

A watch fights tremors and woman finds ability to write

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Credit: Microsoft

(Tech Xplore)—A Microsoft researcher is turning heads this week with proof that she was able to harness technology to help someone manage Parkinson's, which had left her with hand tremors making it impossible

to write.

Now Emma Lawton can write again thanks to a prototype [watch](#).

More than 10 million people in the world live with Parkinson's; in the US alone, 60,000 are diagnosed each year. The gripping part is that there is no cure.

Technology though can help people live better lives. That at least is what Microsoft researcher Haiyang Zhang thought when she visited 33 year old Lawton, who could not write or draw because of tremors. Lawton, a graphic designer, was diagnosed with the movement disorder in 2013.

Zhan, innovation director at Microsoft Research Cambridge in England, thought there may be a way for her at least to regain the ability to write, with the help of [technology](#). Zhan experimented with tiny vibrating motors. She referred to them as tiny coin-celled motors.

She fashioned a rough prototype, soldering wires to boards. After some months a wearable watch form factor was ready for Lawton to try.

A video shows her wearing the watch with a compelling message in her eyes, of gratitude toward Zhang. She appears to be relieved that she can write and draw again. The video was posted Wednesday.

Lawton was able to write her name, a straight line, square and rectangle while wearing the watch.

Neowin discussed the technology that makes this work. "The Emma Watch vibrates with a particular rhythm, and has a specially designed companion app running on a Windows 10 tablet, that controls the pattern and speed of the vibrations."

In a Microsoft blog, Bill Briggs delved into what was going on in the brain and how the watch helped. "In people with Parkinson's, the brain fires off extra signals to muscles, creating a chaotic, internal feedback loop that causes muscles to essentially panic and perform many movements at once. That creates tremors. The vibrations from the watch seem to cause Lawton's brain to focus on her right wrist, apparently reducing the brain's messages to that spot."

Months have since passed and Briggs updated readers on life with the watch. Its impact is quite evident.

"Lawton wears the Emma Watch at her jobs, using it for sketch projects. She works at Parkinson's UK as a device, apps and gadgets strategist. She also works as a design strategy consultant for a company that educates the tourism industry about digital transformation."

Zhang meanwhile is part of a initiative, Project Emma, exploring the use of sensors and artificial intelligence to detect and monitor the symptoms associated with the disorder – from body rigidity and gait slowness to falling and tremors.

According to the blog, Lawton is willing to continue testing her body for the technology, including perhaps undergoing a brain scan while writing with the watch, helping to pinpoint where it's working in her brain.

What's next?

The Telegraph on Thursday: "It is not clear if it will be released widely, but Microsoft said it plans to conduct further work in the area."

Clearly, the researcher's work seems to merit a continued focus. The conversation will continue on how technology can help to manage Parkinson's.

Neowin reported that Microsoft is exploring [ways](#) to optimize the watch and scale the technology, in collaboration with a London-based neuroscience team, with the first wider-scale trials being planned.

More information: [blogs.microsoft.com/transform/ ...
q4gkdkrzjv1lderss79u](https://blogs.microsoft.com/transform/...q4gkdkrzjv1lderss79u)

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