

DNA changes accelerate body's aging process

September 2 2019



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DNA changes throughout a person's life can significantly increase their susceptibility to heart conditions and other age-related diseases, research suggests.

Such alterations—known as somatic [mutations](#)—can impact the way blood stem cells work and are associated with blood cancers and other conditions.

A study says that these somatic mutations and the associated diseases they cause may accelerate a person's biological age—how old their body

appears—faster than their chronological age—the number of years they have been alive.

Birth cohorts

A study by scientists from the Universities of Edinburgh and Glasgow examined these changes and their potential effects in more than 1000 older people from the Lothian Birth Cohorts (LBCs), born in 1921 and 1936.

The LBCs are a group of people—now in their 80s and 90s—who sat [intelligence tests](#) as 11-year olds. They are some of the most-intensively studied research participants in the world.

Age gap

Scientists studied people where the biological and chronological age was separated by a large gap.

They found the participants with somatic mutations—around six percent—had a biological age almost four years older than those with no alterations.

Experts say they will now explore the link between these DNA changes and biological aging acceleration.

The study, published in *Current Biology*, was funded by Alzheimer's Research UK.

Previously, [somatic mutations](#) have largely been studied in cancer. Our findings suggest they play a role in other diseases, which will change the way we study disease risk, Dr. Tamir Chandra, group leader at the

University of Edinburgh's MRC Human Genetics Unit

More information: Neil A. Robertson et al. Age-related clonal haemopoiesis is associated with increased epigenetic age, *Current Biology* (2019). [DOI: 10.1016/j.cub.2019.07.011](https://doi.org/10.1016/j.cub.2019.07.011)

Provided by University of Edinburgh

Citation: DNA changes accelerate body's aging process (2019, September 2) retrieved 7 May 2024 from <https://medicalxpress.com/news/2019-09-dna-body-aging.html>

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