

## Effects of augmented visual feedback during balance training in Parkinson's disease: A pilot randomized clinical trial

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### Setting the scene:

**Balance training** has been demonstrated to improve postural control in patients with **Parkinson's disease (PD)**. The objective of this pilot randomized clinical trial was to investigate whether a balance training program using augmented visual feedback is feasible, safe, and more effective than conventional balance training in improving postural control in patients with PD. Individuals suffering PD will be confronted with increasing difficulties with walking, balance, and making transfers. Also, mobility-related quality of life is closely linked to social participation and impaired postural control contributes significantly to falls. Biofeedback appears to be a promising means to deliver balance therapy since providing augmented visual feedback engages the patient in cognitive and motor activities.

### What did they do?

**33 patients** with idiopathic PD participated in a **five-week training program consisting of 10 group treatment sessions of 60 min**. Participants were randomly allocated to an experimental group who trained on workstations consisting of interactive balance games with explicit **augmented visual feedback (VFT)** and a control group receiving conventional training. Standing balance, gait, and health status were assessed at entry, at six weeks, and at twelve weeks follow-up.

### Take away home message:

VFT proved to be a **feasible and safe** approach to balance therapy for patients with PD. In this proof-of-concept study VFT was **not superior over conventional balance training** although observed trends mostly favored VFT. While all trends in change scores favored VFT, these differences did not reach statistical significance and were clinically meaningful only for a single outcome measure. So, improving patient motivation may suffice to warrant the application of an equipment-intensive approach such as VFT, future efforts should first focus on improving the intervention in order to strengthen its effects. This may be realized by increasing the training load and by optimization of the technology.