

Researchers develop new method for measuring blood pressure

22 August 2017 | News

The research team has developed a device using a technique called photoplethysmography, that uses a pressure cuff wrapped around the arm and an electro-optic probe on the finger.



Automatic blood pressure devices are prone to significant errors, sometimes leading to the prescription of blood pressure-lowering medications to patients who don't actually need them.

Now, researchers have developed a method to more accurately measure systolic blood pressure. Based at the Jerusalem College of Technology and the Shaare Zedek Medical Center in Israel, the research team has developed a device using a technique called photoplethysmography, that uses a pressure cuff wrapped around the arm and an electro-optic probe on the finger.

The finger probe is similar to that of pulse oximeter: it includes a light-source emitting light into the finger and a detector, which measures the light transmitted through the finger. The transmitted light exhibits pulse at the heart rate, due to cardiac-induced blood volume changes in the finger tissue.

When the cuff pressure increases to above systolic blood pressure these pulses disappear, and when the cuff pressure decreases to below systolic blood pressure they reappear. This effect enables the determination of systolic blood pressure.