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NUS develops reusable sweat pH monitor

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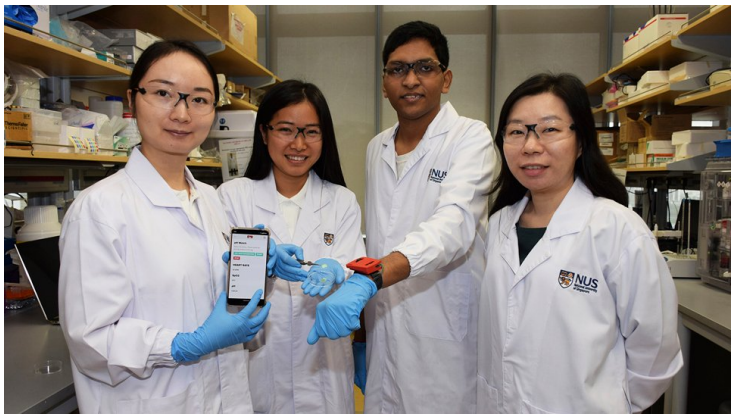
Can tell users about the condition of their health from their sweat



Sweat, which contains a wide range of biochemical markers, can tell us a lot about our health. Variations in sweat pH (i.e. acidity or alkalinity), for instance, can tell us whether our body is dehydrated and can aid the diagnosis of skin conditions such as dermatitis, acne and other skin infections.

In diabetic patients, sweat pH may serve as a good indicator of other life-threatening conditions, for instance, a high sweat pH during excessive sweating and night sweating may have been caused by a prolonged period of low blood glucose that warrants medical intervention.

A team of researchers at the National University of Singapore (NUS) have come up with an ‘add-on’ to a wearable health monitoring gadget that can tell users about the condition of their health from their sweat.

The novel sweat pH monitor, which can be easily integrated into existing fitness trackers or smartwatches at a very low cost, is able to continuously measure and monitor the acidity or alkalinity level of a user’s sweat along with heart rate and oxygen concentration. In this way, users can enjoy round-the-clock, personalised, and non-invasive assessment of their well-being.

The pH Watch invented by the NUS researchers leverages the existing pulse oximeter chips in fitness trackers and smartwatches that measure the heart rate and oxygen saturation levels of users.

The team is currently investigating other biomarkers in sweat and exploring the use of other existing sensors to detect more sweat biomarkers.