



C H A P T E R

# THREE

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## **Preventing Another Stroke**

After stroke, survivors tend to focus on rehabilitation and recovery. But, preventing another (or recurrent) stroke is also a key concern. Of the 750,000 Americans who have a stroke each year, 5 to 14 percent will have a second stroke within one year. Within five years, stroke will recur in 24 percent of women and 42 percent of men.

**Percentage of Recurrence  
After First Stroke**

Within 30-Days	3% to 10%
Within 1-Year	5% to 14%
Within 5-Years	25% to 40%

## **Your Lifestyle Choices**

Everyone has some stroke risk. But, there are two types of stroke risk factors. One type you can't control. The other you can.

## **Stroke risk factors you can't change include:**

- Your age – the older you are, the higher your risk
- Being a man
- Being African American
- Someone in your family has had a stroke.

Having one or more of these factors doesn't mean you will have a stroke. By making simple lifestyle changes, you may be able to reduce the risk of a first or recurrent stroke.

These simple lifestyle changes can greatly reduce your chance of having a stroke:

- Monitor your blood pressure; if it is high, make sure it is treated.
- Find out if you have atrial fibrillation (an irregular heartbeat which allows blood to pool in the heart and cause blood clots).
- Quit smoking.
- Limit alcohol.
- Check your cholesterol levels and make sure bad cholesterol is controlled.
- Manage your diabetes.
- Exercise often.
- Eat foods low in sodium (salt) and saturated or trans fat.
- Monitor circulation problems with the help of your doctor.

## **Monitor Your Blood Pressure**

High blood pressure is one of the most important and easily controlled stroke risk factors. So it's important to know your blood pressure!

Blood pressure is given in two numbers, for example 120/80. The first number, the systolic blood pressure, is a measurement of the force your blood exerts on blood vessel walls as your heart pumps. The second, diastolic blood pressure, is the measurement of the force your blood exerts on blood vessel walls when your heart is at rest between beats.

- For people over age 18, normal blood pressure is lower than 120/80. A blood pressure reading consistently higher than 120/80 is pre-hypertension. If yours falls in this range, you are more likely to progress to high blood pressure. High blood pressure, also called hypertension, is a reading of 140/90 or higher.
- Have your blood pressure checked at least once each year — more often if you have high blood pressure, have had a heart attack or stroke, are diabetic, have kidney disease, have high cholesterol or are overweight. If you are at risk for high blood pressure, ask your doctor how to manage it more aggressively.

Sometimes blood pressure can be controlled through diet and exercise. Even light exercise - a brisk walk, bicycle ride, swim or yard work - can make a difference. Adults should do some form of moderate physical activity for at least 30 minutes five or more days per week, according to the Centers for Disease Control and Prevention. Regular exercise may reduce your risk for stroke. Before you start an exercise program, check with your doctor.

## **If Your Blood Pressure is High**

What do you do if you still have high blood pressure, even though you have made an effort to eat healthy foods and exercise? Then it's time to talk to your doctor. A doctor can advise you about better lifestyle choices. Medicine may also be needed.

Many drugs can help treat high blood pressure, and most don't produce side effects. The most common are calcium channel blockers and ACE-inhibitors. You and your doctor may have to try several different drugs before you find one that works for you. This is common. So, try not to be discouraged if this happens. Once you find a drug that works, take it as directed and exactly as prescribed, even when you feel fine.

## **Medicines**

Medicine may help reduce stroke risk. In addition to those that treat high blood pressure, drugs are also available to control high cholesterol and treat heart disease. There are also drugs that can interfere with the blood's tendency to form potential stroke-causing blood clots.

## **Heart Disease**

Many forms of heart disease can increase your stroke risk. One form - known as atrial fibrillation or AF - causes blood to form clots that can travel to the brain and cause a stroke. AF is an irregular heartbeat.

Warfarin (Coumadin®) and aspirin are often prescribed to treat AF. People taking warfarin should be monitored carefully by a doctor. Also, some foods and medicines can offset Warfarin's effects. People taking this drug should discuss with their doctors foods and medicines that can affect how the drug works.

## **High Cholesterol**

High levels of cholesterol may also increase stroke risk by not letting blood move freely through the arteries. Cholesterol build-up can break off. This can cause a clot to form or a stroke to occur. Several drugs, including a class of drugs called statins, may help lower cholesterol levels. The risk of having another stroke can be lowered by taking a statin. Unless cholesterol levels are already low, taking a statin is generally beneficial.

## **Blood Clotting**

There are also a few drugs that can prevent clots, helping reduce risk of a second stroke. Aspirin is the least costly and longest lasting of these drugs. A newer, more effective option is a combination of aspirin and extended-release dipyridamole, called Aggrenox®. Or, your doctor might choose to treat you with Clopidogrel (Plavix®). Warfarin is often prescribed to prevent clots from forming in those with atrial fibrillation.

## **Surgical Options**

For those whose first stroke was caused by a blockage in the carotid arteries (vessels that carry blood from the heart to the brain), surgery known as carotid endarterectomy may help reduce risk of another stroke. During surgery, blockages and build-up in the arteries are removed to restore the free flow of blood. Your doctor is the best judge to decide if this is a good option for you.

## **Adherence is Critical**

The key to preventing recurrent stroke is simple: follow your doctor's suggestions about diet, exercise and weight loss, and take any medicine as directed. Your doctor will decide what's best for you based on your general health and your medical history. By understanding the basis for these decisions, you'll be better able to follow the suggestions and make informed choices that will help reduce your risk of stroke.

## **Transient Ischemic Attacks (TIAs): A Warning Sign for Stroke**

Stroke prevention is also crucial for those who have had transient ischemic attacks (TIAs) or mini-strokes. TIAs are brief episodes of stroke-like symptoms that last from a few minutes to 24 hours. TIAs don't cause permanent disability. But, they can be serious warning signs of an impending stroke. Up to one third of people who have a TIA are expected to have a stroke, and most of these will occur in the first few days to weeks after the TIA. Just like the first strokes, many recurrent strokes and TIAs can be prevented through lifestyle changes, surgery, medicine, or a mix of all three.

## **Symptoms of TIA (and Stroke)**

What are the symptoms of TIA? The symptoms of TIAs are the same as for stroke. They vary depending on which part of the brain is affected:

- 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.

If you experience any of these symptoms, for even the briefest amount of time or notice them in someone else, seek medical attention immediately. Don't wait for the symptoms to go away, because you cannot tell whether you are having a stroke or a TIA. If you are having a TIA, a doctor can evaluate and treat the causes and set up a plan of action to prevent a stroke.

## **Different Causes of TIAs**

### **Three things generally cause TIAs:**

- Low blood flow at a narrowing in a major artery to the brain
- A blood clot in another part of the body breaking off and temporarily lodging itself in a brain blood vessel
- Narrowing in one of the smaller blood vessels in the brain, stopping blood flow temporarily.

Unfortunately, most people who have TIAs don't seek treatment, either because the symptoms come and go quickly and are painless or because they think their symptoms are caused by old age, fatigue, etc. Once you have had a TIA, you are at high risk for another TIA or a full stroke if not treated.

## **Managing TIAs**

The goal of TIA management is to prevent a future stroke. The treatment used depends on the exact cause of the TIA. In addition to lifestyle changes such as diet and exercise, your doctor may recommend drugs to treat high blood pressure, high cholesterol or heart disease. These changes may reduce your risk of further TIA or stroke.

There are many medicines that help prevent blood clots from forming, reducing the risk of a full-blown stroke.

- Aspirin - the least expensive and most common of these medicines.
- Aggrenox® - a combination of aspirin and extended-release dipyridamole
- Clopidogrel (Plavix®)
- Warfarin (Coumadin™) - commonly prescribed to prevent clots from forming in patients with atrial fibrillation.

Furthermore, statins and blood pressure control may also reduce stroke risk.

## **Better Nutrition for Stroke Prevention**

Healthy eating is good for you. It will help you manage your weight and blood pressure. Both are crucial to prevent another stroke and stay healthy. Ask your doctor to arrange a visit with a licensed dietician. The dietician will teach you how to plan meals and snacks to improve your health.

- Plan to eat a variety of foods each day.
- Eat at least five servings of fruits and vegetables per day.
- Choose foods low in saturated and trans fats.
- Your doctor may suggest a special diet to help you lose weight. Or you may need to eat foods with less salt or fat.

## **Eat Foods with Adequate Starch and Fiber**

Complex carbohydrates are better than simple carbohydrates, such as sugars, because they contain essential nutrients and fiber. Substituting complex carbohydrates for sugars is recommended. These foods include beans, peas, nuts, fruits, vegetables, whole grain breads and cereals.

## **Avoid Excess Sugar**

Sugar provides only empty calories to the body. To cut down on sugars, try the following:

- Use less of all sugars, including white, brown and raw sugars, honey, and syrups.
- Eat less of foods containing large amounts of sugar, such as candy, soft drinks, cakes, ice cream and cookies.
- Substitute fresh fruit or fruit canned in water or its own juice.
- Watch for hidden sugar. Read labels. If sucrose, glucose, maltose, dextrose, lactose, fructose or syrups are listed first among the ingredients, then there is a large amount of sugar in that product.

## **Avoid Excess Fat**

The intake of fat, particularly saturated animal fat, trans fat and cholesterol, is a contributing factor in developing atherosclerosis, which is associated with stroke and heart disease. **To avoid excess bad fat in your diet:**

- Choose lean meat, fish, poultry, dried beans and peas as your protein source. Cut back on red meat.
- Trim excess fat off meats before cooking.
- Minimize use of eggs (no more than 3 a week) and organ meats (eg, liver).
- Use only low-fat dairy products.
- Broil, bake or boil rather than fry foods. A spray vegetable oil coating may be used.
- Read labels to determine the amount of fat contained in foods.

## **Avoid Excess Sodium**

Excess salt in your diet increases the risk of high blood pressure, which is a major factor in heart disease and stroke. Table salt is the primary source of dietary sodium. **To limit sodium in your diet try the following:**

- Avoid salt in cooking and at the table; learn to enjoy the natural unsalted flavor of foods.
- Limit your use of foods that have a high salt or sodium content such as cured meats, potato chips, pretzels, salted nuts, cheese, prepackaged dinners, baked desserts, and dried fruits.
- Watch for hidden salt. Di-sodium phosphate, monosodium glutamate, sodium nitrate, and any other sodium compound in the list of ingredients indicates a high sodium content.
- Avoid the use of spices and condiments containing sodium such as bouillon cubes, catsup, chili sauce, celery salt, garlic salt, onion salt, meat tenderizers, pickles, relishes, worcestershire and soy sauce. Some of these are now being made in low-sodium versions.

- Some over-the-counter drugs, especially antacids and headache remedies, have a high-sodium content.
- Be sure to check with your doctor before using a salt substitute.

## **Limit Alcohol**

Alcoholic beverages are high in calories and low in nutrients. Heavy drinking may lead to serious physical and mental deterioration and may increase risk of stroke. Drink only in moderation.

## **Maintain Ideal Weight**

Being overweight increases the risk of a number of diseases including hypertension, coronary atherosclerosis and diabetes. All of these problems increase the risk of stroke or heart attack. Excess weight will decrease mobility and interfere with daily activities. To lose weight you must decrease calories without sacrificing essential nutrients, and start or maintain an exercise program.

## **Tips for Eating Healthy**

- Rather than frying, switch to baking, broiling, steaming or grilling. If sautéing something, use nonstick cookware and a nonstick spray.
- Replace your morning cup of coffee with a glass of orange juice.
- Rather than eating the same vegetables you are used to, be adventurous. Make it your goal to try one new vegetable each time you visit the grocery store.
- To help keep blood pressure under control, exchange high sodium ingredients such as soy sauce with low sodium, high flavor alternatives such as herbs or orange juice.
- Instead of an afternoon cookie, grab a handful of walnuts for a snack.
- Look for pre-washed, pre-cut fruits and vegetables at the grocery store. Most places offer apple slices, baby carrots, broccoli florets, celery sticks, mixed vegetables, salad greens and spinach.
- Ask family members and friends to make healthy meals that you can store in the refrigerator or freezer. Save these foods for the days you are too tired to cook.