Difference in Blood Pressure Between Arms May Up the Risk of Mortality

A difference of more than 10 mmHg in blood pressure readings between arms is linked to increased risk for heart attack, stroke and death.

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A difference in blood pressure (BP) readings between a person's right and left arm has been linked to poorer health outcomes. Now, a new study published in the journal Hypertension suggests that the greater the difference in BP readings between arms, the more likely someone is to experience certain cardiovascular illnesses and death, reports the University of Exeter.

For the investigation, researchers merged data from 24 global studies to examine interarm (between arms) blood pressure variances and track the number of deaths, heart attacks and strokes that occurred in nearly 54,000 people over 10 years.

Findings revealed that cardiovascular risk was greater among those who exhibited a larger difference in blood pressure readings between their right and left arm. In addition, BP readings showed that each millimeter of mercury (mmHg) difference noted between the two arms elevated by 1% the chance that heart attack, stroke or new angina (chest pain caused by reduced blood flow to the heart) would occur in 10 years.

According to Victor Aboyans, MD, PhD, head of the department of cardiology at the Dupuytren University Hospital in Limoges, France, and a coauthor of the inquiry, this is why scientists regard an interarm difference of 10 mmHG as the upper limit of normal for systolic (the top number) interarm blood pressure. He also suggested the information be included in future guidelines and clinical practice assessing cardiovascular risk. (In Europe, guidelines recognize a systolic difference of 15 mmHg or more as indicative of cardiovascular risk.)

These recommendations mean that doctors would consider far more people for BP treatment if such measurement differences between both arms were observed, decreasing patients' risk for heart attack, stroke and death.

"Checking one arm then the other with a routinely used blood pressure monitor is cheap and can be carried out in any health care setting, without the need for additional or expensive equipment," said Chris Clark, MD, PhD, a general practitioner at the University of Exeter Medical School and the study's lead author.

Despite international guidelines that advise BP be measured this way, Clark noted that many providers don't adhere to the protocol due to time constraints. "Our research shows that the little extra time it takes to measure both arms could ultimately save lives," he said.

For related coverage, read "High Blood Pressure Can Accelerate Cognitive Decline No Matter the Age of Onset" and "Despite Higher Stroke Risk, Many Young Black People Don't Perceive the Danger."
