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Physiotherapy Regime Post Bilateral Subthalamic Nucleus (Deep Brain) Stimulation in Parkinsonism Patients

[Ridhima J Negandhi](#)¹, [Ridhima Chopra](#)²

¹WALTON REHABILITATION & PHYSIOTHERAPY, India; ²KOVAI MEDICAL CENTER & HOSPITAL, India

Background: PD is a progressive condition due to loss of dopamine causing degeneration of both motor & non-motor basal ganglia circuitry. The literature suggests Level I evidence for physiotherapy management of PD patients suggests that comprehensive client centered approach should be based on compensatory strategies to bypass the defective basal ganglia. DBS is an effective therapy for medication refractory symptoms of PD. It is indicated for movement disorders such as tremors, rigidity, bradykinesia, dyskinesia, dystonia, hallucinations & depression although Physiotherapy regime post surgery is still lacking.

Objective: To study the effect of DBS on motor symptoms & design a physiotherapy regime for post surgery recovery.

Methods & Materials: A case series of 3 patients with idiopathic PD were scored on UPDRS & MoCA in the ON-STATE of medication 2 days before & 6 months post surgery. Three patients of mean age 73.6 yrs, Stage - III underwent DBS of B/L STN satisfying the respective inclusion criteria. Patients were also scored on S&E scale for ADL's.

Results: Significant difference was seen before and after the surgery in tremors, bradykinesia & cognition ($p < .05$), not much significant difference was observed in postural instability & rigidity ($p > .10$).

Conclusion: This study supports the evidence that DBS is an advanced surgical procedure with minimal side effects & reduces medication refractory symptoms although there is a decline in cognition, increased freezing, postural instability & bulbar dysfunction. Hence there's a need for physiotherapy regime that has been designed for the purpose of post DBS.