

Exercise & Fitness

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The Role of Exercise in the Prevention of Heart Disease

A recent article in the British Journal of Sports Medicine sheds some interesting light on the benefits of maintaining an active lifestyle from an early age.

There are several well recognized risk factors for heart disease. These include high blood pressure & cholesterol, being overweight, cigarette smoking, a family history of heart disease, and poor diet. A less well-known risk factor relates to the stiffness within the walls of the arteries throughout the body. The arteries are the blood vessels that deliver oxygenated blood from the heart to all the tissues of the body. A few recent studies have shown that increased arterial stiffness represents a risk that is independent of conventional risk factors. In a study by Yang et al (2012)* even a small increase in arterial stiffness was associated with a 15% to 50% increased risk of stroke.

The 'European Youth Heart Study' was commenced in 1997, and over the following seven years, close to 900 subjects were recruited. At the time of joining, the subjects were 15 years of age, and were recruited for long-term analysis. The current study reports on recent data from 277 of these subjects.

Measurements

Carotid artery stiffness was assessed using ultrasound. Physical activity was measured by a monitoring device worn continuously by subjects for one week or more.

Standard risk factor measures were also recorded. These included blood pressure, cholesterol, family history, smoking history, waist circumference, diet (specifically looking at volume of soft drinks & fruit & vegetables consumed), and the amount of time spent watching TV.

Results

It was found that in those with greater exposure to moderate or intense exercise, & also in those who increased their activity levels from adolescence to adulthood, there was a consistent association with decreased carotid stiffness, independent of the other risk factors. This was also associated with lower levels of metabolic heart disease risk in adulthood.

These results are in agreement with studies in young adults and the elderly that have shown moderate to intense exercise can decrease central & peripheral arterial stiffness.

Implications

These results have important implications for our ability to influence the long-term health of our blood vessels. In particular:

- It is common for our activity levels to reduce significantly as we go from adolescence to adulthood. We should work to maintain a routine of moderate to vigorous exercise throughout life.
- Over the past 2 decades, there has been a dramatic decline in the activity levels of our youth. As parents & carers we should promote regular activity, as well as a healthy diet & lifestyle in our children.
- As these findings are independent of other risk factors, the results suggest physical activity will be beneficial regardless of what other risk factors are present. Even if you are overweight, or have high blood pressure for instance, physical activity will still be beneficial.

Reference:

Ried-Larsen, M et al (2015). Moderate and vigorous physical activity from adolescence to adulthood and subclinical atherosclerosis in adulthood: prospective observations from the European Youth Heart Study, BJSM, 49, 1, 107-112.

*See main article for this reference.

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