

# Smarter measure of blood pressure to cut heart risk



Dean hopes his finding will lead to better measures of blood pressure. Credit: Peter Mathew

New blood pressure categories are helping to inform the development of more accurate measurement devices, following a discovery by Tasmanian researchers.

Blood pressure subtleties are being missed by the current cuff measure, according to a recent study led by Dean Picone of the Menzies Institute for Medical Research at the University of Tasmania.

“Current blood pressure measurements are still critical for managing heart disease. But these cuff devices measure it in essentially the same way as 100 years ago,” Dean says. “These methods are quite crude and may be inaccurate in some people.”

Heart disease is responsible for one in three deaths worldwide, and the leading risk factor is high blood pressure.

In patients undergoing an invasive procedure to detect blockages to heart arteries, Dean's team compared two different measurement techniques: measuring internal blood pressure inside several different blood vessels, and using the standard, non-invasive cuff used in everyday practice.

"When measuring blood pressure internally, we discovered four categories, or 'phenotypes' with distinct differences in the features of their pressure waves," Dean says. "Critically, these differences were undetected by standard blood pressure cuffs. We tested several different brands of cuff devices, but none could detect these categories—so we're now looking at how to make this possible."

Dean is now working with a cuff device manufacturer to translate the findings and improve the accuracy of cuff blood pressure measurement.

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New model suggests cuffless, non-invasive blood pressure monitoring possible using pulse waves

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