


Movement Disorder Society–Unified Parkinson's Disease Rating Scale Use in the Covid-19 Era

With the Covid-19 pandemic and our limited ability to examine our Parkinson's disease patients in person, telemedicine and digital visits have become a necessary protective step to assure high-quality care and safe distancing. For movement disorder specialists, our usual reliance on the Movement Disorder Society–Unified Parkinson's Disease Rating Scale (MDS-UPDRS) is compromised because rigidity cannot be assessed without touching the patient, and in most instances, postural reflexes cannot be safely performed without a trained health professional. As leaders of the MDS-UPDRS development program, we have been contacted in the past weeks by many colleagues asking how to record an ongoing MDS-UPDRS score in the context of such limitations and how to interpret resultant scores against prior prospectively collected longitudinal ratings of the same patient.

In this context, we refer to our earlier article¹ published in *Movement Disorders* on handling missing values in the MDS-UPDRS. In this analysis of a large set of full MDS-UPDRS scores obtained by in-person neurological evaluations, we randomly and selectively deleted item scores to establish the number of missing values that could be tolerated and still allow a highly reliable surrogate summary score to be calculated for each MDS-UPDRS part. To summarize our key findings in the context of how we anticipate that colleagues will be trying to use the MDS-UPDRS in the coronavirus disease environment, Part III (motor examination), if applied across all Hoehn and Yahr stages, can accommodate the consistent loss of only 3 values on any given visit and still allow the calculation of a calibrated total score that is valid. In the instance of our typical digital-based telemedicine visit, 5 rigidity scores and postural reflexes will be lost, and these 6 missing values fall outside the permissible threshold. As such, and with reference back to the details of the full article, we cannot recommend surrogate calculations when rigidity and postural reflexes cannot be accurately documented.

Furthermore, we emphasize that our publication was based on in-office examinations, not video-based assessments. To our knowledge, there are no publications involving large samples across all Hoehn and Yahr stages to allow an assessment of the reliability and validity of video-based MDS-UPDRS examinations compared with in-office visits. This work, tedious but essential, will provide the defining data set that will potentially allow clinical and research efforts to move outside the office or hospital base and take advantage of technologies accessible to all patients.

Given the current situation and the lack of indicators of valid video-based MDS-UPDRS administration, we therefore refer our colleagues to the recommendations from the US Food and Drug Administration² and the European Medicines Agency³ to be honest, humbly admit to our limitations, do our best, and document what we do. We are very comfortable providing video-based or telemedicine care of high quality and compassion in Parkinson's disease, but at this point, we cannot recommend using the MDS-UPDRS scoring imputations that were recommended previously for fieldwork and other contexts. ●

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