

# Being taller throughout life may protect against heart disease and stroke

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Being taller during the course of a person's lifetime could protect against heart disease and stroke in later life, according to a new University of Bristol-led study. [The research](#), which analyzed height and genetic data

on over 454,000 individuals, is published on the pre-print server *medRxiv*.

Previous studies have suggested that being taller may protect against [heart disease](#), but whether this is a direct effect of height during childhood, a long-term effect of remaining tall into adulthood, or other factors, was unknown until now.

Researchers from Bristol Medical School used a scientific technique called mendelian randomization which allows scientists to separate the impact of childhood and adult height on cardiovascular health. Pioneered at Bristol, the approach uses genetic predictors as proxy measures to support stronger conclusions about possible causal relationships between an exposure (childhood and adult height) and risk of a disease (cardiovascular disease).

Using data from the UK Biobank study, the team identified genetic variants associated with childhood and adult height from 454,023 individuals, and the genetic markers associated with five types of cardiovascular disease. These included stroke, coronary artery disease, peripheral artery disease, irregular heartbeat ([atrial fibrillation](#)), and thoracic aortic aneurysm.

From their analyses, results showed that individuals who are taller in [early life](#) typically have lower risk of [coronary artery disease](#). However, novel evidence from this work indicates that this is likely attributed to individuals remaining taller throughout the [life course](#)—as taller children on average grow to be taller adults—and that it is adulthood height which is largely responsible for this protective effect.

In contrast, results from this study suggest that being taller in childhood may also increase later life risk of other cardiovascular disease outcomes such as thoracic aortic aneurysm and irregular heartbeat (atrial

fibrillation), irrespective of adulthood height.

Dr. Tom Richardson, an Honorary Research Fellow at Bristol's MRC Integrative Epidemiology Unit and Bristol Medical School's Population Health Sciences, and the study's lead author, said, "Our findings suggest that being taller in childhood may have a long-term influence on increased risk of thoracic aortic aneurysm and atrial fibrillation in later life. These results highlight a potential developmental mechanism linking childhood height and risk of these diseases which warrants further investigation by future research."

**More information:** Tom G Richardson et al, Effects of childhood and adult height on later life cardiovascular disease risk estimated through Mendelian randomization, *medRxiv* (2023). [DOI: 10.1101/2023.10.12.23296922](https://doi.org/10.1101/2023.10.12.23296922)

Provided by University of Bristol

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