



## Service Priorities and Programmes Electronic Presentations

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### **Clinical Application of Parkinson's KinetiGraph™ (PKG) for early detection of Motor Complications and maintenance of Quality of Life**

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#### **Keywords:**

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#### **Introduction**

Motor fluctuation is one of the common complications for Parkinson's Disease (PD) patient after years of Levodopa therapy. Medications titration or Deep brain stimulation (DBS) surgery help to alleviate motor complications and to maintain quality of life (QOL). Patients' diary and Unified Parkinson's disease rating scale (UPDRS) are traditional methods to evaluate the motor complications currently. Apart from these conventional methods, the automatic wrist-worn accelerometer device (Parkinson's KinetiGraph™, PKG™) can be used to obtain six-day registrations of movement patterns interpreted in terms of bradykinesia (BK) and dyskinesia (DK) indices and sleep-like immobility. In this study, we used PKG™ to assess the motor complication in parallel with the UPDRS and motor diary for PD patients.

#### **Objectives**

Early detection of motor complications in PD patients.

#### **Methodology**

In a nurse-led clinic, PD patients were taught how to use the automated PKG™ by an advanced Practice nurse. In parallel, the UPDRS was assessed and patients' motor diary was used.

#### **Result**

19 patients were recruited (11 females and 8 males). The mean age was 60 years old. Biphasic dyskinesia was identified in 6 out of 19 PD patients. Comparing with UPDRS assessment and the motor diary, the results from the device was more objective, sensitive and quantitative. All the 6 patients were referred for DBS for further pre-operative assessment. The automated wrist-worn accelerometer device (KinetiGraph™) can provide early diagnosis of motor complication for PD patients

comparing conventional assessment methods, which help the clinical decision for appropriate advanced treatment to improve the quality of life.