

Study describes 'ticking time bomb' of rising childhood blood pressure

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One-in-20 11-year-olds now have the same blood pressure as an adult, a pioneering study has shown. Researchers have labeled this a "ticking time bomb" and say more exercise in school is needed to fight soaring

childhood blood pressure. If untreated in children, it continues into adulthood, potentially leading to heart disease, strokes and vascular dementia.

The University of Essex research tracked British students across their secondary school years, from Year 7 to Year 11. The School of Sport, Rehabilitation and Exercise Sciences study found more than 30% of boys and girls were overweight or obese.

With 15% of boys and 19% of girls suffering from [high blood pressure](#), known as hypertension—with roughly 22% of boys and girls recorded as pre-hypertensive. It also revealed 4% of students had a blood pressure reading of 120/80 when in Year 7—this is normal for adults but is worryingly high for children.

Dr. Henry Chung said, "The key statistics highlight the current issues children are facing, and the detriments of carrying this into adulthood. These figures are ultimately projected to worsen as the pandemic of inactive grows.

"It is clear to tackle this more [physical activity](#) needs to be promoted, especially at a young age, because if left unchecked, this is nothing less than a ticking time bomb."

Those who exercised least and had larger waists were likely to have high blood pressure that increased as they aged. With the smallest increase recorded by children who consistently exercised or increased their activity levels.

An estimated 27% of all UK deaths are caused by heart and [circulatory disease](#)—with twice as many people living with heart and circulatory diseases in the UK than with cancer and Alzheimer's combined.

The researchers hope this study will help influence [public policy](#) and reinforce the importance of adolescent exercise.

Professor Gavin Sandercock said, "Heart disease is an affliction of adulthood, but the causes can be tracked from childhood and adolescence. This is even further evidence that we need to promote active healthy lifestyles in schoolchildren to ensure the future health of the next generation of adults."

The study—[published](#) in *Pediatric Research*—followed more than 1500 youngsters attending [secondary schools](#) in the East of England.

The research showed that blood pressure increases naturally as children age—but less active, fatter children saw a greater increase. The researchers discovered the biggest influence on blood pressure increases was due to the change in the studied [children](#)'s waist circumference.

Year 7 students with already high waist circumference who continue to gain weight were the most likely to have the highest blood pressure in Year 11. Even a slight increase in exercise can help reduce high blood pressure and routines built in childhood often continue into adulthood.

More information: Sally P. Waterworth et al, Four-year longitudinal associations of physical activity, waist circumference, and blood pressure in UK adolescents, *Pediatric Research* (2023). [DOI: 10.1038/s41390-023-02837-2](#)

Provided by University of Essex

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