

## What Is Stroke?

A stroke or brain attack occurs when a blood clot blocks a blood vessel or artery, or when a blood vessel breaks, interrupting blood flow to an area of the brain.

When a brain attack occurs, it kills brain cells in the immediate area. Doctors call this area of dead cells an infarct. These cells usually die within minutes to a few hours after the stroke starts.

When brain cells die, they release chemicals that set off a chain reaction called the "ischemic cascade." This chain reaction endangers brain cells in a larger, surrounding area of brain tissue for which the blood supply is compromised but not completely cut off. Without prompt medical treatment this larger area of brain cells, called the penumbra, will also die. Given the rapid pace of the ischemic cascade, the "window of opportunity" for interventional treatment is about six hours. Beyond this window, re-establishment of blood flow and administration of neuroprotective agents may fail to help and can potentially cause further damage.

When brain cells die, you lose control of the abilities governed by that area of the brain. This includes functions such as speech, movement, and memory. The specific abilities lost or affected depend on where in the brain the stroke occurs and on the size of the stroke (i.e., the extent of brain cell death). For example, someone who has a small stroke may experience only minor effects such as weakness of an arm or leg. On the other hand, someone who has a larger stroke may be left paralyzed on one side or lose his/her ability to express and process language. Some people recover completely from less serious strokes, while other individuals lose their lives to very severe strokes.

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## **Reduce Your Risk of Stroke**

High blood pressure is one of the most common causes of stroke

### **How is high blood pressure related to stroke?**

Doctors have long called high blood pressure "the silent killer" because you can have high blood pressure and never have any symptoms. If left untreated, high blood pressure can lead to life-threatening medical problems such as stroke, heart attack or kidney failure.

High blood pressure is one of the most common causes of stroke because it puts unnecessary stress on blood vessel walls, causing them to thicken and deteriorate, which

can eventually lead to a stroke. It can also speed up several common forms of heart disease.

When blood vessel walls thicken with increased blood pressure, cholesterol or other fat-like substances may break off of artery walls and block a brain artery. In other instances, the increased stress can weaken blood vessel walls, leading to a vessel breakage and a brain hemorrhage.

## Learn 5 Common Symptoms

The most common stroke symptoms include:

- 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

**Call 911 if you see or have any of these symptoms.**

**Treatment can be more effective if given quickly.**

**Every minute counts!**

## Responding Correctly

Most strokes can be treated. Women need to have a keen awareness of their stroke risks and a thorough knowledge of stroke symptoms to get the treatment they need and deserve.

Studies have shown that women take 46 percent longer than men to get to the emergency room after stroke symptoms begin. They can also wait up to 49 percent longer to receive medical attention once they arrive at the hospital. Women must empower themselves and their loved ones to respond immediately to stroke and get emergency medical attention.

## Treatments

The only FDA-approved treatment for clot-caused stroke is t-PA, a drug that dissolves the blood clot and restores blood flow to the brain. The treatment must be given within three hours of the first signs of stroke symptoms.

Stroke patients who receive t-PA are at least 30 percent more likely to leave the hospital with little or no disability after three months. Only one to three percent of those eligible

for this treatment are receiving it because it takes the average American 12 to 24 hours to get to the hospital and they miss the three-hour window of opportunity.

Other treatments available include neuroprotectants, drugs that protect the brain cells surrounding the area of a stroke and limit the spread of brain damage.

## 6 Tips to Reduce Your Risk

Your lifestyle counts, and you can improve your odds.

### **1. Control High Blood Pressure**

Because there are rarely any outward symptoms of hypertension, it's important to have blood pressure checked regularly. According to the Sixth Report of the Joint National Committee on the Detection, Evaluation, and Treatment of High Blood Pressure, everyone should have his or her blood pressure checked at least every two years (more often if there is a history of high blood pressure).

Doctors may choose to treat hypertension (blood pressure consistently more than 140/90) in one or more of the following ways:

#### **A low-salt diet**

Too much salt may contribute to high blood pressure and make it more difficult to control. Doctors may ask people with high blood pressure to stop using table salt and to eat as many fresh foods as possible, since a lot of salt is "hidden" in processed or prepared foods. According to the National Heart, Lung and Blood Institute, if everyone in the United States ate 1 less teaspoon of salt each day, their collective blood pressures would drop enough to decrease the national stroke rate by 11 percent.

#### **Other methods**

In addition to a low-salt diet, doctors may choose to lower blood pressure by having patients lose weight, stop smoking and exercise regularly. These lifestyle modifications are often all that is needed to successfully control hypertension. For some patients, lifestyle modification will not adequately lower blood pressure, so their physicians may prescribe high blood pressure medication.

### **2. Control Heart Disease**

#### **Coronary Heart Disease and High Cholesterol**

A doctor may choose to treat high cholesterol (more than 200) or prevent coronary heart disease by reducing cholesterol with one or more of the following methods:

#### **Diet**

A diet that's low in fat and cholesterol will likely include fruits and vegetables, lean meats such as chicken and fish, low-fat dairy products, whole grains and a limited number of eggs. Changing cooking habits to include baking and broiling rather than frying will also cut down on fat intake.

### **Exercise**

Active people tend to have lower cholesterol levels, and regular exercise seems to slow down or stop the clogging of blood vessels by fatty plaque deposits. Doctors may recommend a program of regular exercise to lower cholesterol. Aerobic exercise is best for lowering cholesterol because it strengthens the heart and lungs by maintaining an accelerated heart rate for an extended period of time. Walking, swimming and cycling are examples of aerobic exercise. For best results, exercise at an aerobic level at least three times a week for 20 to 30 minutes each time. Brisk walking for 30-45 minutes on most days is also very effective. Having an "exercise buddy" -- someone to exercise with -- can help people stick to an exercise program.

### **Other Methods**

For some patients, lifestyle modification will not adequately lower high cholesterol and prevent coronary heart disease, so their physicians may prescribe cholesterol-reducing medication.

### **3. Control Smoking**

Once someone stops smoking, stroke risk will drop significantly within two years. Within five years of quitting, the stroke risk may be the same as someone who's never smoked. Doctors can give information about quitting and prescribe medicine to help. It's especially advisable for women over 30 who smoke and also take high-estrogen birth-control pills to quit smoking. This combination of factors makes a woman 22 times more likely to have a stroke than the average person. However, most physicians no longer prescribe high-estrogen birth control pills to smokers.

### **4. Control Alcohol Consumption**

For most people, moderate drinking doesn't greatly affect their risk of stroke. "Moderate" drinking means limiting intake of alcohol to no more than one drink per day (one drink = 1.5 oz. of hard liquor; OR 4 oz. of wine; OR 12 oz. of beer).

### **5. Control Weight**

Doctors can recommend a sensible weight loss and exercise program for people who are at increased stroke risk because they are overweight. Together with their doctors, overweight patients should set reasonable weight loss and exercise goals. A common goal is to aim for losing one pound a week and exercising three times a week for 30 minutes at

a time. Losing excess weight can also help control other stroke risk factors, such as high blood pressure, high cholesterol, heart disease and diabetes.

## **6. Eat Good Food**

Eating a well balanced diet including protein, carbohydrates, vegetables and fruit is a vital part of stroke risk reduction. Healthy eating habits may help lower blood pressure rates, cholesterol levels and reduce complications from diabetes.

A recent Harvard University study concluded that eating five daily servings of fruits and vegetables might lower your risk for an ischemic (clot-caused) stroke by 30 percent. Citrus fruits and green leafy vegetables such as broccoli or cabbage are particularly beneficial. Their higher concentrations of folic acid, fiber and potassium, may be a key to reducing risk for stroke or heart disease.

Eating and cooking in a low fat manner reduces your waistline and decreases stroke and heart attack risk. Taking a few minutes to think through your food choices and how you cook them can make a difference.

Maintaining adequate nutrition through diet and vitamin supplements can reduce your risk for stroke, heart disease and other serious medical conditions. Speak with your healthcare provider before starting any vitamin regiment. Taking high doses of vitamins is not generally recommended.

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