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# Feasibility and effects of cognitive-motor exergames on fall risk factors in typical and atypical Parkinson's inpatients: a randomized controlled pilot study

## Background

People with Parkinson's disease (PD) often suffer from both motor and cognitive impairments. The aim of this study was to test the feasibility and effects of simultaneous cognitive–motor training in form of exergames in the setting of inpatient rehabilitation of persons with PD. This study was part of a series of studies examining the feasibility of exergame training in three different rehabilitation clinics and various inpatient groups.

**Intervention Group**
Received conventional treatment AND trained on the Dividat Senso* 5 times a week.

**Control Group**
Received conventional treatment only.

**The Dividat Senso exergames target specific cognitive and motor functions that are important for activities of daily living, such as executive and attentional function as well as balance and coordination. Each training session was planned to last around 15 minutes, during which participants played five to seven different games.*

## Assessment Methodologies

Dividat

Reaction Time Test (RTT)

Dividat

Go-NoGo Test

Dual Task Walking Speed (Gait Speed)

Timed-Up and Go Test (TUG)

## Results

| Function | Assessment | Dividat Intervention Group | Control Group |
|---|---|---|---|
| Cognitive Health | Reaction Time Test (RTT) | 19.1% | -6.8% |
| | Go-NoGo Test | 11.6% | 3.4% |
| Balance & Mobility | Dual Task Walking Speed (Gait Speed) | 19.2% | -1.1% |
| | Timed-Up and Go Test (TUG) | 16.2% | -0.1% |

## Conclusion and Outlook

This pilot study showed that exergame-based training with the Dividat Senso is a **feasible, safe and effective training intervention** that can be **easily integrated** into the therapy plan of people with PD during inpatient rehabilitation.

The **high adherence** rate, the **low attrition** rate and the **high level of acceptance** indicate that exergaming has potential to make a rehabilitation program **more fun** and to **increase patient motivation**.

Access the full study here

Dividat