

Better a sprint than a marathon: Brief intense exercise better than endurance training for CVD

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Exercise is important for preventing cardiovascular disease, especially in children and adolescents, but is all exercise equally beneficial? New research published today in the *American Journal of Human Biology* reveals that high intensity exercise is more beneficial than traditional endurance training.

"[Cardiovascular disease](#) (CVD) is a leading cause of mortality throughout the world and its risk factors have their origins in childhood," said lead author Duncan Buchan from the University of the West of Scotland. "Our research examines the effects of brief, intense exercise when compared to traditional endurance exercise on the markers of CVD in young people."

Buchan's team recruited a group of volunteer school children, forty seven boys and ten girls, and randomly divided the group into moderate (MOD) and high intensity (HIT) exercise teams.

The two groups performed three weekly exercise sessions over 7 weeks. The HIT group's training consisted of a series of 20 meter sprints over 30 seconds. In contrast the MOD group ran steadily for a period of 20 minutes.

By the end of the study the MOD group had completed 420 minutes of exercise while the HIT group had trained for a shorter 63 minutes. The

estimated [energy expenditure](#) for the HIT intervention was 907.2 kcal in comparison to 4410 kcal for the MOD group.

The results revealed that both groups demonstrated improved CVD risk factors. However, the total exercise time over seven weeks was six times higher for the MOD group compared to the HIT group. Thus, significant improvements in CVD risk factors in the HIT group occurred in only 15% of the total exercise time.

These findings demonstrate that brief, [intense exercise](#) is a time efficient means for improving CVD risk factors in adolescents.

Although limited to relatively small samples, the findings demonstrate significant improvements in cardiorespiratory fitness, blood pressure, [body composition](#) and [insulin resistance](#) in healthy adolescent youth after a 7 week intervention of different exercise intensities.

"This is the first study to demonstrate the effects of a novel interval training programme on both traditional and novel CVD risk factors in adolescents," concluded Buchan. "Larger scale and extended interventions must be undertaken so that the long term impact and effects of intermittent training programmes on unfavourable metabolic profiles may be investigated further."

Provided by Wiley

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