

## BACKGROUND

### Background

- Alexander technique (AT) is a cognitive embodiment training combining inhibition, improved body schema, and goal awareness to enhance performance of daily activities.
- Our previous work<sup>1,2,3</sup> with people with Parkinson's disease (PD) found improvement in motor symptoms, balance, and overall confidence in ability to manage living with PD following an in-person AT group course that included care partners.



### Purpose

- To assess the feasibility of an online AT group course for people living with PD (PWP) and their care partners

## DESIGN & INTERVENTION

### Design

- Feasibility study with no control group. 120-min sessions, twice weekly over 8 weeks.
- Classes and data collection occurred via Zoom. Participants received materials to complete physical and balance assessments at home.



### Intervention

AT-based coursework included functional anatomy and self-management strategies taught through verbal instruction, physical demonstration, visual aids, and activities (individual and partnered). Awareness-enhancing practices were embedded in everyday movement including gait, sit-to-stand, and functional IADLs. Care partners were included to increase potential for retention and follow-through.

## PARTICIPANTS



Participant Number	1	2	3	4	5
Gender	Male	Male	Female	Male	Male
Hoehn & Yahr	2	3	2	3	3
Age	68	74	70	79	79
Years diagnosed	6y 8m	1y 1m	2y 10m	6y 2m	3y
Education	4-year College	High School	4-year College	Masters	4-year College
Income	\$75,000-\$99,999	\$35,000-\$49,999	\$125,000-\$149,999	\$25,000-\$34,999	\$150,000-\$199,999

All participants reported their race as white and their care partner as spouse.

## MEASURES

- Participants living with PD and care partners:
  - Surveys about symptom management
  - Anonymous course evaluations
- Participants living with PD only:
  - Physical Performance Test (PPT): Assesses 7 domains of physical function
  - BriefBEST: A short, validated version of the Balance Evaluation Systems Test
  - Posture angles from photos (tragus-C7-sternal notch)
  - Activities Balance Confidence (ABC) Scale

## RESULTS – PATIENT SUBJECTIVE REPORTS

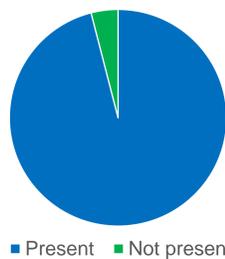
	PWP	Care Partner
Encountered new ideas	96%	89%
Learned practical tools for physical self-management	88%	98%
Likely to use this information	70%	100%
Enjoyed group interaction	78%	90%
Info was presented clearly	86%	98%
Would recommend to a friend	84%	94%
Better prepared for demands of daily life with Parkinson's	78%	94%

### Quotes from PWP after class:

- "I used to have one shoulder that looked higher; now I'm more intentional in how I relax and hold my body"
- "I am much more aware of what I'm doing and trying to comprehend myself in the atmosphere"
- "That concept of being right where you are in your mind so you don't get ahead of yourself"

## RESULTS – ATTENDANCE AND RETENTION

### Attendance



- Course retention and study retention were 100% for all participants.
- Online classes are notorious for low attendance rates, but this study shows promise in keeping participants engaged through the full duration of the course.

## RESULTS – SYMPTOM MANAGEMENT REPORTS

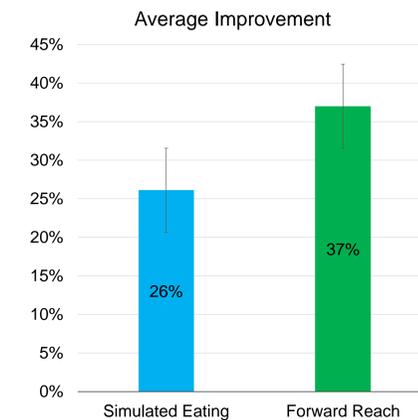
### Percent reporting improved ability to manage symptom\*

Symptom	How many PWP reported symptom?	How many improved?	How many caregivers reported symptom?	How many improved?
Balance	5	80%	5	60%
Bradykinesia	4	75%	3	33%
Confidence	5	60%	5	80%
Falls	4	100%	4	75%
Fine Motor Control	4	75%	5	40%
Handwriting	5	60%	5	60%
Independence	5	100%	5	80%
Pain	5	80%	4	75%
Physical Self Awareness	5	80%	5	80%
Physical Self-Control	5	80%	5	80%
Shuffling Gait	5	80%	4	75%
Swallowing	3	67%	3	33%
Task Focus	3	67%	3	67%
Upright Posture	3	33%	4	100%
Vocal Volume	4	75%	4	75%

\*Only analyzed symptoms reported by at least half of the caregivers

## RESULTS – MOTOR BEHAVIOR

### Pre-Course Post Course



- On average, participants decreased simulated eating times by 26% and increased forward reach by 37%.

- In contrast to our previous work, no significant improvement was found for Physical Performance Test or Brief BESTest. We believe this may be because 40% of our sample had substantial back pain and another 40% had substantial cognitive decline.

## RESULTS – UPRIGHT NECK ANGLE

### Pre-Course Post-Course



- When the participants were asked to stand with what they thought was their best posture, 80% of them had a more upright neck angle after class.

## CONCLUSIONS

Online Alexander-based group training has the potential to be a feasible and cost-effective delivery approach for self-management of Parkinson's motor symptoms in rural areas or where AT teachers are unavailable. Further studies are needed to optimize online delivery and compare to in-person delivery.

## REFERENCES

- 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.
- 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.
- Gross, M., Cohen, R., Ravichandra, R., Basye, M., & Norcia, M. (2019). Poised for Parkinson's: Alexander Technique Course improves Balance, Mobility and Posture for People With PD. *Archives of Physical Medicine and Rehabilitation*, 100(12), 193.

## FUNDING & ACKNOWLEDGEMENTS



Funding was provided by the Parkinson's Foundation, USA. Jacqueline Holton analyzed the posture data. Aubri Achababal and Rachel Frolander helped analyze the survey data. Caden Benzinger and Jared Grieb analyzed the objective assessment data and prepared the poster.