

## 20 Minutes of Vigorous Daily Exercise Can Keep Teens' Doctors Away

— "Attainable" goal of physical activity linked to increased cardiorespiratory fitness

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Teens should exercise vigorously for at least 20 minutes per day to reap increased cardiorespiratory fitness (CRF), according to a cross-sectional study from the U.K.

The benefits of CRF plateaued after about 20 minutes of vigorous exercise ( $r^2=0.35$ ), with most adolescents reaching median CRF following about 14 minutes of vigorous exercise (range 12-17) daily, reported Alexander Jones, PhD, of the University of Oxford in England, and colleagues.

Moderate and light exercise were not correlated with CRF. Teens in the upper quartile of vigorous physical activity had 1.03 z-scores higher CRF compared with those in the lowest quartile (95% CI 0.75-1.30), they noted in *Pediatrics*.

The World Health Organization (WHO) recommends that young adults get moderate to vigorous exercise for about 1 hour per day, but this goal [wasn't met by 81% of adolescents](#) in a previous study. Jones and team noted that their results suggested that less intense exercise endorsed by the WHO is not linked to CRF in the same way as vigorous exercise.

In an [accompanying editorial](#), Michele LaBotz, MD, and Sarah Hoffman, DO, of Tufts University School of Medicine in Boston, wrote that the WHO's current guidance "may not be sufficient to improve CRF in adolescents."

"Shorter periods of higher intensity activity reduce the time burden for families but require education regarding the additional effort needed to achieve vigorous levels of activity," they added.

Jones and colleagues said their recommendation of 20 minutes per day may be more attainable for teens, [as well as adults](#).

"We provide grounds for clearer public health messaging on how to improve CRF in this population," they argued. "One possible reason [why many teens do not meet the WHO goal] is that this duration is quite long, requiring a daily time commitment that some may find difficult to maintain."

"A shorter target of 20 minutes might be easier to schedule daily and a focus on vigorous physical activity would simplify messages about the intensity of activity that is likely to improve CRF," they noted.

They warned, though, that more research is needed to examine the effect of a 20-minute exercise regimen on other aspects of cardiometabolic health. "Other health-related measures that we did not study may improve with lower intensities of physical activity," they explained.

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For this study, Jones and team assessed physical activity and CRF in 339 teens ages 13-14 (170 boys and 169 girls) from the Oxfordshire Sedentariness, Obesity, and Cardiometabolic Risk in Adolescents: A Trial of Exercise in Schools study from 2018 to 2020. They used wrist-worn accelerometers and 20-meter shuttle runs to calculate the effects of exercise on CRF. Moving average models were used to determine the relationships between residualized physical activity variables and CRF.


On average, girls exercised less often and had lower CRF versus boys. "However, we found no evidence that our models of the relationship between physical activity and CRF differed significantly according to sex, supporting the use of the combined model and unified recommendations for all," the authors wrote.

Because Jones and colleagues only collected data on children in the U.K., their study may not be generalizable to other populations. LaBotz and Hoffman also noted that there are benefits to exercise other than CRF.

"It is important to consider that other benefits associated with physical activity may accrue at different rates, and that accumulating 60 minutes of daily moderate-to-vigorous physical activity may have benefits beyond that of improving CRF," they explained.

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### Disclosures

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### Primary Source

*Pediatrics*

[Source Reference](#): *Burden SJ, et al "Intensity and duration of physical activity and cardiorespiratory fitness" Pediatrics 2022; DOI: 10.1542/peds.2021-056003.*

### Secondary Source

*Pediatrics*

[Source Reference](#): *LaBotz M, Hoffman S "Physical activity counseling: new options and a lighter burden" Pediatrics 2022; DOI: 10.1542/peds.2022-057026.*

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