# TIN INTERNET MEDIC 5

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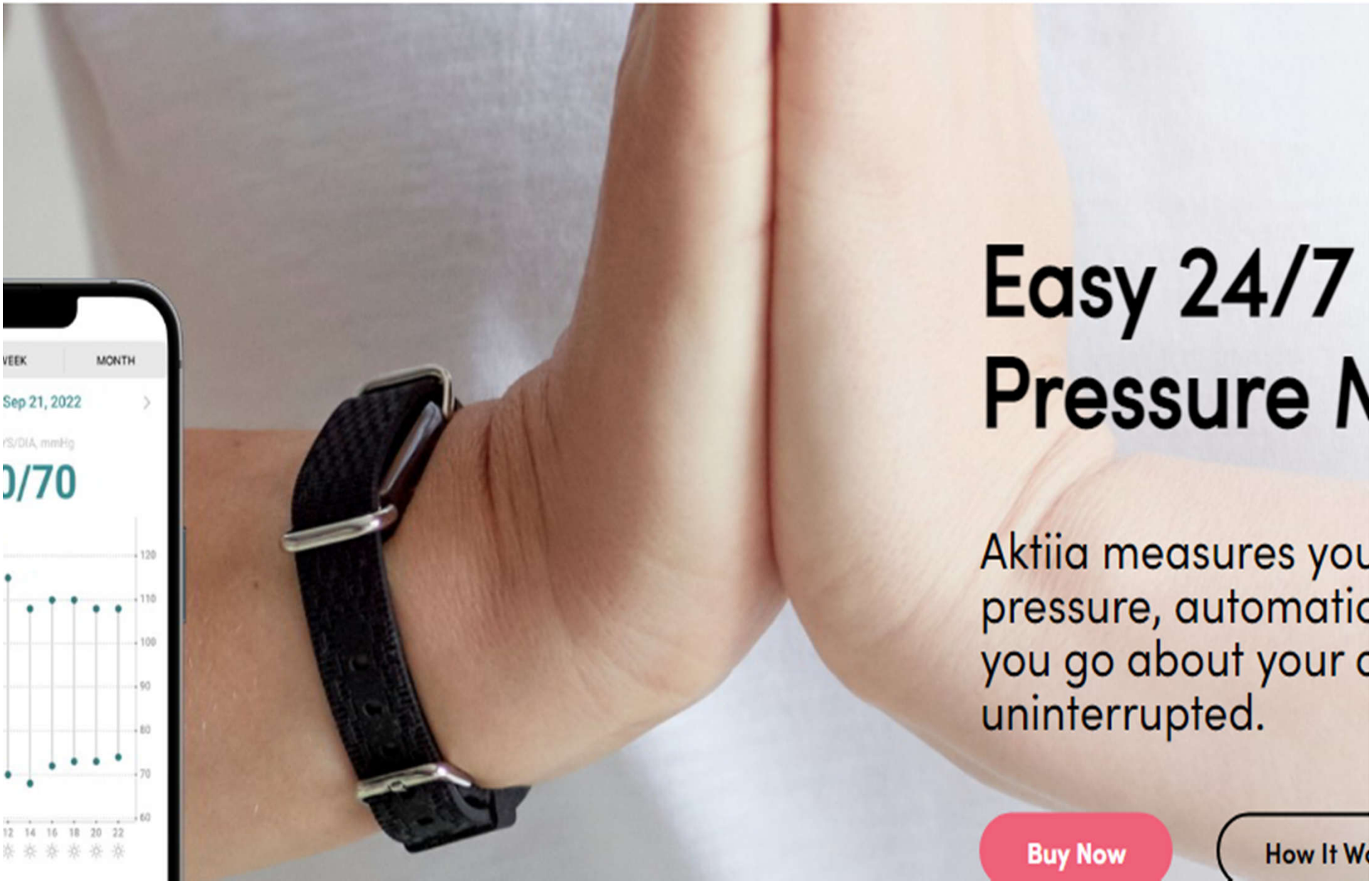
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Cardiac Rhythm News

# Results of cuffless blood pressure monitor presented at AHA Hypertension Sessions

9th September 2022 1408



**Results of an analysis of Aktiia's cuffless blood pressure (BP) monitoring system are being presented at the American Heart Association (AHA) Hypertension Scientific Sessions 2022 (7–10 September, San Diego, USA).**

The analysis has been co-authored by experts from Barts NIHR Biomedical Research Centre (London, UK), Scripps Translational Research Institute (La Jolla, USA), Lausanne University Hospital (Lausanne, Switzerland), Brigham and Women's Hospital (Boston,

Aktiia's optical continual BP monitor has been available for purchase in seven European countries since March 2021. By design and purpose, Aktiia's passive and continual collection of BP data has quickly compiled over 55,000,000 data points in real-world conditions, establishing the largest dataset of BP readings in the world which uniquely enables Aktiia and its partners to unlock new insights into hypertension, the company said in a press release.

The objective of Aktiia's recent investigation was to explore whether a change in behaviour resulting in measurably lower BP would be demonstrated in hypertensive subjects who were consistently exposed to their BP data via Aktiia's integrated mobile app.

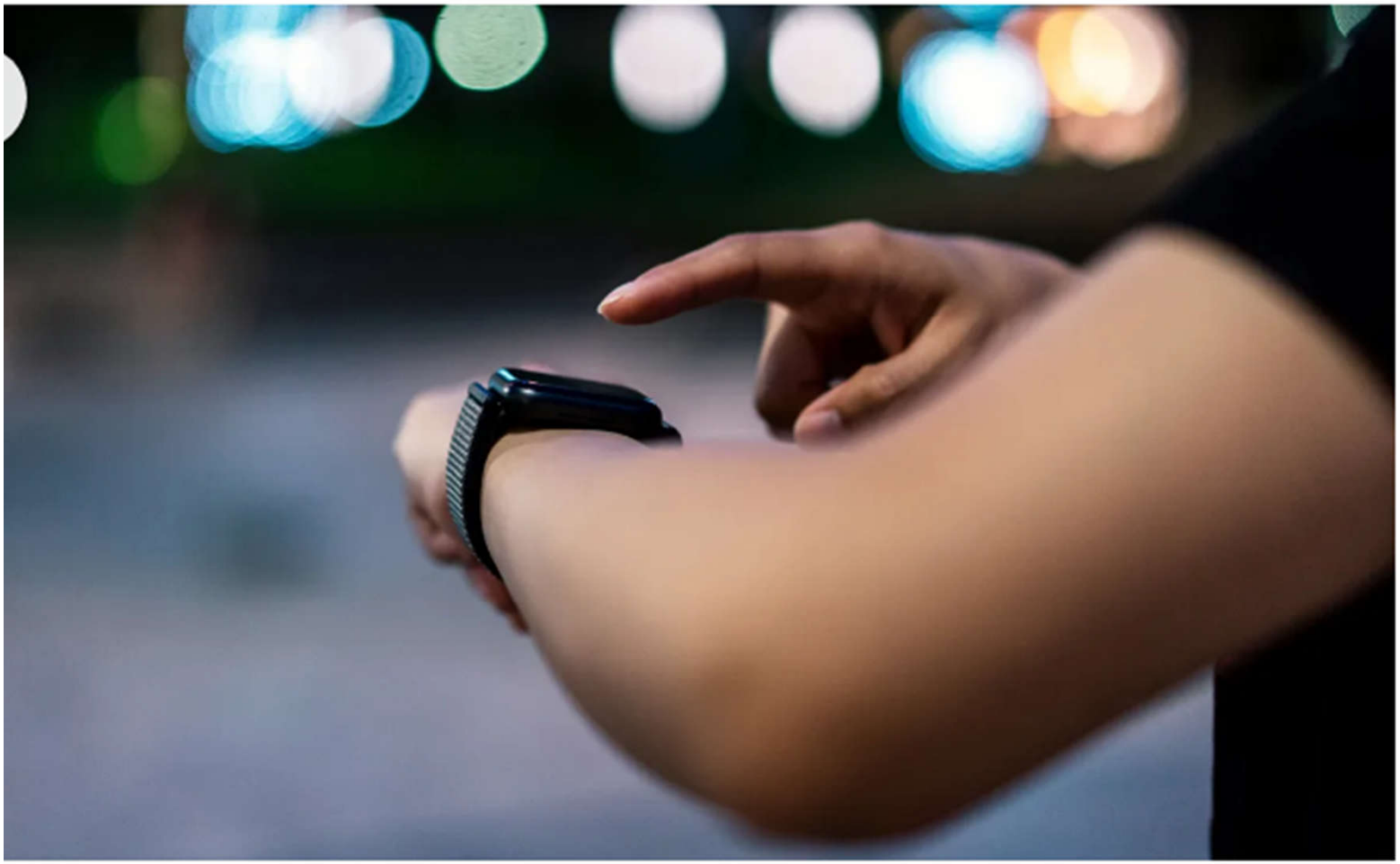
The analysis concluded that mean SBP was reduced in -3.2 mmHg (confidence interval: [-0.70, -5.59], $p<0.02$) for hypertensive users (SBP > 140 mmHg) following 3 months of continual cuffless BP monitoring (Figure 2). This reduction was then sustained throughout the 6 months studied. Mean SBP remained unchanged for normotensive users (SBP < 140 mmHg).

The powerful relationship between BP reduction and reduction of cardiovascular events is undisputed, irrespective of the mechanism for the reduction, the company's press release adds, noting that even a 5mmHg reduction in systolic BP reduces cardiovascular risk by 10%.

"These data highlight just the beginning of the tremendous value of Aktiia's dataset across the hypertension care continuum," the company states.

# ple Watch Successfully Detected art Failure with New App

healthlin



- **A new study indicates that an Apple Watch app may be useful in detecting left-ventricular dysfunction.**
- **Left-ventricular dysfunction is a condition where the heart cannot pump properly.**
- **The app used in the study performed similarly to a traditional 12-lead electrocardiogram.**
- **Experts say this may enable patients to detect and monitor heart failure without an office visit.**

A Mayo Clinic study presented on May 1, 2022 at the Heart Rhythm 2022 conference in San Francisco, California, found that a new Apple Watch app using artificial intelligence (AI) to analyze data from the watch may be useful in detecting left-ventricular dysfunction.

Left-ventricular dysfunction is a type of heart failure in which one of the chambers of the heart, the left ventricle, becomes weakened, leaving the heart unable to adequately pump blood throughout the body.

It may be caused by chronic or badly-controlled high blood pressure or by damage to the heart muscle due to coronary artery blockage.

Participation was quite high, according to the study authors. During the year of the study, people sent in 125,610 ECGs and 92 percent of them used the app multiple times.

The app detected at least one sinus rhythm (normal heart rhythm) in 421 patients within 30 c of an echocardiogram.

Sixteen people had an ejection fraction less than or equal to 40 percent, meaning that their heart was not pumping well enough.

Thirteen of these 16 were identified using the watch's AI ECG.

According to Dr. Annabelle Santos Volgman, Professor of Medicine and Senior Attending Physician at Rush Medical College and Rush University Medical Center, the researchers fou that the Apple Watch is just as good as a 12-lead ECG that your doctor might do in in his offi

"For detecting atrial fibrillation, it's very good," she said, adding, "but it is not good for detec other problems like heart attacks or heart muscle thickening."

Dr. Wesley Milks, a cardiologist and Clinical Assistant Professor of Internal Medicine at The Ohio State University Wexner Medical Center, further explained, "A standard diagnostic EC done in the hospital or clinic is a 12-lead ECG, which is much more detailed in terms of what

# pple Watch ECG performs similarly to 12-ead ECG

yo Clinic patients who had an Apple Watch and were willing to download the Mayo Clinic app were invited to take part in the study.

e Apple Watch was used for the study because its Series 4, 5, 6, and 7 watches have a sor which is capable of detecting the electrical impulses indicative of the heart beat and its thm.

s data can be used to determine the presence of atrial fibrillation (irregular heart rhythm).

ogether, 2,454 people from 46 states and 11 countries participated. The average age of dy participants was 53 years and 56 percent of them were female.

e app sent all previously-collected electrocardiograms (ECGs) to the clinic for review.

Gs obtained within one month of a clinically-ordered echocardiogram were analyzed by AI an ejection fraction (a measure of the ventricle's output) less than or equal to 40 percent ng a model developed specifically for single-lead ECGs.

Fitness

# A 2-Minute Walk After Meals Helps Lower Type 2 Diabetes Risk, Study Says

**The research concluded that the best time to get moving is within 60 to 90 minutes after eating.**

BY ARIELLE WEG PUBLISHED: AUG 12, 2022

- *New research found two minutes of walking can lower blood sugar and the risk of developing type 2 diabetes.*
- *Researchers found that the impact of walking after a meal is best within 60 to 90 minutes after eating when blood sugar levels are at their peak.*
- *Walking has a slew of health benefits including weight management, mood-boosting, and blood pressure control.*

Sometimes it can be difficult to get in the full 150-minutes of moderate-intensity activity every week. Between meetings and making dinner, or cleaning the kitchen and preparing for presentations, movement can sometimes take a back seat. But, new research found that just two minutes of walking (yes, really!) can have a positive impact on your blood sugar levels and potentially ward off type 2 diabetes.

A meta-analysis of seven studies, published in the journal Sports Medicine, examined the impact of sitting for long periods of time compared to either light-intensity walking or standing on cardiometabolic health markers.

Study participants were either placed in a walking or standing group and were instructed to walk or stand for two to five minutes every 20 to 30 minutes over the course of one day. Two of the seven studies included participants with and without diabetes. The remaining five included participants without any history of diabetes. Researchers found that even these few minutes of slow walking were enough to create a drop in blood sugar levels

Specifically, walking within 60 to 90 minutes after eating (when blood sugar levels are at their peak) was associated with more gradual changes in blood sugar levels compared to sitting or standing. This is important for those with prediabetes or another type of diabetes looking to avoid dramatic blood sugar swings.

Researchers measured heart health through systolic blood pressure (the higher number that represents the force at which the heart pumps blood around the body), postprandial glucose (a measure of glucose in your bloodstream within four hours of eating a meal), and insulin (the hormone that regulates blood sugar).

The study did not find any significant influence on insulin or blood pressure. Additionally, the research found standing also helped lower blood sugar levels, but not to the same degree as walking.

SciTechDaily

# Blood Type Linked to Risk of Stroke Before A

By AMERICAN ACADEMY OF NEUROLOGY SEPTEMBER 12, 2022

# Research could lead to potential new ways to predict and prevent strokes in young adults.

A person's blood type may be linked to their risk of having an early stroke, according to a new meta-analysis of research. The meta-analysis included all available data from genetic studies focusing on ischemic strokes, which are caused by a blockage of blood flow to the brain, occurring in younger adults under age 60. The study was led by University of Maryland School of Medicine (UMSOM) researchers, and the findings were published on August 31, 2022, in the journal *Neurology*.

Kittner and his colleagues conducted the study by performing a meta-analysis of 48 studies on genetics and ischemic stroke that included 17,000 stroke patients and nearly 600,000 healthy controls who never had experienced a stroke. They then scrutinized all collected chromosomes to identify genetic variants associated with a stroke. They discovered a link between early-onset stroke – occurring before age 60 – and the area of the chromosome that includes the gene that determines whether a blood type is A, AB, B, or O.

> Blood type A had a 16 percent higher risk of having an early stroke and blood type O had a 12 percent lower risk of having a stroke than people with other blood types.

ording to the study, people with early stroke were more likely to have blood type A and less likely to e blood type O (the most common blood type) — compared to people with late stroke and people o never had a stroke. Both early and late stroke patients were also more likely to have blood type B npared to controls. After adjusting for sex and other factors, investigators found that people who l blood type A had a 16 percent higher risk of having an early stroke than people with other blood es. People who had blood type O had a 12 percent lower risk of having a stroke than those with other od types.

ur meta-analysis looked at people's genetic profiles and found associations between blood type and : of early-onset stroke. The association of blood type with later-onset stroke was much weaker than at we found with early stroke," said study co-principal investigator Braxton D. Mitchell, PhD, MPH, fessor of Medicine at UMSOM.

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e scientists emphasized that the increased risk was very modest. They said that those with type A od should not worry about having an early-onset stroke or engage in extra screening or medical ting based on this finding.

e still don't know why blood type A would confer a higher risk, but it likely has something to do with od-clotting factors like platelets and cells that line the blood vessels as well as other circulating oteins, all of which play a role in the development of blood clots," said Dr. Kittner. Previous studies gest that those with an A blood type have a slightly higher risk of developing blood clots in the legs own as deep vein thrombosis. "We clearly need more follow-up studies to clarify the mechanisms of reased stroke risk," he added.

Mail Online

# Are YOU at risk of an early death? New method to predict 'brain age' could determine who is likely to die young

- Computers predicted people's 'brain age' based on their brain tissue volume
- A large difference between 'brain' and actual age indicates health and death risk
- The technique could screen people for cognitive decline and premature death
- MRI's cost and the technique's large margin of error may be setbacks for use

MEDICALNEWSTODAY

# Can poor heart health predict how fast your brain will age?

By Anni
26, 202
Patricia



- **Researchers examined the relationship between brain age and various health indicators.**
- **They found that poor cardiovascular health was associated with older brain age, which was linked to poorer cognitive performance, and a smaller brain volume.**
- **They concluded that further research is needed to understand whether their findings apply to multiple demographics.**

As the human brain ages, its structure changes. A person's 'brain age' can be predicted by a computer model. This method uses MRI-based machine learning to compare an individual's neuroanatomy with a large reference set of healthy brains.

# The link between brain and heart health

For the study, the researchers included data from 456 individuals who were born in the same week of 1946 in Britain. Each person underwent 24 different assessments since birth on various factors, including:

- childhood cognitive ability
- adult cognition
- adult socioeconomic position
- cardiovascular measures (i.e., blood pressure, smoking status, and diabetes history at ages 36 and 69)
- polygenic risk score (genetic risk for various diseases)
- MRI brain scan between 2015 and 2018

While participants were an average of 70.7 years old at the time of the study, their average brain-predicted age was 67.9 years. Female brains were an average of 5.4 years younger than male brains after adjusting for chronological age.

**The researchers found that brain age was significantly linked to higher cardiovascular risk, poorer cognitive performance, and a smaller brain volume.**

They also found that an older brain age was linked to higher levels of neurofilament light protein (NfL). While NfL levels increase with age in healthy individuals, they are also linked to neural damage.

Brain-PAD was further linked to future hippocampal atrophy, an early characteristic of Alzheimer's disease. However, the researchers found no link between brain-PAD and various biomarkers for Alzheimer's disease.

**The researchers also reported no significant link between brain-PAD and childhood cognitive performance, education level, or socioeconomic status.**

Overall, they reported that the 12 metrics accounted for in their study could explain 33% of the variance in brain-PAD.