

Blood pressure changes are age-related

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The main causes of increases in blood pressure over a lifetime are modifiable and could be targeted to help prevent cardiovascular disease: although high blood pressure sometimes has no obvious symptoms, this condition, which affects about a third of the adult UK and US populations, can lead to life-threatening heart attacks and stroke, so reducing blood pressure is very important for health.

As reported in this week's [PLoS Medicine](#), a team of researchers, led by Andrew Wills from the Medical Research Council Unit for Lifelong Health and Ageing, University College London, used data from several UK studies in which [blood pressure](#) measurements in individuals were repeatedly taken over time and found that blood pressure changed at four phases throughout life: a rapid increase during adolescent growth; a gentler increase in [early adulthood](#); a midlife acceleration (usually in the 40s); and finally for a period during late adulthood in which blood pressure increases slowly and then reverses.

The authors analysed the blood pressure measurements from a total of 30,372 individuals aged between 7 to 80 years and investigated the differences between the measurements in the studies done in the general population and in an occupational group.

Compared to the general population, the occupational group had lower average blood pressure, and midlife blood pressure acceleration appeared to begin later. Wider evidence suggests that this might in part reflect modifiable blood pressure-related factors such as diet and lifestyle that can vary with differences in social and economic

circumstances. Furthermore, although at the beginning of adulthood women had [lower blood pressure](#) than men, an increased midlife acceleration (perhaps due to menopause-related effects on salt sensitivity) meant that later in life, men and women had similar average blood pressures. The findings also support the wide body of evidence that show a strong link between [body mass index](#) and blood pressure throughout life.

The authors say: "Whilst our study is unable to identify the key determinants of age-related increases in [blood pressure], further research should try to understand which factors affect this trajectory and when in the life course such factors exhibit most influence."

More information: Wills AK, Lawlor DA, Matthews FE, Aihie Sayer A, Bakra E, et al. (2011) Life Course Trajectories of Systolic Blood Pressure Using Longitudinal Data from Eight UK Cohorts. PLoS Med 8(6): e1000440. [doi:10.1371/journal.pmed.1000440](https://doi.org/10.1371/journal.pmed.1000440)

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