



Wearable patch

Innovation > Sport & Fitness > Wearable patch analyses athletes' sweat

WEARABLE PATCH ANALYSES ATHLETES' SWEAT

 SPORT & FITNESS

A new wearable patch can analyse sweat to evaluate glucose levels, hydration, electrolyte and other measurements of fitness.

If you are an athlete, you probably already use a monitor to track your heart rate, or maybe use a wearable to **count your steps** or measure your **hydration levels**. But these types of measurements will not tell you how your body is reacting to stress, or provide an accurate measurement of your fitness. For that, you need much more precise data such as, your lactate and electrolyte levels over time. San Francisco-based start-up **Kenzen** is developing a new peel-and-stick wearable sensor that will evaluate the content of sweat to provide a predictive analysis of your fitness and health.

The Kenzen biosensor, named the Eco Smart Patch, is designed to be worn 24/7 and will provide real-time analysis from a single drop of sweat – diagnosing hydration levels, electrolyte balance, calories burned, lactate and glucose levels. The sensors are designed to be worn on the rib cage or abdomen, and will link via Bluetooth to an app on your phone, sending alerts to athletes whenever they fall into a critical zone. For example, aiding the athletes in recovery by avoiding low hydration levels and thus injury. In addition to developing the patch, Kenzen have also created technology that will analyse the data, taking into account environmental factors such as temperature and humidity, to let you know not just when to hydrate, but also what type of hydration is needed to replace lost electrolytes; and to predict when you will become fatigued.

Kenzen is currently completing product development, field-testing prototypes, and exploring manufacturing options. At the moment, the company's focus is on professional athletes, and they have partnered with the **San Francisco 49ers** football team, who are providing funding as well as

using the device to help train players. However, the technology could in the future expand into the general wellness space, and perhaps even develop to the point where similar technology can be used to reliably warn us of when we are at risk of injury or illness. What other uses might a wearable biosensor have?

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