



## Service Priorities and Programmes

### Electronic Presentations

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#### **Novo Gait-Posture Focused Physiotherapy Program for Parkinson's Disease (PD) Patients: Filling the Treatment Gap**

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#### **Introduction**

The gait and postural disturbance components of PD patients are often not responding well to medication and surgical intervention e.g., deep brain stimulation. On the other hand, current scientific evidence indicates that Physiotherapy is effective in improving gait and postural disturbance of PD patients.

#### **Objectives**

To improve gait and postural stability of Parkinson's disease

#### **Methodology**

An 8-week, once-a-week, supervised PD exercise program was launched from June 2017. Neurologists refer PD patients at Modified Hoehn and Yahr (H&Y) stage 2-3 to Outpatient Physiotherapy based on preset inclusion and exclusion criteria. There were 5 PD patients in each program. Each session lasted between 90 and 120mins. Under the supervision of Physiotherapists, patients practiced specific composite exercises to improve gait, postural stability and muscle strength. Those exercises include brisk walk with exaggerated arm swing and step length for 20 to 30mins, overcoming multiple obstacles, dual upper limb and balance board tasks, and basic to advanced plank. Patients also learnt to use wearable monitoring device, metronome, fall protective gadgets, and walking aids with auditory and visual cues. To enhance training intensity, patients also committed to practice home exercises regime of 30min daily. Compliance to exercise regime were facilitated through partnership with care-givers and other PD patients, exercise logbook and once a week telephone reminder to patients by Physiotherapists. Pre, post and 6 month assessment of outcomes include Unified Parkinson's disease rating scale (UPDRS), 6 minute walking test (6MWT), 5 times sit stand test (5XSST), Timed up and go test (TUGT), 10 metre walk test (10MWT), untoward events, exercise habit, and patient satisfaction.

#### **Result**

Up to Dec 2017, 8 PD patients (2 males, age range 55-70y, H&Y scale 2-4) have completed pre and post assessment. Their mean 6MWT improved from 293m to 401m ( $p<0.001$ ). Mean TUGT improved from 29.6s to 23.3s ( $p=0.02$ ). Mean 5XSST improved from 37.1s to 18.5s ( $p=0.14$ ). Mean 10MWT (self-selected speed) improved from 0.9m/s to 1.1m/s ( $p=0.01$ ). Mean 10MWT (fast speed) improved from 1.1m/s to 1.3m/s ( $p=0.01$ ). 5 PD patients (1 male, age range 55-69y, H&Y scale 2-3) have completed pre and 6 month assessment. Their mean 6MWT improved from 373m to 495m ( $p=0.04$ ). Mean TUGT improved from 12.9s to 8.0s ( $p=0.11$ ). Mean 5XSST improved from 13.4s to 9.5s ( $p=0.08$ ). Mean 10MWT (self-selected speed) improved from 1.1m/s to 1.3m/s ( $p=0.10$ ). Mean 10MWT (fast speed) improved from 1.4m/s to 1.7m/s ( $p=0.04$ ). Good patient feedbacks were received.

To conclude, the new Physiotherapy program for PD patients with combination of supervised sessions and home exercises may be effective to improve gait and postural stability.