

POSTURAL INSTABILITY DURING HIGH AND LOW REACHING IN SEVERE PARKINSON'S DISEASE (PD)

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Reaching (e.g. for high shelves and into low cupboards) is associated with falling in PD (Stack and Ashburn, 1999). We asked: do people with severe PD appear unstable when reaching above shoulder height and below knee level and what strategies do they use?

With ethical approval and GP consent, we recruited community-dwelling people with Grade II-IV PD, who a) passed cognitive screening and b) were willing and able to make a hot drink at home *while recorded on video*. Blinded assessors then rated the participant's postural stability when reaching high and low and rated the following reaching strategies: Body Alignment, Use of Support, Foot Position, Floor Contact and Reach Type. Participants with Grade IV PD, the Severe PD Group (SPG), were compared to the group with mild-to-moderate PD, the MPG.

Of 126 people approached, 83 (66%) were interested in participating. Of the 75 eligible, 55 (73%) could complete the video-recorded task (median age 75 years, PD duration six years), 37 in the SPG and 18 in the MPG. Greater proportions of the SPG than the MPG appeared unstable reaching high ($P = 0.025$) and low ($P = 0.006$), used support reaching high ($P = 0.032$) and aligned forward reaching low ($P = 0.016$). The remaining reach strategies were distributed similarly across groups ($P > 0.2$).

Some people with severe PD use stabilising strategies (like reaching forward (utilising vision) and using support) but others use potentially destabilising strategies (like reduced ground contact through step-standing, toe-standing and squatting). Physiotherapists should devise suitable task-specific stabilising strategies for the many people with PD at risk of falling during everyday activities and teach them to those who do not adequately compensate for their postural instability.

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References

Stack E, Ashburn A (1999). Fall-events described by people with Parkinson's Disease: implications for clinical interviewing and the research agenda. *Physiotherapy Research International*, 4, 190-200.