

Arterial stiffness from a common electronic weighing scale

An easy-to-use and affordable system able to quickly assess the arterial stiffness of a subject from the force sensors of a common electronic weighing scale.

Partners to further develop the product and/or to establish commercial agreements along with technical cooperation are sought.

The challenge

Personal health systems often rely on implantable, wearable or portable devices able to acquire physiological signals, which are well-suited to continuous monitoring yet are unpractical for periodic monitoring, less for eventualities. Hence, there is a need for easy-to-use devices that do not interfere with daily routines neither result in any discomfort yet can quickly provide valuable information about personal health condition when required.

The technology

Weighing scales are very common devices in our daily routine and allow us a cost-effective periodic monitoring at home or eventual fast checks. We have designed a measurement system able to obtain the ballistocardiogram (BCG), which provides information about the mechanical properties of the cardiovascular system, from the strain gauges of the weighing scale. From the BCG, we can obtain parameters that reflect the stiffness of the aorta and can be related to several factors such as ageing, hypertension, and risk of cardiovascular events.

Innovative advantages

- Only the force sensors of a common electronic weighing scale are required and the additional necessary hardware and software is easily embeddable in the device.
- No auxiliary personnel are required to apply it.
- Provides information about aortic stiffness non-invasively and in a short time.
- Can be adapted to any wireless technology.

Current stage of development

A laboratory sensor prototype is available.

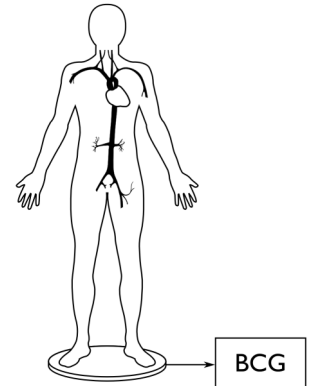
Applications and target market

Personal healthcare, m-health, e-health, remote physiological monitoring, drug testing, drug dose adjustment, home health care, health promotion programs, fitness, physical activity monitoring, sports medicine, fitness centers, labor medicine, groups screening, primary care centers, community health centers, hotels, and spas.

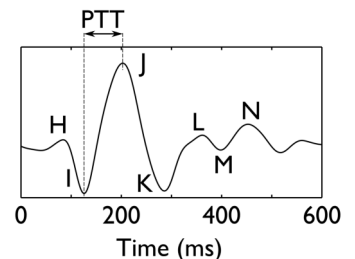
Reference number

MKTXXXXXX_H

Cardiovascular condition assessment from a common electronic bathroom scale



The BCG reflects mechanical information at the beginning and the end of the aorta



Aortic stiffness is related to ageing, hypertension, and risk of cardiovascular events

Business Opportunity

Technology available for licensing with technical cooperation

Patent Status

Priority application

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