
- Do not drink excessive amount of alcohol
- Avoid obesity

For more information about stroke visit:
1) The American Stroke Association at www.associationstroke.org
2) The National Stroke Association at www.stroke.org
3) The Stroke Information Page at the National Institute of Health at www.ninds.nih.gov/disorders/**stroke**/**stroke**.htm
4) The Stroke information at Mayo Clinic www.mayoclinic.com/health/stroke

Disclaimer: The medical information provided on the topic of stroke does not substitute for the advice of a medical professional (physician, nurse, etc.).