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New App to Monitor Parkinson's Symptoms – Parky: H2O Therapeutics

Iris Brammer

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As of [November 2022](#), the U.S. Food and Drug Administration (FDA) has granted H2O Therapeutics 510(k) marketing clearance for their new app Parky which is directed toward patients suffering from Parkinson's Disease.^{1,2} Currently, the app is only available for those who wear Apple's smartwatch due to its use of Apple's built-in motion sensors. It was not a huge surprise that H2O Therapeutics was able to work its way through the FDA's rigorous evaluation, mostly because [other current health features related to Apple's technology](#), including heart rate and blood oxygen sensors, have already been FDA-approved for people 22 years and older.³ However, unlike Apple healthcare apps, those who want to use Parky need an evaluation and prescription from their doctor.¹ H2O Therapeutics has two other phone apps in the pipeline, Foggy and Covie, which use artificial intelligence (AI) to detect and monitor other serious neurological-associated diseases.²

Unfortunately, an estimated [10 million patients worldwide](#) live with Parkinson's Disease (PD), and we have not been able to develop a cure as of yet. Although there are multiple medications that are used in the treatment of PD, it is still the neurological disorder with the fastest-growing incidence in the USA.⁴

The Parky device or app monitors for Parkinsonian symptoms such as tremors and dyskinesia, which are common associated exam findings of this neurological disorder.¹ The primary focus of the device is to collect real-time, continuous sensory data from existing motion sensors in the Digital Crown of the Apple Watch face. The associated mobile app connects to the

Apple watch and provides medication reminders and produces symptom reports for patients and health professionals. H2O Therapeutics' vision for Parky is to use data-driven analysis to tailor treatment plans as a patient's Parkinson's disease progresses. Also, the data Parky collects may provide quantifiable tracking for the progression of this unfortunate and devastating disease. Hopefully, increased and objective symptom monitoring will lead to improved medication adjustments and decreased morbidity, although this has yet to be proven.

The current gold standard for assessing PD motor symptoms is a subjective system MDS-UPDRS Part III that codes standardized sets of motor tasks like pronation and supination. [Powers et al.](#) validated Parky's data system in a study with 343 participants and a longitudinal study with 225 participants. By comparing movement data built into Apple's watch with video analysis of tremors and dyskinesia symptoms using MDS-UPDRS Part III scores, Parky reliably distinguished normal and non-PD motion versus PD-related exam findings and codified it as their Motor fluctuations Monitor for Parkinson's Disease (MM4PD) ambulatory monitoring system. By integrating the human-coded MDS-UPDRS Part III gold standard with quantified motion sensor results, the MM4PD system uses machine learning to distinguish and label motion based on whether the movement was a tremor, dyskinesia, or normal activity such as normal arm movements that occur throughout daily living.⁵

Currently, patients complete time-consuming in-person evaluations, which are subjective by nature. H2O Therapeutics hopes that its Parky app will improve upon these inefficiencies and record/track objective measurements that lead to medication modifications and improved symptom control.

Because Parky's MM4PD system distinguishes tremors from regular motion, one current [limitation](#) is the app's inability to track postural tremors. And it is not indicated for detecting dystonia or bradykinesia which are other exam findings often present in Parkinson's Disease. Another limitation of Parky's current version is that other movement disorders, like restless legs syndrome, can create false positives and conflicting data. Other Parkinsonian syndromes, including Multiple System Atrophy, are not approved for Parky monitoring.⁶ Hopefully, these limitations will be worked out in future technology releases.

Given the highest causes of morbidity and mortality in the United States are chronic conditions rather than [infectious and communicable causes](#), novel treatment ideas are necessary to extend quality of life and life expectancy. And many of these chronic disease conditions require long-term and coordinated care. Increased use of technologies like augmented and virtual reality and machine learning have fueled developments like the Parky app. H2O Therapeutics founder Yagmur Selin Gulmus "[believe\[s\] Parky will bring great value to the Parkinson's Disease community as an easily scalable and data-driven product](#)".⁴

While there is no cure for Parkinson's Disease, many patients are treated with levodopa and carbidopa (dopamine agonists) with the hope of improving or controlling symptoms.⁷ Currently, those patients periodically report their symptom severity, and prescribing physicians subsequently adjust dosages or prescribe new medications. However, through Parky, medication adjustments can potentially be titrated more precisely, and symptom improvement can be easily and objectively tracked. And as novel medications or treatments come to market, Parky has the potential to track their value. We hope that Parky, and other new technologies, will positively impact the care of patients suffering from this horrible disease.

The author has no conflicts to report

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