

Health checks will be seated by Sharp

December 8 2014, by Nancy Owano



The body weight is measured when the user sits on the equipment. Blood pressure and pulse wave are measured on the left arm and a finger of the right hand, respectively.

(Phys.org) —Sharp unveiled a news-making prototype of a sensor earlier this month at Semicon Japan 2014, which took place from Dec 3 to 5. As its title suggests, Sharp's "Blood Vessel Aging Degree Sensor" can measure the degree of aging of your blood vessels. This is important as it

enables the detection of trouble ahead—diabetes or arteriosclerosis or other medical problems- at an early stage.

The sensor, after all, can do what conventional blood glucose level [sensors](#) cannot—and that is, it can visualize the degree of aging of [blood vessels](#). The sensor quantifies the accumulation of advanced glycation endproducts (AGEs), which are protein saccharified in blood vessels and are known to have a correlation with [blood glucose level](#). AGEs are said to be the source of a number of diseases. Nikkei Technology carried a report on the sensors on Sunday: "The sensor applies blue-violet light (wavelength: 365nm) to finger veins and quantifies the accumulation of AGEs in the veins by using the autofluorescence of the AGEs." The sensor is undergoing testing; the Nikkei Technology report said Sharp aims to commercialize the sensor next year.

In the bigger picture, Sharp has become active in working up core technologies in electronics and optics for tools for diagnostics, medical imaging and life science research. Sharp has commented elsewhere on its diagnostics interest, saying, "Healthcare systems in the [future](#) will focus on prevention and early intervention in complex diseases through regular screening. An enabling technology for this is the ability to detect a wide range of proteins that act as markers of disease." The blood-vessel aging degree sensor is just one part of the story as witnessed by another key Sharp event, the "Health Cockpit," which can check the overall physical and [mental health conditions](#) of the person sitting on it. This is a system, that can [measure](#) a number of health metrics; Akihabara said it was like "a premium airline seat." Measurement results are stored in Sharp's cloud server.

The device can measure weight, as indicated by [body mass index](#), [blood pressure](#), pulse, stress state, and health of the blood vessels. The metrics are synthesized and the user gets a total health score. Blood pressure is measured by A&D Company's blood pressure meter with Bluetooth

capability. (A&D is a Tokyo-based manufacturer of measuring instrument, medical and healthcare equipment.) Pulse rate, mental stress and blood vessel health are measured by the pulse wave sensor. The pulse wave sensor uses an algorithm that Sharp developed in cooperation with U-Medica.

The system could automatically send back analysis results; Sharp is considering providing a service of making a database of measurement results and enabling the user to interactively communicate with a medical doctor or counselor via the monitor.

Sharp will likely experience market interest in this product; corporations and vendors of housing for the elderly with home-care services have been sending inquiries to the company, wrote Jyunichi Oshita for Nikkei Technology, and has been introduced to some [facilities](#) on a trial basis. The equipment also was introduced to one of Sharp's offices last month. Oshita said the plan is to commercialize it in the first half of fiscal 2015.

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