

## AEROBIC EXERCISE - CHRONIC

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### What is aerobic exercise?

Aerobic exercise refers to physical activity that requires the body to use oxygen to generate energy. Participating in aerobic exercise is important to maintain a healthy body. A major benefit of aerobic exercise is that it conditions the heart and lungs. It does so by increasing the oxygen available to the body and enabling the heart to use oxygen more efficiently. In addition, aerobic exercise can also control body fat, increase energy, decrease tension, increase stamina, and improve mood. There are several different types of aerobic exercises that can be done at different levels of intensity for varying periods of time. Any activity that lasts longer than 3 minutes is considered aerobic (such as golf, biking, walking, and swimming). Note: While other forms of exercises (such as those focused on flexibility and muscles training) are equally important, only those focusing on aerobic exercise will be addressed in this module.



### Why is exercise important after I have had a stroke?

After a stroke, it is common to experience continued difficulties in mobility, for example in walking. It is important to continue to exercise despite these challenges to avoid a vicious cycle, where difficulty in mobility leads to lack of exercise, and lack of exercise leads to further muscle weakening and reduced fitness. Inactivity can contribute to physical complications, including osteoporosis and decreased circulation. It can also lead to loss of independence, depression, and social isolation. The more inactive you are, the harder it is to maintain cardiovascular, mental, and neurological health.

### Can exercise still be useful in the chronic phase?

While traditional belief was that most of an individual's physical recovery occurred within the first several months after having a stroke, recent research has shown that an exercise program after this period, including in the chronic phase, can be beneficial as well. Research studies have shown that exercise during the chronic phase post stroke can lead to an improvement of one's physical and mental well being, heart function, endurance, general quality of life, and movement. In addition,

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exercise can help to lower blood pressure, create a healthy balance of fats in the blood, help the body to maintain a healthy level of insulin, and minimize depression.

### How do I begin to exercise after a stroke?

Before beginning an exercise program, it is recommended that you undergo a comprehensive medical evaluation to assess your specific needs. Your medical or rehabilitation team can work with you to develop an appropriate exercise regime (including types of activities, how often you should participate in activities and for how long) based on your individual needs and abilities.

### What kind of activities should I do?

You should pick an activity that you will have fun doing. Examples of aerobic exercise activities include:

- Golf
- Walking
- Dancing
- Swimming
- Cycling
- Tennis
- Bowling



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Gardening and housework are also great forms of aerobic exercise. Try adding exercise to your daily routine, for example, parking your car further away from your destination. Any form of physical activity can be beneficial as long as it is done

regularly and consistently. When it comes to bicycling, many people find it difficult or are afraid to fall. This problem can be solved by using a stationary bicycle. Stationary bicycles are a safe and effective means of low-impact, or light, aerobic exercise, so they are a good choice for people who have had a stroke. They can also be altered to fit your individual needs.

**Can I participate in the same exercise as before?**

After a stroke, it may be difficult to resume the same activities that you enjoyed before. You may need to change your previous exercise regime, which may mean discovering new exercise activities that are perhaps less physically demanding. Things that you may need to modify are:

- The level of difficulty of exercise
- Length of time you exercise
- How often you exercise
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These will depend on your needs and abilities and should be assessed by a rehabilitation team. Certain equipment can also be used to facilitate exercising, such as handrails and assistive devices. For example, you may enjoy swimming but may need to find a pool that has special safety equipment and adaptations.



**Who can help me resume my exercise activities?**

While rehabilitation staff, such as occupational therapists, physiotherapists, social workers, recreation therapists, and psychologists will start you on your new exercise program, your family and friends are an excellent source of support to help you continue with success. Exercising with a friend or family member is motivating, encouraging, and of course more fun.



### How much exercise should I do?

According to the American Heart Association, the recommended frequency of training is 3 to 7 days a week, with a duration of 20 to 60 minutes per day, depending on the patient's level of fitness. *\*\* Once again, however, it is very important that you seek medical advice before beginning an exercise program and get advice on how often and for how long you should be doing the activities.*

### Where can I participate in exercise?

While in the hospital or rehabilitation centre, you will participate in exercise programs developed and assisted by your rehabilitation team. When you are ready to go home, the team may show you how to continue with this exercise on your own, may recommend that you join an exercise program, or a combination of the two. Day centers, local community centers, and gyms in your area may be able to provide appropriate programs and support that you need.

Here is a [link to an online Stroke Class](#).

### Is it effective after stroke?

Researchers have studied how aerobic exercise can help with stroke in the sub-acute phase and found the following:

- Aerobic Capacity: this is the highest amount of oxygen consumed during maximal exercise. Studies showed that aerobic exercise improved aerobic capacity.
- Heart rate: with aerobic exercise, heart rate did not increase in patients with chronic stroke. This is a positive outcome.
- Walking: in some studies, aerobic exercise was shown to improve walking distance and speed.
- Endurance: strong evidence has shown aerobic exercise improves endurance in people with sub-acute stroke.
- Depression: studies have shown that aerobic exercise can improve depressive symptoms in individuals with sub-acute stroke, but only in the short term.
- Quality of Life: performing aerobic exercise also seemed to improve the quality of life of people with sub-acute stroke.
- Balance: aerobic exercise was shown to improve some aspects of balance in people with sub-acute stroke.

**Are there any side effects or risks?**

While exercise is mostly risk-free, it is important to stay within your own personal threshold. As mentioned before, it is best to consult with your doctor or therapist before beginning an exercise program. They will assist you in determining how often you should exercise, what activities you should participate in, and how intense they should be. If you were physically active before the stroke, you may or may not be able to continue with the same activities. You may simply need to modify those activities so they are easier for you. **If you feel dizzy, have pain (especially in your chest) or have difficulty breathing, stop exercising immediately and tell your healthcare provider.**

*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.*