

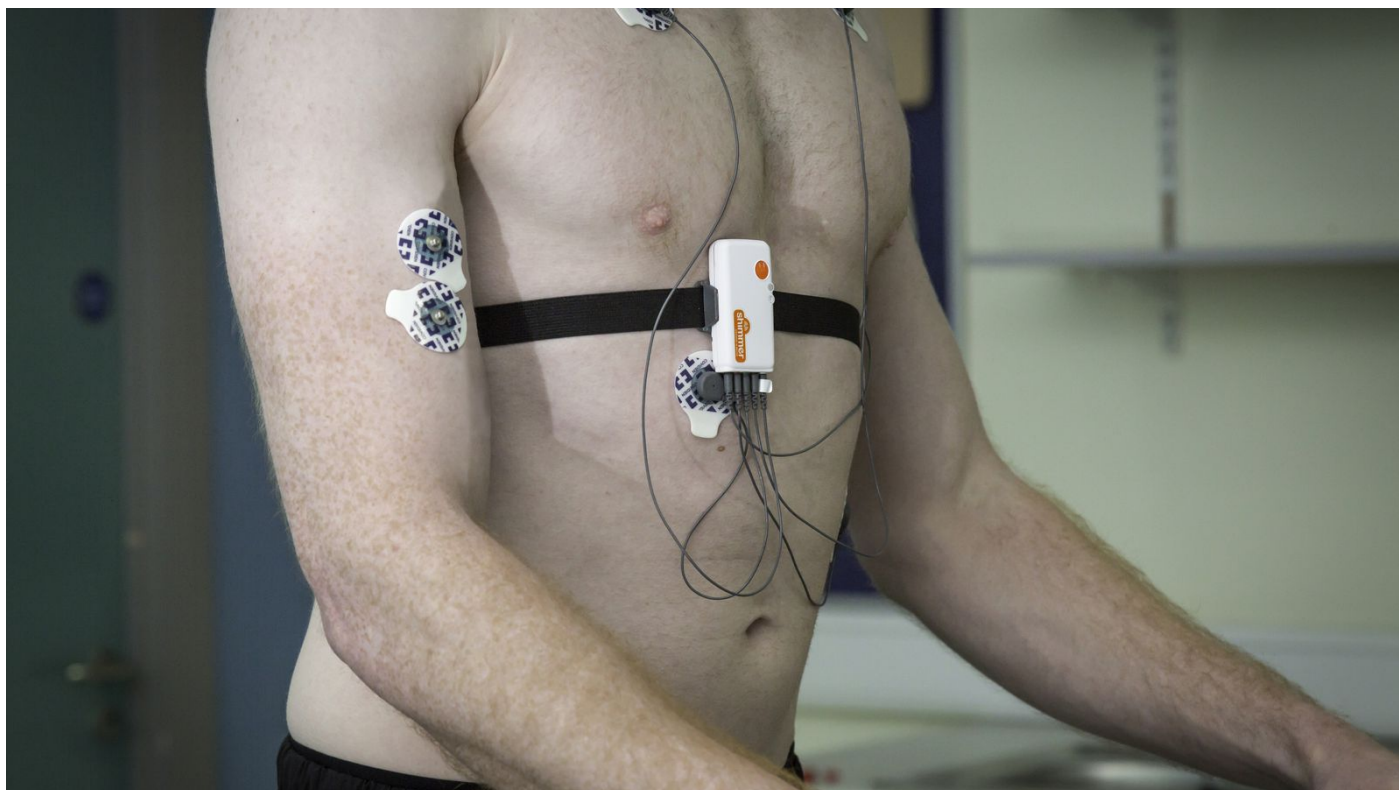
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NEWS / EDUCATION

USF researchers aim to predict when coronavirus cases go bad

Using data from wearable devices, they hope to learn if the body sends clues before symptoms get worse.



A device manufactured by Shimmer will provide researchers with constant data on how patients are reacting to the virus. [Courtesy of Shimmer]

A new study by University of South Florida researchers aims to give medical professionals some early warning before COVID-19 patients take a turn for the worse.

Study participants who have tested positive for the disease will wear a device to monitor their vital signs. The hope is that the resulting data will tell doctors what signals the body sends before a case of coronavirus, which causes COVID-19, becomes more serious.

“Coronavirus is kind of weird in that it seriously affects people differently,” said researcher Andrew Bugajski, a faculty member in the College of Nursing.

Business school professor Matt Mularkey, principal investigator on the study, said some otherwise healthy people who contract the virus end up with blood clots, fluid build-up in their lungs, neurological conditions or liver malfunctions among other possibilities.

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“We all get it that, if you have any secondary conditions, this virus will take advantage of that,” he said. “The vast majority would be otherwise healthy, but there’s a small minority of otherwise healthy people that this virus seems to trigger and they rapidly go sideways. In many ways, this is a data science problem.”

temperature and oxygen saturation levels.

The study will involve up to 150 consenting patients who will wear a noninvasive biometric tracking device for up to 21 days, providing real time feedback to the researchers. Patients will be monitored in groups of 10 at a time. The researchers have partnered with Shimmer, a company that manufactures the devices. The project is set to start in about two weeks.

“If the machines can learn the patterns, we may be able to identify early if something is going wrong,” Mularkey said. “We could possibly give someone a two to four-day warning to go check with their doctor.”

Shimmer president Geoffrey Gill said in a statement that the devices can offer information that intermittent monitoring wouldn’t allow for.

“The pandemic has put the world in a very unfortunate position, but we’re proud that our wearable products may help clinicians slow or halt the progression of this terrible virus,” he said.

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An advertisement for Speedway featuring three large cups of beverages: a yellow 'CLUB CHILL' drink with ice, a blue 'Speedy FREEZE' slushy with a red straw, and a dark brown 'CLUB CHILL' drink with ice. The background is red with a white dotted pattern. Large white text on the right reads '79¢ ANY SIZE' with 'ANY SIZE' in a black banner. Below that, it says 'FOUNTAIN DRINK OR SPEEDY FREEZE'. At the bottom left is the Speedway logo, and at the bottom center is a red button that says 'FIND STORE' with a right arrow. At the bottom right, it says 'UP TO MIGHTY'.

Mularkey said he believes the coronavirus may be around a while longer and thinks the study could be useful in any future viral outbreak where little existing

“It could give a lot of peace of mind for those of us who catch this, which most of us will, pending a vaccine,” he said. “And for those of us who will go sideways, it could lead to early detection. And it will keep on giving to humankind.”

From a nursing perspective, the study could offer a lot in terms of treating patients, Bugajski said.

“It’s really cool we’re using big data to be able to alleviate symptoms,” he said. “There’s also a certain safety and calm of mind that comes with objective data. ... We’re entering an age of precision medicine. This strengthens our ability to treat you as an individual.”

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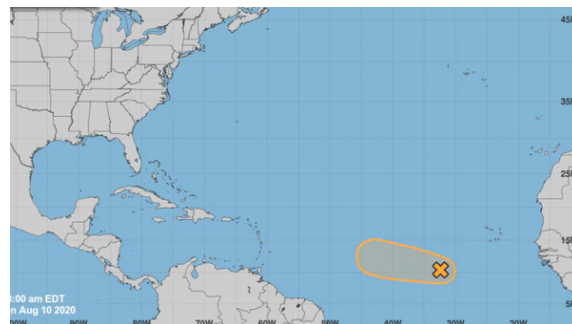
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