SUBCUTANEOUS AND CONTINUOUS BLOOD PRESSURE MONITORING BY PMUTS

Tech ID: 32508 / UC Case 2022-019-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

Hypertension is a major precursor to cardiovascular disease and death. Current blood pressure ("BP") monitoring systems based on cuff devices are cumbersome without the capability of continuously observing the BP. It is estimated that 45% of all strokes are attributed to uncontrolled hypertension and adequate control of BP carries the highest benefit in reducing stroke burden. The average cost of a stroke hospitalization in the US is $21,000 and the ongoing 5-year costs post stroke is upwards of another $30,000. However, despite the great importance of BP monitoring and considerable medical cost spent in hypertension and related disease, there has not yet been a reliable system for monitoring BP continuously and comfortably.

UC Berkeley researchers have developed a subcutaneous continuous BP monitor system and devices based on PMUTs for the first time, which is promising to provide remote, silent and continuous monitoring solutions for the BP management.

SUGGESTED USES

subcutaneous, continuous blood pressure monitor that can continuously measure BP day and night

ADVANTAGES

» Prevent costly adverse events through earlier identification and notification of elevated BP and subsequent intervention to lower BP

» Automatic and seamless electronic monitoring of BP in addition to physician defined thresholds for notification to allow intervention and patient-specific motivational strategies to encourage adherence

» Earlier awareness of BP control status and subsequent earlier intervention.

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- PMUT for Blood Pressure Monitoring
- Reconfigurable Soft Li-Ion Battery
- Fabrication of enhanced supercapacitors using atomic layer deposition of metal oxide on nanostructures

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OTHER INFORMATION

KEYWORDS

Blood, healthcare, stroke, heart attack

CATEGORIZED AS

» **Medical**

» Devices

» Diagnostics

» Disease: Cardiovascular and Circulatory System

» **Sensors & Instrumentation**

» Other

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