This "Watch" Could Change the World of At-Home Medicine

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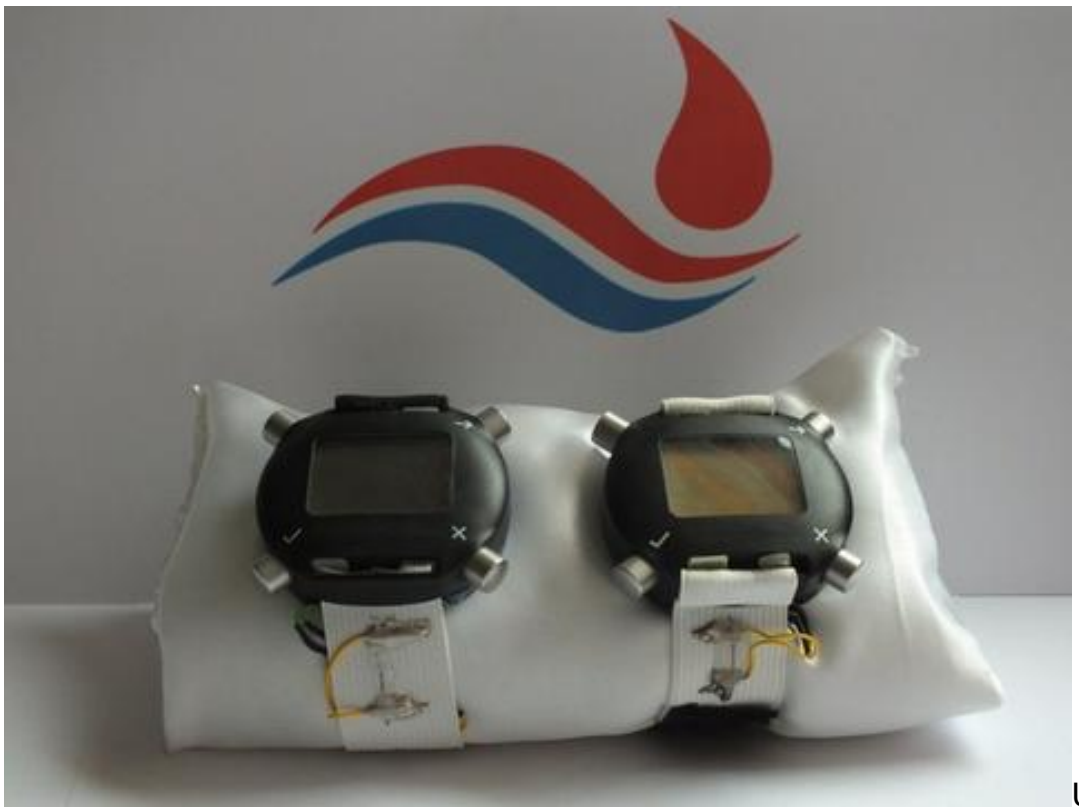
I have one family member in nursing school and one in medical school, which means I sometimes find myself on the cold end of a stethoscope while they check my radial pulse, blood pressure, respiratory rate, and whatever else they need to practice. (I draw the line at anything involving needles.) As a result, I've developed a somewhat obsessive, but healthy habit of tracking my blood pressure. (I should note this is also a result of a serious case of "white coat syndrome" wherein doctors ask me if I'm going to pass out.) But tracking your blood pressure can be a challenge.

A quick medical tutorial [1]: Blood pressure is a measurement of the pressure of blood on the walls of blood vessels and high or low blood pressure can mean serious health issues. "Hypertension" or high blood pressure can cause serious heart problems and "hypotension" or low blood pressure can be indicative of a heart, endocrine or neurological issues. Even if you're not having any issues, having a baseline measurement of your blood pressure will help you recognize what's normal for you and what isn't.



Unfortunately devices that record blood pressure can be expensive and inconvenient. If you just want to check your blood pressure, your options are a clunky—and potentially inaccurate—homecare kit or a visit to your doctor's office. If the doctor is really concerned about your health, she can send you for a test where your blood pressure is tracked—using a traditional cuff—at designated intervals for 24 hours.

Since none of those options are particularly great, STBL Medical Research AG has developed an alternative. Their solution is a watch-like device with a band made up of fibers and sensors that record "contact pressure, pulse and blood flow," according to Swiss Federal Laboratories for Materials Science and Technology [2] (empa).

One sensor, made from piezo-resistive fibers developed by EMPA, measures contact pressure to ensure the band isn't slipping. Because the fibers are electrically conductive, they are able to detect any changes, convert the change into an electric signal, which is sent to the measuring device that it's recording incorrectly.

It's an accurate and increasingly cheap prototype that could become a popular medical must-have as it becomes cheaper and more attractive.

Increasing home-care options are a result of a move towards remote medical care caused by both an aging population of baby boomers who want to track their health without a doctor present and also a general technology trend of smaller, more accessible electronics. As devices like this become cheaper—reserachers estimate it is about 10 times cheaper than the in-hospital option right now—they'll become more prevalent. This device will be particularly useful for patients who need to track blood pressure due to medical conditions, but also for people who are exercising or at the gym.

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