

Arm Position Matters In Blood Pressure Readings According To UCSD Medical Researchers

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Blood pressure readings taken on arms parallel, or extended in the same direction as the body, are up to 10 percent higher than readings taken when the elbow is at a right angle to the body with elbow flexed at heart level, according to a study published as a letter in the Jan. 6, 2004 issue of the *Annals of Internal Medicine*.

The study's investigators from the University of California, San Diego (UCSD) School of Medicine and the Medical College of Wisconsin noted that because blood pressure values determine treatment options, a designated and consistent arm position should be adhered to when measuring blood pressure.

The researchers added that a previously published study found that 73 percent of health care workers failed to use proper arm positions (with slightly flexed elbow and held at heart level) and blood pressure cuff positions, as defined by the American Heart Association.

David Guss, M.D., UCSD Director of Emergency Room Services and a professor of medicine, oversaw the study that was conducted by two medical students, Thomas J. Hemingway, M.D., currently with UCSD, and Diego Abdelnur, Medical College of Wisconsin.

The investigators measured blood pressure in 100 emergency room patients, ages 18-88, who were seen for a chief symptom unlikely to be associated with cardiovascular instability. The patients' blood pressure was measured six times - in perpendicular (right angle, flexed at elbow) and parallel arm positions while laying, sitting and standing. The proportion of seated patients classified with hypertension (high blood pressure) was 22 percent with the arm perpendicular and 41 percent with the arm parallel to the body.

"In every body position, the systolic and diastolic blood pressure measured with the arm perpendicular to the body was significantly lower than with the arm in a parallel position," the authors said.

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