

Epilepsy App Tracks Seizures



Researchers at Johns Hopkins Medicine in Baltimore have developed an app that allows patients with epilepsy to track their seizures using their Apple Watch. The interactive EpiWatch app works with ResearchKit, an open-source framework designed by Apple to facilitate research studies carried out using its devices.

EpiWatch gives users a chance to help epilepsy research by sharing the data about their seizures. The information collected by patients with epilepsy will eventually be used to develop a seizure detector, according to Nathan Earl Crone, MD, co-director, clinical neurophysiology fellowship programme and associate professor of neurology.

The interactive app enables patients to track seizures in real time. After downloading and installing the free app, patients are provided with a unique code. When they get an indication that they're having a seizure, they simply activate the function, and the app continuously collects gyroscope, accelerometer, and heart rate data.

By entering data into EpiWatch, patients can monitor their condition as they help Johns Hopkins researchers better understand epilepsy and potentially improve treatment. The coded data are uploaded to a server, but none of the patient's personal information is identifiable.

At the end of the seizure, patients are given a short quiz asking about what kind of seizure they just had, how long it lasted, and whether they had a warning, "although by and large if they activated the app, they did have a warning," Dr. Crone explains.

With EpiWatch, patients can also take surveys, enter daily journals and participate in other activities that can help the researchers obtain information on medication adverse effects, adherence, and seizure triggers. The app also includes an interactive game to measure a seizure's impact on the patient's responsiveness.

"It's very interactive" and includes text messaging capabilities, says Dr. Crone. If patients don't respond to a vibration or sound alert asking them to verify they're having a seizure, a message can be sent to a family member or caregiver.

The researchers conducting this study are exploring whether a future app could potentially detect seizures, estimate their duration and contact caregivers, all using Apple Watch.

Over 2.5 million people are living with epilepsy in the United States. Any of these patients older than age 16 years could take advantage of the new app, according to the research team.

Source and image credit: [Johns Hopkins Medicine](#)

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