

AurioBeeP

Principal Investigator: Professor TEO K. C., Mr KWOK Nicholas T.Y.

TECHNOLOGY

World First Hypertension Notification Features / Blood Pressure Measurement Hearable

FINGER - EAR ECG

Capture

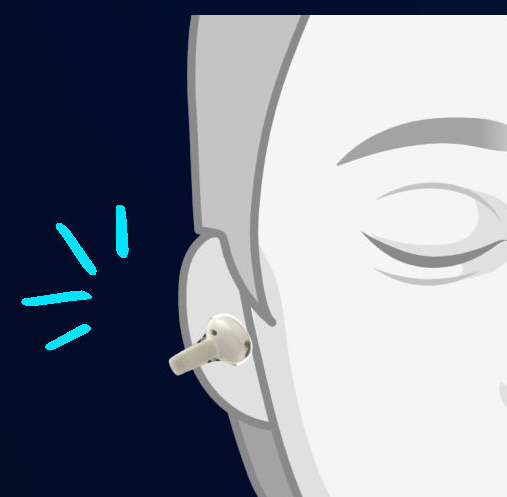
- Pulse transit time (PTT)
- ECG morphology (PR interval, QRS complex)
- accurate HRV



PULSE WAVE SENSORS

Capture

- Heart Rate
- Hypertension Features



When worn on ear, It passively measures your ear PPG, giving hypertension features alert.

Simply place 1 finger on the earbud to generate ECG and blood pressure data using pulse transit time



COMFORT DESIGN

Super lightweight ear clip seamlessly merges into your daily life



MORE STABLE

Ear PPG provides a more stable signal than hand-worn PPG

KEY ADVANTAGE

Early, user-friendly detection of hypertension is urgently needed.

90% of hypertensive individuals remain undiagnosed and undertreated globally

54% of all cerebrovascular incidents attributable to high blood pressure



(Mills, Katherine T., et al., 2020) "The Global Epidemiology of Hypertension." Nature Reviews Nephrology

Preventive health:

Enables timely diagnosis, intervention and reduces the risk of adverse cardiovascular events, and enhances user engagement through personalized monitoring.

Continuous biometric monitoring:

Ear-based PPG sensor passively monitors multi-parameter cardiovascular signals (include heart rate and oxygen saturation) throughout daily activities and sleep

Strong multidisciplinary team:

Led by clinical neurologists and seasoned scientists, with decades of experience in hypertension research and commercializing in-ear sensing technologies

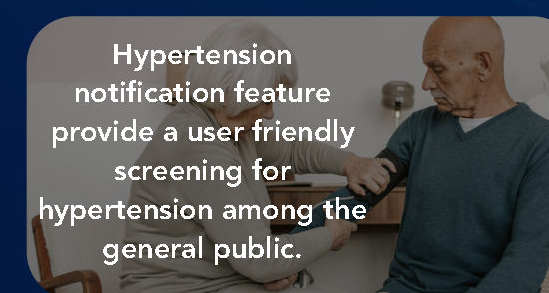
COMPARISON

AurioBeeP's balance device usability, clinical relevance, data robustness.

Creating the World's First Hypertension Notification Features / Blood Pressure Measurement Hearable



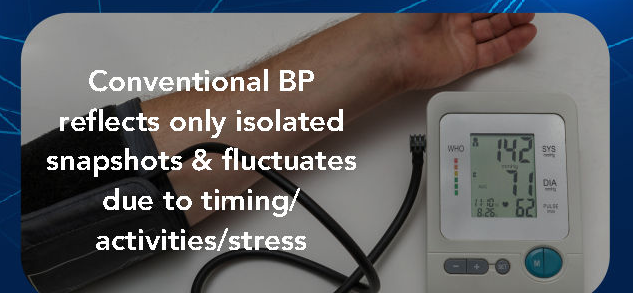
The hearables' market accounts for 63% of global wearable shipments in 2025



Hypertension notification feature provide a user friendly screening for hypertension among the general public.



Many smartwatches are prone to motion artifacts and peripheral vessel physiology issues



Conventional BP reflects only isolated snapshots & fluctuates due to timing/activities/stress

STAGE OF DEVELOPMENT

Clinically validated with over 100 patients in QMH, AurioBeeP's technology meets the FDA standard of blood pressure measurement.

MAE: 4.94 mmHG

RMSE: 6.25 mmHG

R²: 0.834

389 measurements on 102 patients



Together with our clinical and computational expertise, **AurioBeeP** collaborate with WBD101 to create a working prototype for bigger clinical studies and evolving forward as a market desirable product.



OPPORTUNITIES

Mobile health technology is a mainstream trend, exemplified by the integration of hypertension notification features into smartwatches developed by major tech companies (Apple watch, Huawei Watch D2 etc.).

AurioBeeP has the advantage in capturing this demand as hearables currently dominate global wearable shipments.

AurioBeeP also have a strong pilot deployment consortium, with mobile platform like Werise-app, ready to validate the efficacy of this technology.

INTELLECTUAL PROPERTY

Patent applied by HKU TTO Ref : IP01733

Hong Kong short term patent: Non-invasive blood pressure determination using heart and ear signals
基於心耳脈波傳導連續非侵入式血壓測量方法與裝置

CONTACT

Website : <https://auriobeep.vercel.app/>

Email : kcteoa@hku.hk



HKU Med

LKS Faculty of Medicine
The University of Hong Kong
香港大學李嘉誠醫學院