



## PARKINSON'S DISEASE NEWS

<http://www.viartis.net/parkinsons.disease/news.htm>

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### USING CELL PHONES TO MONITOR PARKINSON'S DISEASE

IEEE Transactions on Biomedical Engineering (submitted) [2013] (A.Tsanas, M.A.Little, P.E.McSharry, L.O. Ramig)

Dysphonia is an impairment in the ability to produce vocal sounds that can occur in Parkinson's Disease. A wide range of dysphonia measures have been used to predict Parkinson's Disease severity using speech signals. Researchers demonstrated that this method can match standard methods of diagnosing Parkinson's Disease.

Telephone monitoring of Parkinson's Disease has attracted interest as a potential means of assessing this. Purpose built devices have been developed that record various signals that can be associated with symptom severity, as quantified on standard Parkinson's Disease scores such as the Unified Parkinson's Disease Rating Scale (UPDRS). Previous studies have demonstrated replication of UPDRS scores to within less than 2 points of a clinical raters' assessment of symptom severity, using solely high-quality speech signals.

This study investigated using the cellular mobile telephone networks for Parkinson's Disease monitoring. The Parkinson's Disease (UPDRS) symptom score could be estimated to within about 3.5 points difference from the clinicians' assessment, which is useful because even different clinicians vary by as much as 4 to 5 points. This provides evidence that the phone network is adequate for inexpensive, mass-scale Parkinson's Disease symptom monitoring.

<http://www.viartis.net/parkinsons.disease/news/130129.pdf>

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