

Systolic and diastolic blood pressures together more useful for predicting cardiovascular risk

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Individuals with diastolic blood pressure under 70 mm Hg coupled with an elevated systolic blood pressure may have a greater risk of heart attack and stroke than indicated by the systolic blood pressure values alone, according to a UC Irvine study.

Dr. Stanley Franklin and colleagues at the UC Irvine Heart Disease Prevention Program in conjunction with researchers at the Framingham Heart Study reviewed blood pressure data from 9,657 participants in the Framingham Heart Study who had not received antihypertensive treatment and found that the combination of low diastolic and high systolic numbers to be a superior predictor of future adverse cardiovascular events.

"Systolic blood pressure as a single blood pressure component is usually superior to diastolic blood pressure in predicting cardiovascular risk in middle-aged and older individuals," Franklin said. "But a very high or very low diastolic blood pressure can add to the risks identified by systolic blood pressure alone."

Currently, physicians diagnose hypertension with systolic and diastolic readings of 140/90 and above. This study suggests that doctors should give even greater consideration to systolic blood pressure when the diastolic blood pressure is low.

Franklin said, however, that a diastolic number under 70 mm Hg when combined with a systolic blood pressure less than 120 mm Hg indicates normal values with no increased cardiovascular risk; the low diastolic blood pressure must be coupled with an elevated systolic reading to indicate increased risk. This combination of blood pressure components is an indicator of increased stiffening of arteries, which is a strong risk factor for future heart attacks and strokes.

Study results appear in *Circulation*, a journal of the American Heart Association.

Source: University of California - Irvine

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