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Short, intense exercise bursts can reduce heart risk to teens

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Adolescents who perform just eight to ten minutes of high-intensity

interval exercise three times a week could be significantly reducing their risk of developing heart conditions, new research has concluded.

Even apparently healthy teenagers showed significant improvements in markers which are indicators of cardiovascular health, according to research by the University of Exeter.

Currently, it is recommended that teenagers perform a minimum of 60 minutes of daily exercise to prevent future disease, however according to the Health Survey for England less than 30% of adolescent boys and 20% of adolescent girls achieve this amount. Furthermore, efforts to increase physical activity levels in this age group often fail. It's therefore important to consider how shorter durations of exercise can be optimised for future health.

The research team, led by Dr Alan Barker, has previously demonstrated that high-intensity interval exercise may provide superior health benefits and be more enjoyable than moderate-intensity exercise for teenagers. The team has now demonstrated that performing 8-10 minutes of high-intensity interval exercise three times per week can improve important markers of cardiovascular health, even in apparently healthy adolescents. It could mean teenagers could significantly reduce the risk to their health by exercising at a high-intensity for three blocks of half an hour each week, including rest time.

The team asked six girls and seven boys aged between 13 and 14, all from Sidmouth Community College, to carry out six high-intensity workouts over two weeks. They were asked to cycle in high-speed bursts of one minute, with a 75 second break in between. They started with eight bursts and built up to ten over the two weeks.

The results showed that the training improved both blood vessel function and the brain's ability to control the beating of the heart. Both of these

measures are considered to be important markers of cardiovascular disease, which is the leading cause of death in UK. Interestingly, these health improvements occurred despite no alteration to traditional markers of health, such as blood pressure and blood sugar.

Dr Alan Barker, at the University of Exeter, said: "We know that activity levels drop significantly as children reach adolescence, and so far attempts to increase this to an hour a day have proved fruitless. This study indicates that, providing the intensity is high, health benefits are achievable with just 8-10 minutes of exercise."

Dr Bert Bond, lead author on the study, added: "We may have more success in encouraging teenagers to dedicate a shorter time to improving their health by performing high-intensity exercise. This is an important finding, but more work is needed to inform existing physical activity guidelines for health. The next step is to confirm these results on more participants, especially groups who are at greater risk of future cardiovascular disease, and to address the impact of longer high-intensity interventions".

Sidmouth Community College student Aaron Bagwell, who took part in the study, said: "I think that short bursts of high intensity exercise are more rewarding and more fun as it feels more challenging. Taking part in the project was very informative and I gained so much from it. My knowledge of how the body works and the effects of exercise was really deepened."

Provided by University of Exeter