

Sporadic play activity as beneficial to child health as continuous bouts of exercise, study suggests

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New research suggests for the first time that frequent bouts of sporadic activity could be just as beneficial to children's health as longer exercise sessions. A team from the University of Exeter measured the frequency, intensity and duration of bouts of physical activity in a group of children and analysed the results against a number of health indicators.

The results highlighted that the associations between children's activity and [health](#) were similar regardless of how the child accumulated the activity. In other words, a child who accumulated short bursts of moderate or vigorous exercise throughout the day was just as healthy as a child who did a similar amount of activity over longer sessions.

The researchers, from the University of Exeter's School of Sport and Health Sciences, believe their findings have positive implications, as children are more likely to engage in short bursts of activity than complete longer bouts of exercise.

Published in the *International Journal of Pediatric [Obesity](#)*, the study focused on 47 boys, aged between eight and ten, the majority of who were all in good health and within a healthy weight range. Using electronic devices called 'accelerometers' worn by the boys, the researchers recorded the frequency, intensity and duration of their activity over seven days. They then conducted a series of tests to measure health indicators, including waist circumference, aerobic fitness

and microvascular function (an early indicator of cardiovascular risk).

During a typical day, less than 15% of the boys achieved five bouts of moderate intensity activity lasting five minutes and very few managed to achieve one bout of vigorous intensity activity lasting five minutes. The findings suggest that schools, parents and policy-makers should focus their efforts on encouraging young children to move around as they do naturally.

Lead researcher Michelle Stone, a PhD student at the University of Exeter, said: "Our study suggests that physical activity is associated with health, irrespective of whether it is accumulated in short bursts or long bouts. Previous research has shown that children are more naturally inclined to engage in short bursts of running, jumping and playing with a ball, and do not tend to sustain bouts of exercise lasting five or more minutes. This is especially true for activities that are more vigorous in nature.

"If future research backs up our findings, we would do better to encourage young children to do what they do naturally, rather than trying to enforce long exercise sessions on them. This could be a useful way of improving enjoyment and sustainability of healthy physical activity levels in childhood. Since the frequency of activity bouts accumulated per day was more strongly associated with waist circumference and microvascular health than the intensity or the duration of activity bouts, simply encouraging children to break up sedentary time with bursts of activity may be a good starting point."

The research team now recommends further research to measure the impact of sporadic exercise on health over time. Such research will help to determine whether differences in the aspects of the activity pattern in young children are a cause or a consequence of better health. Measurement of children's activity patterns and aspects of health over a

number of years (i.e., tracking studies) will help determine whether relationships between the pattern of activity and health outcomes persist as children age. They also suggest a comparison between girls and boys to see whether aspects of the activity pattern which relate to health differ between genders. This further research could then be used to influence policy change to ensure that children are given the opportunity to be active in the most effective way for health benefits.

Professor Roger Eston, co-author and Head of the University of Exeter's School of Sport and Health Sciences, said: "The use of accelerometers permits much closer scrutiny of activity behaviour than has previously been allowed through other methods. The recording of habitual activity counts on an almost second-by-second basis provides researchers with the ability to capture the sporadic and brief bursts of activity which naturally occur in healthy young children.

"Whilst it is not possible to attribute cause and effect relationships from this study, this is the first time that such short bursts of naturally occurring habitual activity behaviour in young children have been associated with microvascular function. The findings from this study enrich our understanding of the potential links between naturally occurring sporadic [physical activity](#) and health in [children](#)."

Source: University of Exeter ([news](#) : [web](#))

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