

# Rapid rise in blood pressure before midlife may cause irreversible heart damage

March 26 2012

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The current "watch-and-wait" approach to high blood pressure readings in younger people may set patients on a course for irreversible heart damage, according to research presented today at the American College of Cardiology's 61st Annual Scientific Session. The Scientific Session, the premier cardiovascular medical meeting, brings cardiovascular professionals together to further advances in the field.

The study tracked [cardiac health](#) indicators over the course of a lifetime to predict future outcomes and found that a sharp rise in blood pressure in midlife, not just crossing a certain threshold, can increase a person's risk of heart disease later in life. Furthermore, the study showed blood pressure medications do not fully reverse damage to the heart from high blood pressure, even if drugs are successful in returning blood pressure to normal levels. The findings suggest that early detection and treatment of rapidly rising blood pressure in midlife may be required to prevent long-term damage to the heart.

"Just being on [blood pressure medication](#) will not completely get your heart back to where it was before you started having high blood pressure," said Arjun K. Ghosh, MBBS, MRCP (U.K.), clinical research fellow at the International Centre for Circulatory Health of Britain's National Heart and Lung Institute, Imperial College London and clinical career development fellow at the U.K. Medical Research Council's Unit for Lifelong Health and Ageing on behalf of the study team.

Based on the study findings, Dr. Ghosh said a borderline or pre-

hypertensive blood pressure reading (a systolic pressure of 120 to 139 mm Hg or a diastolic pressure from 80 to 89 mm Hg) – even in your 30s – should warrant more frequent monitoring so doctors can assess the rate of change in blood pressure. Current guidelines are based on a single, one-off measure of blood pressure and doctors rarely prescribe blood pressure-lowering medications for people in their 30s, as the risk of them having a cardiovascular event in the next 10 years is low.

"If people have a rapid rise in blood pressure, early treatment should be considered, because we know from this study that, 30 years down the line, they're going to have more [heart damage](#) than somebody with a slower rise in blood pressure," Dr. Ghosh said. "We're potentially talking about a completely new way of assessing and treating blood pressure in younger people."

The results revealed people who experienced a relatively rapid increase in blood pressure during midlife typically had a larger left ventricle – an independent risk factor for heart disease and other health problems – than those whose blood pressure edged up more slowly or later in life. Those taking medication to manage [high blood pressure](#) had a larger left ventricle than those with the same blood pressure who had never taken medication, suggesting that treatment in later life did not reverse the consequences of a rapid rise in blood pressure in earlier years.

Doctors are currently more likely to recommend blood pressure medications for older people who have a higher overall cardiovascular risk, thanks in part to their age, and few monitor patients' blood pressure frequently enough to track the rate of increase. However, said Dr. Ghosh, "that approach may be fundamentally incorrect, because you're not taking into account your previous life-course blood pressure. You need to watch more closely, and you need to identify if there is a rapid rise in blood pressure."

The findings resulted from a study of 1,653 men and women born in Britain in one week in March 1946. Now entering its 66th year, the study represents the longest-running birth cohort in the U.K. and is also one of the longest-running in the world. Participants were screened for [blood pressure](#) and other health indicators at ages 36, 43 and 53. From age 60-64, participants underwent echocardiography imaging to allow researchers to assess their [heart](#) health.

Provided by American College of Cardiology

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