

**THE IMPACT OF “OLD” AND “NEW” DEEP BRAIN STIMULATION TECHNIQUES ON THE
TREATMENT OF DRUG-RESISTANT MOVEMENT DISORDERS**

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ABSTRACT

Objectives: Our investigation aimed to evaluate if bilateral subthalamic deep brain stimulation (DBS) could preserve working capability in Parkinson's disease (PD).

Materials: We reviewed the data of 40 young (<60 year-old) PD patients who underwent DBS implantation and had an at least 2 years follow-up. Patients were categorized based on their working capability at time of surgery: 'Active job' group (n=20) and 'No job' group (n=20). Baseline characteristics were comparable. Quality of life (EQ-5D) and presence of active job were evaluated preoperatively and 2 years postoperatively.

Results: Although similar (approximately 50%) improvement was achieved in the severity of motor and major non-motor symptoms in both groups, the postoperative quality of life was significantly better in the 'Active job' group (0.687 vs. 0.587, medians, $p<0.05$). Majority (80%) of 'Active job' group members were able to preserve their job 2 years after the operation. However, only a minimal portion (5%) of the 'No job' group members was able to return to the world of active employees ($p<0.01$).

Conclusions: Although our study has several limitations, our results suggest that in patients with active job the appropriately 'early' usage of DBS might help preserve working capability and gain higher improvement in quality of life.