

## GENERAL INFORMATION

### **What is secondary stroke prevention?**

After a first stroke, the likelihood of experiencing a second stroke increases. In order to reduce this possibility, there are certain lifestyle modifications an individual can make.

### **How frequent are second strokes?**

The latest statistics show that those with stroke have a 20% higher chance of having another stroke within 2 years, compared to the general population.

### **What is the impact of a second stroke?**

Recurrent strokes are more likely to be fatal than first strokes. Each stroke is different and its effects vary from person to person. The functional consequences depend on where the brain was injured and the extent of damage that has occurred. The second stroke will not necessarily occur in the same area of the brain as the first.

### **What are the risk factors for a second stroke?**

Secondary stroke risk factors are the same as those for primary stroke. There are preventable as well as uncontrollable risk factors.

You have an important role in controlling and reducing preventable risk factors: high blood pressure (hypertension), high blood cholesterol and lipids, heart disease, type II diabetes, being overweight, high alcohol consumption, physical inactivity, smoking, and stress. **Uncontrollable risk factors are:** age (over 60), gender, family history of stroke, ethnicity, previous stroke, and transient ischemic attack (TIA).

### **Can pharmacotherapy help in reducing my chances of having another stroke?**

Information can be found on medications for secondary stroke prevention at: <http://www.americanheart.org/presenter.jhtml?identifier=4723>

### **How can I prevent having another stroke?**

It has been suggested that 80% of secondary strokes can be prevented by a combination of different lifestyle changes and medical intervention (Hackman, 2007). These lifestyle changes include: increasing activity level with exercise,

smoking cessation, diet modification, and stress reduction. It is important to understand that 20% of strokes cannot be prevented with lifestyle modification due to uncontrollable risk factors.

## EXERCISE

### Why exercise?

Physical activity can improve your health by reducing certain risk factors for stroke such as high blood pressure, obesity, and high cholesterol. Exercise can also improve digestion, sleep quality and mood. It can also reduce stress, and increase level of energy. Overall, exercise will make you feel better about yourself. **NOTE:** You should check with your physician or therapists before starting any exercise program.

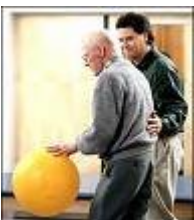
### Steps to a successful exercise program

#### *Step 1: Where should I start?*

Before starting an exercise program, consult a physician to screen for possible restrictions. You may have to perform an exercise test with a health professional that will help him or her to prescribe the best exercise program for you.

#### *Step 2: Who can help me build my exercise program?*

Your physician can refer you to a health care professional such as a physiotherapist who has the appropriate knowledge on exercise and stroke. Your exercise program can then be followed by an athletic therapist/kinesiologist if needed or you may be able to continue independently. It is recommended that you keep in contact with your health professional if needed. People with higher risk factors might need closer supervision and a more structured program.



#### *Step 3: How can I exercise?*

It is recommended that you do at least 30 minutes of physical activity for a minimum of 5 days a week to help prevent a stroke. Moderately intense activities such as brisk walking, swimming or cycling can provide benefit. You can progressively increase the duration and intensity of your activity as you become more fit. Maintaining an active lifestyle is also important. Daily activities such as taking the stairs, walking to your bus stop, gardening, and household chores are good examples of exercise. Remember: everything counts! If you are unable to do these activities because of your physical

limitations, your therapist or physician will suggest alternative strategies to increase your cardiac health, such as using a stationary bicycle.



*Step 4: Tips for a successful exercise program.*

Find an activity you enjoy doing. Find an exercise partner if possible. Vary your routine, try different activities. Wear comfortable and appropriate clothing. Don't over do it! Don't over-exert yourself. Reward yourself. *Step 5: Is exercise always safe?*



With exercise, you should expect to be a little out of breath since you are demanding extra efforts from your heart and muscles. Likewise, you can expect your heart rate will increase. It is important that you stay within your own comfort limitations and never exercise past moderate effort. If you stick within these limitation and seek the appropriate support (see Where should I start), exercise is safe. In the event that you



feel any discomfort such as: Weakness (sudden loss of strength or numbness in face, arms or legs) Vision problems Trouble speaking Sudden severe headache Dizziness Chest pain You should stop exercising and seek medical attention. Although these are rare events, they can

happen if the demand put on the body is too great. These are important warning signs that need your immediate attention.

## DIET MODIFICATION

### How should I change my diet?

Studies have shown that adopting a Mediterranean diet which consists mainly of antioxidant-rich foods such as fish, fruits, vegetables, legumes, and nuts, as well as food rich in omega 3 fatty acids, can help prevent a secondary stroke. Avoid foods that contain high amounts of saturated fats and cholesterol (consumption should be less than 200mg/day or less than 100mg/day if you have diabetes). Stay away from salt, as salt is known to increase your risk of stroke.

**Recommended diet:** A consumption of at least 400-500g of fruits, vegetables, and nuts per day with the appropriate proportions: 6/10 of fruit, 3/10 of vegetables, and 1/10 of walnuts or almonds. In addition, you should consume 400-500g of whole grains, legumes, rice, maize, or wheat daily. Mustard seed, olive or soybean oil can be included in three to four servings per day **Links:**

Canadian food guide:

<http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php>

### **Does salt reduction affect prevalence of a secondary stroke?**

Salt reduction has proven to effectively reduce your potential of having a stroke by reducing overall blood pressure. In fact, it has been demonstrated that a reduction of 5g of salt a day in people over 60 years old can have a significant impact on blood pressure. The same result is seen in younger individuals who reduce salt intake but at a smaller rate. Increasing your potassium intake is also suggested.

### **Does alcohol intake affect prevalence of a secondary stroke?**

Evidence suggests that alcoholism and heavy drinking are risk factors for stroke. Although it has been found that light or moderate drinking seems to have a protective effect (consumption of 1-2 drinks/day for men and 1 drink/day for non-pregnant women), those who consume more than 5 drinks/day can have a 69% increased stroke risk. It is important to consider that one drink consists of a 12oz beer, a small glass of wine (4oz), or a 1.5oz liquor alcohol cocktail.

### **Does obesity increase my chances of a secondary stroke?**

Research has shown that abdominal obesity (fat concentrated around the organs) rather than general obesity may lead to an increased risk of a second stroke. The initial goal of weight loss therapy should be to reduce body weight by approximately 10%. With success, additional weight loss can be attempted if indicated. Although weight loss is not directly related to reducing secondary stroke occurrence, it can help decrease the impact of risk factors that are associated with obesity. These risk factors include high blood pressure, higher fasting glucose levels, high blood lipids, and decreased physical endurance. All these can be dramatically reduced with weight loss and maintenance of a healthy weight. (see 'diet modifications' and 'exercise' sections)

### **Is diabetes correlated with a second stroke?**

Approximately 13% of people who have diabetes and who are older than 65 years old have had a stroke. Having diabetes puts you at a greater risk for consequent

stroke and other cardiovascular complications such as coronary heart disease. If you already have diabetes it is important you take your medications as prescribed, exercise regularly, and keep a near-normal fasting blood glucose level of 7mmol/l in order to help prevent a future stroke.

## **STRESS MANAGEMENT**

Stress can come from any situation or thought that makes you feel frustrated, angry, or anxious. What is stressful to one person is not necessarily stressful to another. Although stress is normal in small amounts, in excess it can be extremely harmful.

### **What are warning signs of stress?**

Exaggerated anxiety Excessive moodiness Withdrawal from responsibility Constant insomnia and chronic fatigue Poor emotional control (crying or laughing inappropriately) Feelings of helplessness Substantial change in appetite or sex drive Increased susceptibility to illness.

### **Why should I reduce my stress?**

The body's nervous system reacts to mental or emotional stress, and this reaction is linked to increased rate of heart disease and stroke. There are a number of reasons why lowering your stress will make you feel better. Stress has been linked to an increase in stroke risk. From a medical point of view, controlling your stress could help to: Decrease heart rate Lower blood pressure Slow your breathing rate and improve the quality of breaths Increase blood flow to major muscles Reduce muscle tension These are some positive effects that you should experience: Fewer physical symptoms, such as headaches and back pain Fewer extreme emotional responses, such as anger and frustration More energy Improved concentration Better ability to handle problems More efficiency in daily activities

### **How do I cope with my stress?**

Many techniques exist to help you reduce the stress you are experiencing. It is important to try to identify what is causing your stress. If you are able to identify stressors in your life, then the next step is to speak to someone (your children, a therapist, or a support group) with whom you feel comfortable discussing your problems. Some relaxation techniques that can help you: Eliminate possible environmental stress. This means making your living space easier to live in. Possible

ideas could be: putting things on lower shelves so that they are easier to reach, arranging a quiet corner in your house where you are able to relax, and hiring maintenance help for heavy outdoor chores (e.g. having someone shovel your driveway or maintain your pool). Plan your day to avoid stressors. If traffic or shopping causes you stress, plan to run your errands during quiet times. Prioritize and plan your day with activities spread out so that you can rest a little and not feel as exhausted at the end of the day. Also, make sure you plan an activity that you truly enjoy a few times a week to keep your schedule interesting. Try deep breathing exercises and positive imagery. To do this, find a quiet room or area where you won't be disturbed with a mat to lie on or a comfortable chair to sit on. Start off deepening your breaths and slowing down your breathing rate. Do this 10 times then breathe normally for 15 breaths and repeat. Once you are able to do this easily, imagine a relaxing scene (e.g. a beach, a river, or a quiet forest) and concentrate on the way this place looks, feels, smells and sounds. This will keep your mind active with positive thoughts so that you can relax but not fall asleep. Progressive Muscle Relaxation is known to decrease stress as well. To do this, lie down in your quiet area and do a round of deep breathing. Starting at your feet, scrunch your toes to a maximum for about 5 seconds, and then relax them so that they feel even more relaxed than before. Do this with the muscles in your lower legs next, then the thighs, etc., working your way up the body to your face. Remember to breathe deeply!

Here are some other ideas:

- Eat a well-balanced, healthy diet. Don't overeat
- Get enough sleep
- Exercise regularly
- Limit caffeine and alcohol
- Don't use nicotine, cocaine, or other recreational drugs
- Learn and practice relaxation techniques like yoga, tai chi, or meditation.
- Listen to music or schedule a massage
- Try biofeedback: a certified professional can get you started (see <http://psychotherapy.com/bio.html>)
- Spend time with people you enjoy and ask for support.

<http://psychotherapy.com/bio.html>

### **How can my family reduce their stress?**

There are many different places your family can turn to for help. Social workers can find and arrange help that best fits you and your family. Some examples of help are homecare, Meals on Wheels, public health nursing services, transportation services, financial planning assistance, etc.

It has been shown that family members worry about the person who has experienced a stroke when they are receiving homecare. One option is to look into day programs. They are designed to provide you with activities, hobbies, and a chance to interact with others who have experienced a stroke. Since they are often run for the duration of the day, they can give your family member a break and a chance to take care of themselves without having to worry about the safety of their loved one. Finally, these programs have been shown to increase the quality of life of the person who has had a stroke and the person caring for that individual.

### **Where can my family and I receive additional support?**

In Montreal:

#### **Heart & Stroke Foundation of Quebec**

1434, rue Sainte-Catherine Ouest, bureau 500

Montréal, QC Canada

Phone Number: 514-871-1551

Fax Number: 514-871-1464

Toll Free Number: 1-800-567-8563

Website: [www.heartandstroke.ca](http://www.heartandstroke.ca)

#### **Heart and Stroke Cardiac Rehabilitation and Education**

Phone Number: 514-637-2351 (ext. 5250)

#### **Stroke Victims Self Help**

Contact the West Island Volunteer Bureau

Phone Number: 514-457-5445

#### **Stroke Recovery Canada**

<http://www.strokerecoverycanada.com/srcEnglish/english/homeEnglish.asp> Heart and Stroke Foundation – Let’sTalk About Stroke – An Information Guide for Survivors and Their Families

## **SMOKING**

### **What is the impact of smoking on my health?**

Smoking is associated with an increased overall morbidity and mortality. It has many negative effects on your health increasing your risk of having a stroke. It has been shown that smoking contributes to the build-up of plaque in your arteries, increases the risk of blood clots, reduces the oxygen in your blood, and increases your blood pressure. This makes your heart work harder thus increasing your chances of developing a first stroke as well as a second one (for more information on smoking and your health visit the Heart & Stroke Foundation’s website). There is strong and convincing evidence that smoking is an independent risk factor for stroke regardless of age, sex, and ethnic group.

### **Why should I stop smoking?**

Smoking cessation is one of the most important lifestyle changes to prevent a future stroke. It reduces recurrence of another stroke by 50% as well as enhancing your sense of taste, smell, and improving your overall quality of life. Furthermore, your being free from addiction will provide a good example for generations to come!

### **I have been smoking for most of my life; will quitting now really have an impact?**

Regardless of how long you have smoked, quitting will have a positive impact on your health. Observational studies have shown that after only 5 years after quitting, your risk of stroke decreases substantially. Quitting is also associated with a reduction of stroke-related hospitalizations showing its importance in preventing a second stroke.

### **How can I find resources to help me quit?**

You can discuss your intention to quit with your family doctor, who will be able to provide you with some tips and direct you to resources to help you quit smoking. You are not alone in this process. Your state of mind is very important; just thinking about quitting will put you on the road of success. To stop smoking, try to adopt healthy behaviors such as maintaining a well balanced diet, an exercise regime, and stress management skills. You should also find and maximize your access to social



support (family, friends, smoking cessation group), and ask others not to smoke around you. Medication can also help you succeed (such as bupropion, nicotine replacement therapy – “patch”, etc).

NOTE: It is important to check with your physician before taking any of these. **Some tips to help you quit:** Think about quitting. List the reasons why you want to quit. Think about why you smoke. Choose a “quit smoking” date. Prepare a “quit smoking” plan. Accept setbacks and learn from them. Be positive. For more information on how to quit: <http://quitsmokingcommunity.org>  
<http://www.jarrete.qc.ca>

### **What is the impact of second hand smoke?**

In the presence of second hand smoke, non-smokers as well as smokers inhale thousands of harmful chemicals contributing to the development of different diseases. This smoke causes physical reactions related to heart and stroke disease after only 8 to 20 minutes of exposure. Second hand smoke should be avoided.

### **TAKING CONTROL OF YOUR HEALTH**

#### **What do I believe caused the stroke?**

By now you most likely have been told about the risk factors of stroke and have discussed with your doctor those that most pertain to you. However, you are the one who experienced the stroke, so you might have your own ideas regarding what caused it; whether it be linked to a recent stressful event (such as the death of a family member) or a past event. Your opinions are important and you should openly discuss your concerns with a healthcare professional and your family.

#### **How can I get control of the causes?**

Once you have identified and discussed the causes, address each of them individually and find ways to gain control so that you can be active in preventing recurrence. The strategies will be different for each cause. The goal is for you to make a plan and take control of your health.

*Information on this web site is provided for informational purposes only and is not a substitute for professional medical advice. If you have or suspect you have a medical problem, promptly contact your professional healthcare provider.*