have argued that it could represent a distinct clinical entity. The present study undertook in depth phenotyping along with assessment of cortical function to further explore disease pathophysiology in MND with malignancy (MND-M) patients.

**Methods** Clinical features along with assessment of peripheral and cortical function was undertaken in 13 MND-M and results were compared to sporadic and familial MND cohorts.

**Results** From a cohort 13 patients (10 males; aged 65.2±2.0 years), 30.8% were diagnosed with a haematological malignancy. The lower motor neuron phenotype predominated in the in the MND-M patients (χ²=10.8, P<0.01), with the upper motor neuron (UMN) score being significantly reduced in MND-M patients compared to sporadic and familial MND cohorts (χ²=6.84, P<0.01). The neurological deficits did not respond to treatment of the underlying malignancy in the majority of MND-M (92%) patients, and as such there were no significant differences in survival between the cohorts. Despite a paucity of UMN signs, cortical hyperexcitability was evident in MND-M patients, as indicated by reduction in short interval intracortical inhibition (P<0.01) and increase in motor evoked potential amplitude (P<0.01), that were similar to findings in sporadic and familial MND cohorts.

**Conclusions** The present study suggests that MND-M falls within the spectrum of MND. A co- incidental association between MND and malignancy is underscored by cortical dysfunction and clinical findings which seem within the spectrum of abnormality evident in classical MND phenotypes.

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**TOWARDS OBJECTIVE TESTING IN PARKINSON’S DISEASE: A SYSTEMATIC REVIEW OF THE LITERATURE LOOKING AT ASSESSMENT OF POSTURAL SWAY**

**Introduction** Parkinson’s Disease (PD) is associated with increased mortality and reduced quality of life. There is currently no accurate objective measure for use in diagnosis or assessment of severity. Analysis of postural sway may help in this regard. This systematic review aimed to assess the effectiveness of various features currently used to analyse postural sway.

**Methods** Five databases were searched for articles that examined postural sway in both PD patients and controls. An effect size (ES) was derived for every feature reported in each article. The most effective features and feature-families were determined, along with the influence on these measures of data sampling rate and experimental condition.

**Results** 441 papers were initially retrieved, of which 31 met the requirements for analysis. The most commonly-used features were not the most effective (e.g. PathLength had an ES of 0.47 while TotalEnergy had an ES of 1.78). Decreased sampling rate was associated with decreased ES (e.g. ES of PathLength lowered from 1.12 at 100 Hz to 0.40 at 10 Hz). Being off medication was associated with a larger ES (e.g. ES of PathLength was 0.21 on medication and 0.83 off medication).

**Conclusions** Some measures of postural sway are better able to distinguish PD patients from controls than others. ES is enhanced by using a higher sampling rate and studying patients off medication. These results will inform future studies looking at postural sway in PD and contribute to the aim of finding an objective marker of the disease.

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**PREDICTING PARKINSON’S AND DEMENTIA WITH LEWY BODIES (PRE-D) RESEARCH STUDY – A SYDNEY-BASED LONGITUDINAL BIOBANKING PROGRAM**

**Introduction** Idiopathic REM sleep behaviour (iRBD) disorder represents the most specific prodromal marker of an