

Pen on the pulse: A better way to measure blood pressure

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Innovative pulse-reading technology is at the centre of UQ's blood pressure study to reduce cardiovascular disease.

(Medical Xpress)—In a world-first study, researchers from The University of Queensland are using innovative pulse-reading technology to measure blood pressure to reduce cardiovascular disease.

Principal investigator, Associate Professor Jim Sharman and Professor Michael Stowasser from the UQ School of Medicine said the findings would provide a new and refined target for [blood pressure](#) control to lower cardiovascular disease risk.

Associate Professor Sharman said [hypertension](#) was one of the major risk factors for cardiovascular disease, which was the cause of more deaths every year than any other disease.

"Maintaining good [blood pressure control](#) is seen as a key process in appropriate management of [cardiovascular disease](#) risk," Associate Professor Sharman said.

"Preliminary studies have indicated that the standard inflated arm cuff, a crude method that is over 100-years-old, may not necessarily be the best way to measure blood pressure on those who have hypertension.

"In recent years, non-[invasive techniques](#) have been developed to give a more accurate estimate of blood pressure that the organs are exposed to, and central blood pressure."

"The new method measures central blood pressure from the arterial pulse at the wrist using a pen-like device that has a pressure transducer at the tip, this is placed lightly on the pulse at the wrist and a [mathematical formula](#) is then used to synthesise central blood pressure.

"The method is quick, reliable and provides important information on blood pressure that is above and beyond that using the old upper arm cuff method."

In February this year the researchers made a major breakthrough by proving for the first time that targeted central blood pressure lowering is possible using a routine low-dose of a medication that is cheap, readily available and has a well-documented safety profile.

"This is a big reason why we got funding from the National Health and Medical Research Council to do this study," Associate Professor Sharman said.

"We expect that evidence from this new trial will ultimately lead to a paradigm shift in the approach to treating patients with hypertension.

"That is, central blood pressure will be considered a more important therapeutic target than conventional blood pressure measured at the upper arm."

This new and refined method may be used in general medicine to help lower [cardiovascular disease risk](#) among a very broad group of people who have hypertension.

Male and females aged between 18 and 70 years who have been diagnosed with hypertension and are taking at least one but no more than three medications for hypertension are invited to participate.

The study is over 24 months where participants will be asked to visit the Princess Alexandra Hospital every three months for the first six months then every six months for the next 18 months.

Provided by University of Queensland

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