

EXERCISE & STROKE PREVENTION

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Global statistics show that stroke is the second-leading cause of death behind heart disease (2011 report). In Singapore, it is the fourth most significant cause of death and disability (2011 report). Women, elderly and those with medical conditions are said to be among those that are higher in risks of getting a stroke.

However, it has also been documented that more than 80% of reported cases are preventable. Maintaining a healthy lifestyle is the best prevention for stroke. Exercise is one independent variable that reduces both the non-modifiable and modifiable risk factors by reducing the effects of medication, improving medical conditions and enhancing our fitness.

Non-modifiable risk factors

Sex and ageing are two non-modifiable risk factors for stroke. Women are said to be about 30% more prompt to stroke than men due to the use of birth control pills and post-menopausal hormone therapy.

A study has found that those women who consistently exercise moderately for at least three years have lower risks factors for stroke. To be consistent, we need to exercise moderately for at least 150 minutes per week, or accumulated 30 minutes of exercise a day for at least five days a week. Although the study also shows that those engaged in higher intensity activity did not show any additional reduction in risks, the ability to engage in higher-intensity exercises (e.g. brisk walk versus jogging) or having higher levels of fitness does have its own health benefits.

A large scale prospective observational study involving 19,815 adults ages between 45 and 50 years old found that those participants with the highest level of cardiorespiratory fitness had a 37% lower risk of stroke after age 65. The key stroke risks factors the researchers considered are high blood pressure, Type 2 diabetes and irregular or rapid heart rate (atrial fibrillation). The takeaway from these studies is that the body needs to move frequently and consistently to maintain good health as we age.

Modifiable risk factors

Lifestyle and medical conditions are two modifiable risk factors for stroke. Lifestyle risk factors include poor diet, inactivity, tobacco use and smoking, and alcohol use. Medical conditions that increase the risk factors for stroke include Type 2 diabetes, hypertension, high cholesterol, overweight or obese, hardened arteries (atherosclerosis) and heart diseases.

Exercise has been shown to be a multi-beneficial supplement for health. It improves our eating behaviour, reduces the negative effects of sedentary behaviour, helps people to quit smoking, improves medical conditions, helps in weight loss, and prevents cardiovascular disease.

Exercise and eating behaviour

Surveys and researches have reported that exercise induces individuals to select a healthier diet. But, the main complaint about exercise is feeling hungry easily after exercise. Current reports linking exercise and appetite control produces varied results. Compensatory eating after exercise is said to produce adverse effect especially those trying to lose weight.

A number of researches have shown that exercise might suppress appetite and the effect increases as the workout intensity increases.



Some other researches argue that the suppression effect is only short-termed as hunger kicks in usually at the later part of the day. However, it shows that only certain people have increased appetite after exercise and they usually belong to the group that leads a more sedentary lifestyle and has a lower fitness level. The craving for food may be the feeling of needing to replenish the energy we have lost during exercise than actual hunger itself.

In all, it has been agreed that appetite regulation is a psychobiological process which is mediated by physiological factors. And the physiological factors are further moderated by exercise intensity and substrate availability (Glycogen stores) before, during and after workout. To reduce the effect of hunger after exercise, it is advisable to consume (including energy drinks and energy bars) about 30% of the total calories burned for the whole workout.

Exercise reduces the effect of too much sitting

Sitting has been described as the new smoking due to its health deterioration effect. A study has even reported that sitting all day reverses any health benefits of exercise. However, a large scale survey has shown that people who spend most of their time sitting down but exercise regularly are still able to offset the negative effects of sitting.

Exercise helps quit smoking

Review studies have reported that exercise decreases the urge for nicotine. It is believed that exercise acts similarly on the neurobiological pathways as nicotine in relieving nicotine withdrawal symptoms and the urge to smoke. The proposed biomarkers that influence cravings for nicotine are cortisol, heart rate variability, noradrenaline and adrenaline. Exercise has been documented to enhance the sensitivity of these physiological markers and the effect increases with increasing exercise intensity.

Exercise improves health and medical conditions

Exercise has long been proven to improve heart health, increase the effectiveness of insulin and sensitivity towards sugar, reduce weight and lower high blood pressure. Considerable amount of evidence has been accumulated on high intensity interval training for patients with chronic diseases such as heart and blood vessel diseases (cardiovascular diseases) and Type 2 diabetes. Improvement in functional capacity and blood sugar sensitivity has been demonstrated.

Exercise guidelines

The World Health Organization (WHO) advocates that adults aged 18 to 64 should do at least 150 minutes aerobic activity at moderate-intensity or 75 minutes of aerobic activity at vigorous-intensity throughout the week.

Add strength training and flexibility exercises to your regime for additional health benefits. To fight disease, do 300 minutes per week or 60 minutes daily for at least five days a week of moderate-intensity. Engage in once or twice a week of 30 minutes or two to three bouts of 10 minutes of high-intensity exercises for optimal effect.

Consistent participation in physical activity is the key to getting the benefits of exercise. Start with slow and shorter durations that are enjoyable and you will progress automatically. Exercise intensity differs individually depending on fitness and age. A vigorous activity to you can just be moderate activity to another person and an easy activity to an athlete. Vigorous activities can also be safe and enjoyable if it is programmed within individual's limits. Thus, it is advisable to consult your doctor and go for a fitness evaluation to understand your current level of fitness before embarking on your health journey.

