

# Thinking in Action: Alexander Technique for Parkinson's Disease

Candace Cox<sup>1</sup>, Daniel Kral<sup>2</sup>, Monika Gross<sup>3</sup>, Rajal G. Cohen<sup>2</sup>

<sup>1</sup> Big Sky Alexander Studio, Edmonton, Alberta, Canada

<sup>2</sup> University of Idaho, Moscow, Idaho, USA

<sup>3</sup> The Poise Project

## Background

Alexander technique is a non-exercise educational approach that uses attention and inhibition to change functional patterns, reduce excessive muscular co-contraction, and improve coordination in everyday activities.



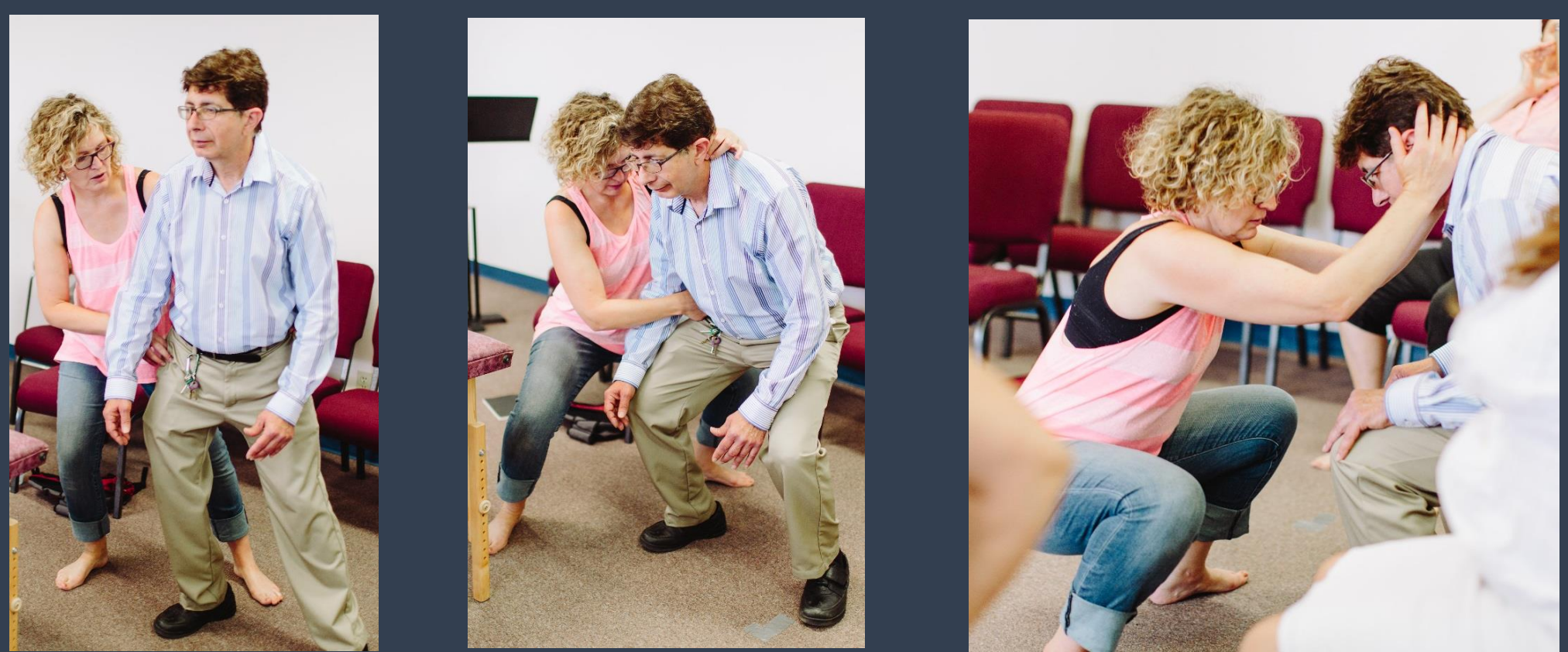
A previous randomized controlled trial found that 24 Alexander technique lessons reduced Parkinson's disease disability and improved attitudes to self [1], and benefits were retained at 6 months [2].

A laboratory study found that even brief exposure to Alexander technique concepts led to immediate improvements in torso mobility, postural alignment, and postural control in Parkinson's disease [3].



## Purpose

We aim to develop a standard protocol for assessing the effects of Alexander technique lessons on balance, inhibitory control and quality of life associated with Parkinson's disease disability.

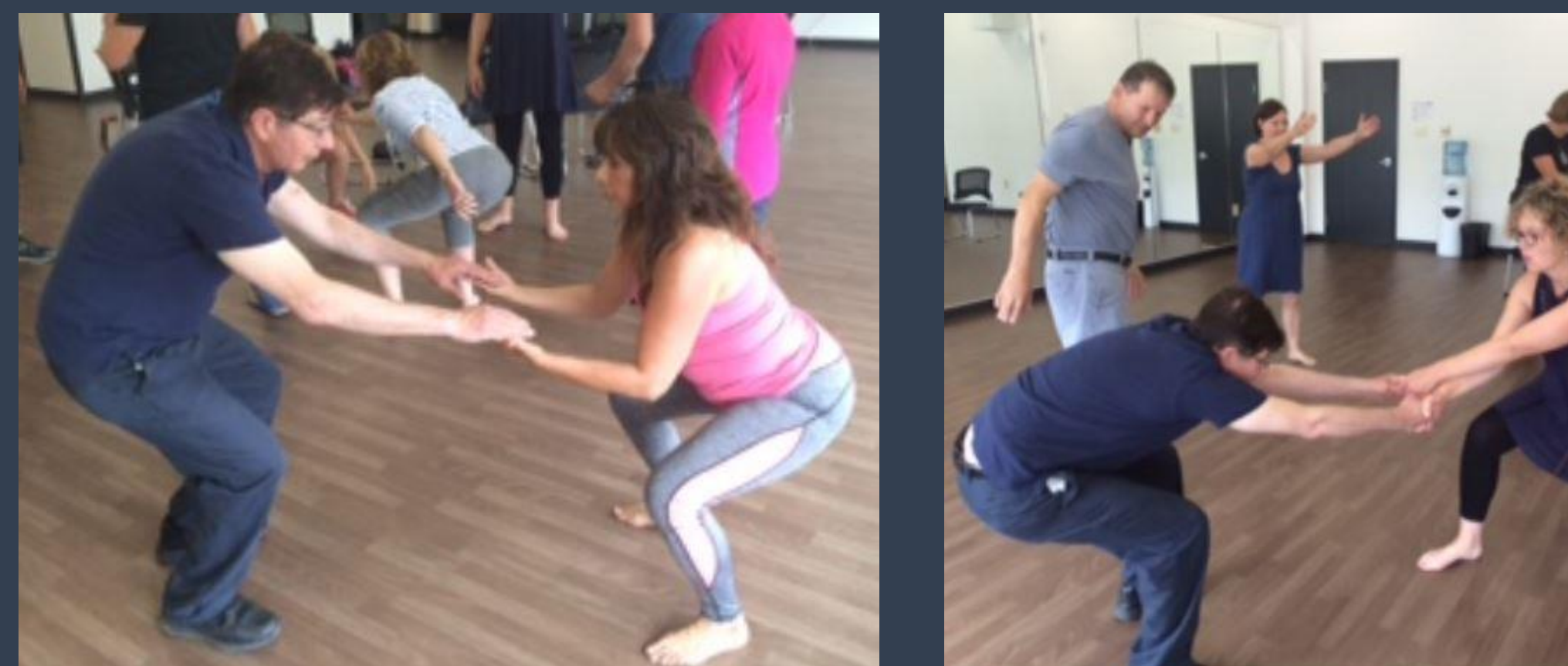


## Approach

Six people with Parkinson's disease (Hoehn and Yahr stages 1-4; mean age 67.5 ± 9.1, mean diagnosis length 12.4 ± 5.9 years) received intensive Alexander technique training over 7 days, while following their regular exercise and medication routines. We performed assessments at the beginning and end of the week at the same time of day.

## Intervention

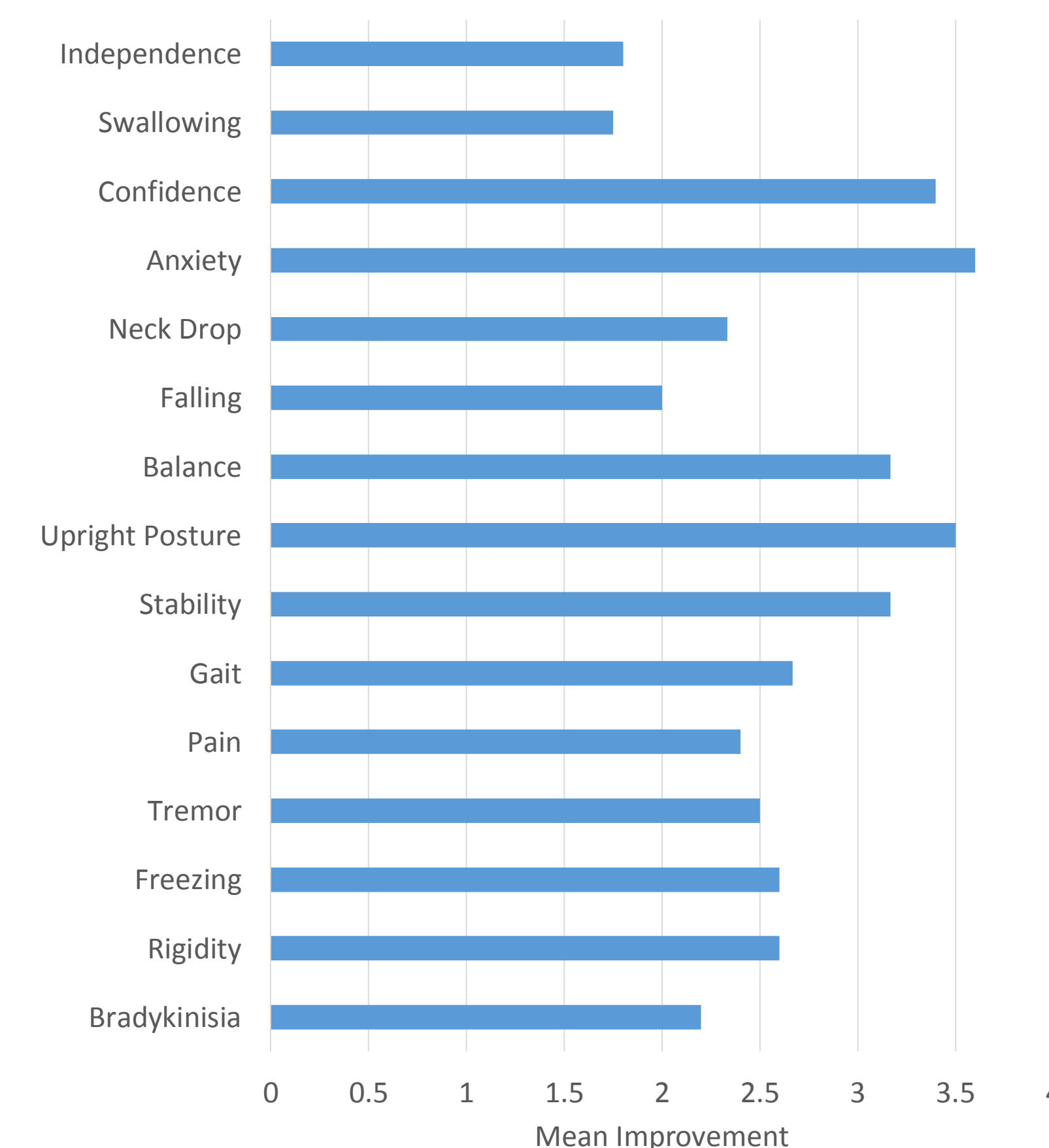
Patients received one 90-minute group class and 4-6 private 45-minute lessons, including functional and anatomical instruction as well as hands-on guidance in upright and semi-supine positions. The main focus was on allowing movement through the torso and legs to inhibit excessive co-contraction, improve stability, and facilitate lengthening. Where possible, a caregiver was included in lessons and taught a protocol for continuing at home.



## Measures

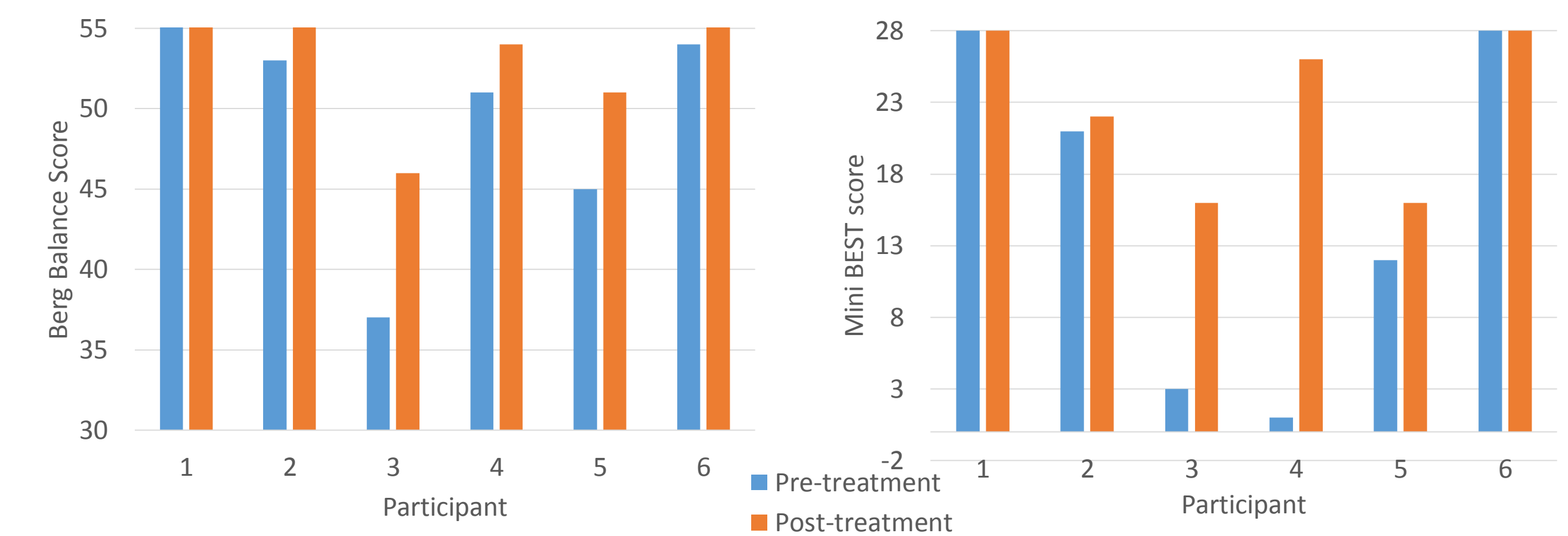
- **Subjective Experience:** self-reported symptoms rated on a 5-point Likert scale
- **Balance:** Berg Balance Scale, Mini-Balance Evaluation Systems Test (mini-BEST)
- **Inhibitory Control:** Stroop color-word naming
- **Neck Pain:** Neck Disability Index (NDI)
- **Posture:** Height
- **Gait:** Timed Up and Go

## Results: Subjective Experience



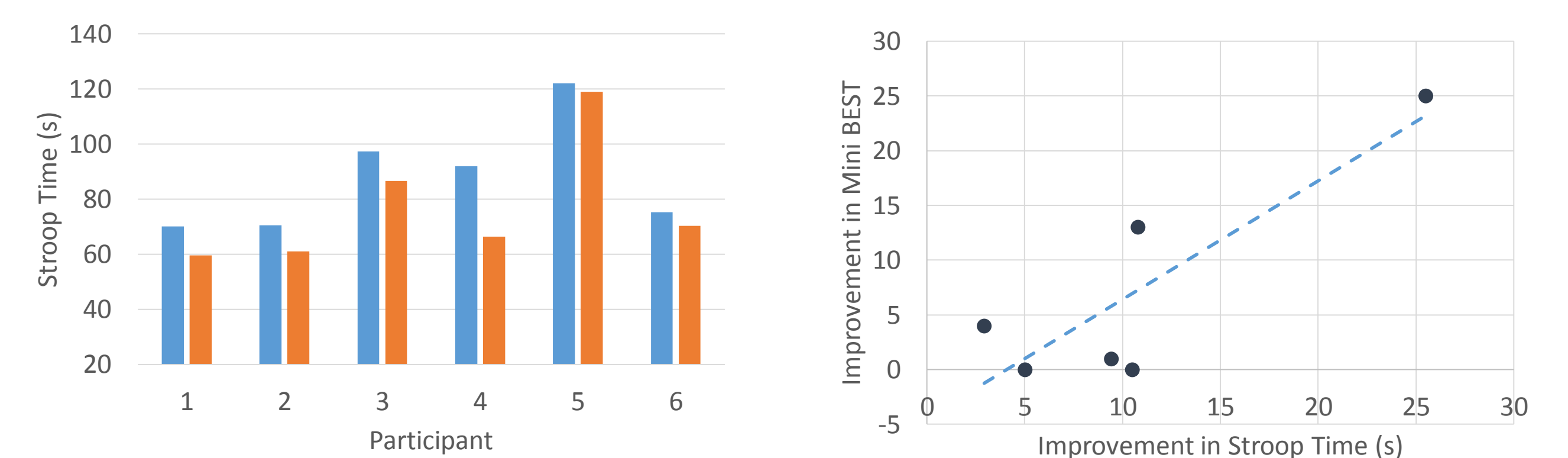
All participants reported improvements in symptoms following Alexander technique lessons. Most notable improvements were reported in posture, balance, anxiety and confidence.

## Results: Balance



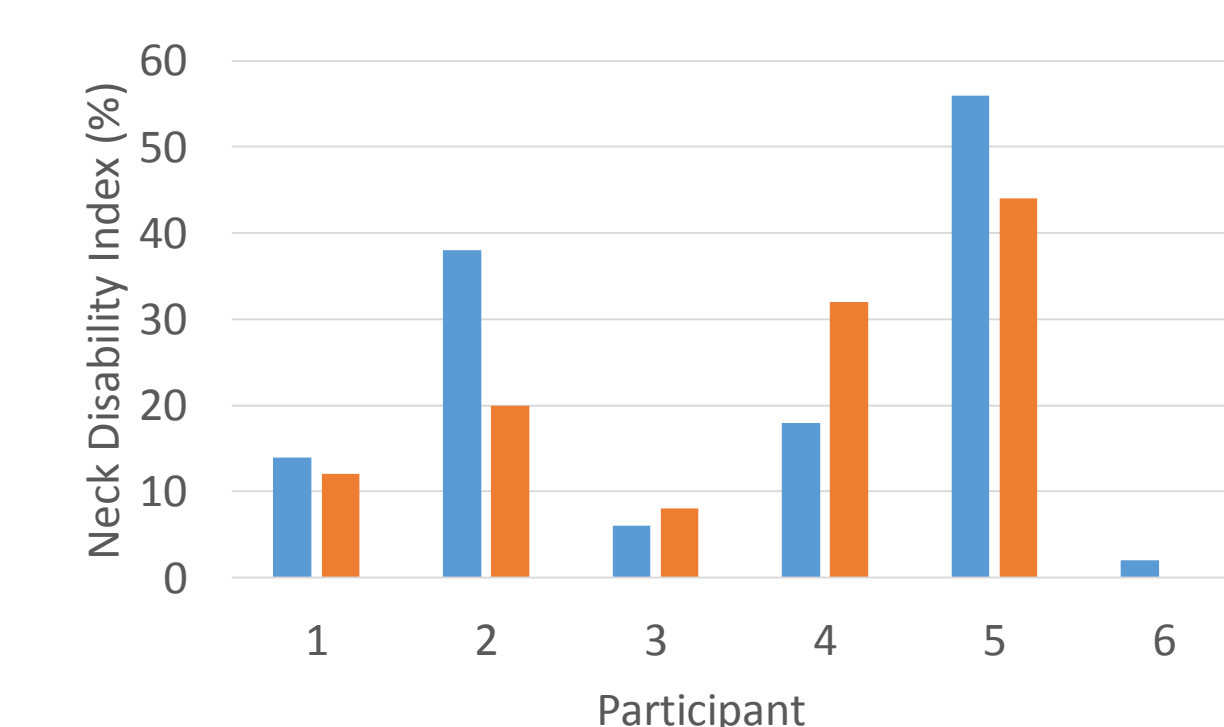
Of the participants not already at ceiling, 5/5 improved on the Berg Balance Score (mean improvement = 3.8; clinical significance for PD = 5), and 4/4 improved on the Mini-BEST following the intervention (higher score = better balance).

## Results: Inhibitory Control



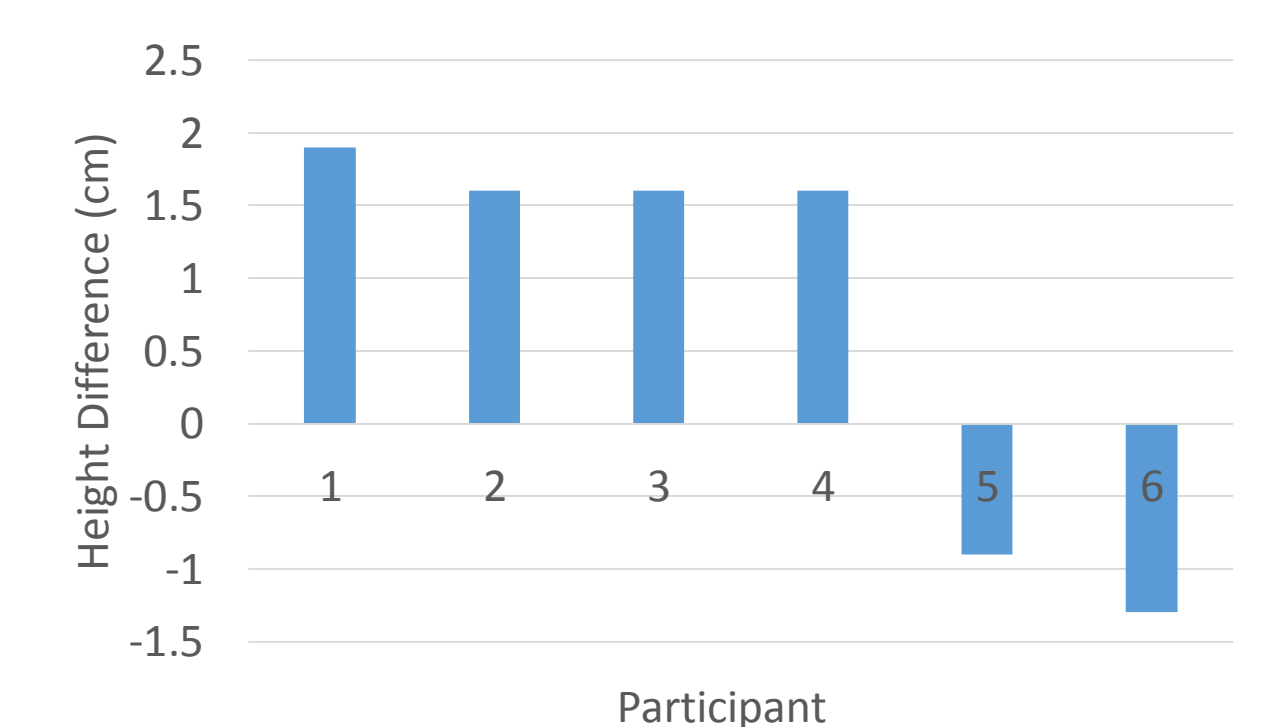
All participants improved in Stroop Task performance as indicated by the reduced time in the follow-up session. Improvement in Stroop was correlated with improvement on Mini-BEST.

## Results: Neck Pain



Pain decreased in 4/6 participants. Average improvement was 6% (3 points on NDI scale), approaching clinical significance cut-off (7%) for non-specific neck pain.

## Results: Posture and Gait



Height increased in 4/6 participants, with an average height gain of .75 cm. Timed Up and Go results were inconsistent.

## Conclusion

In this open label pilot study, a week of intensive training in Alexander technique improved self-reported and objectively measured balance and posture in participants with Parkinson's disease. Improvement on a test of inhibitory control was associated with improvement in balance, supporting the premise of Alexander technique that inhibition is important for posture and balance. Future work will assess retention of benefits, include more sensitive gait measures, and investigate combining Alexander technique with exercise.

## References

1. Stallibrass, C., Sissons, P., & Chalmers, C. (2002). Randomized controlled trial of the Alexander technique for idiopathic Parkinson's disease. *Clinical Rehabilitation*, 16(7), 695-708.
2. Stallibrass, C., Frank, C., & Wentworth, K. (2005). Retention of skills learnt in Alexander technique lessons: 28 people with idiopathic Parkinson's disease. *Journal of Bodywork and Movement Therapies*, 9(2), 150-157.
3. Cohen, R. G., Gurfinkel, V. S., Kwak, E., Warden, A. C., & Horak, F. B. (2015). Lighten up: specific postural instructions affect axial rigidity and step initiation in patients with Parkinson's disease. *Neurorehabilitation and neural repair*, 29(9), 878-888.