

Outline of Class Content

1. **Grounding the Course: Your Needs Matter and You Have Personal Agency.**

Introductions. Strengthening the group dynamic. Background on Alexander technique (AT). Background on this “Partnering with Poise” course for care partners. Introducing the relationship between Alexander technique, poise, and personal agency. Learning the structure of the classes. Learning some Alexander technique (AT) “Drop Ins” that you can use right away during your daily life. Setting personal goals for the course.

2. **Understanding Your Basic Inner Support and Structure.**

Practicing what you learned in Class One.

New information: Introducing the importance of having a conscious awareness of your physical structure to help you better navigate the moment-to-moment challenges of caregiving. Learning some “AT Drop Ins” about the anatomy of your foot and ankle that can help you become more stable, balanced, and confident.

3. **Inner Ergonomics: Your Ribcage Elasticity, Springiness, and Buoyancy.**

Practicing what you learned in Class Two.

New information: Using the reliable aspects of physics and of your own anatomy for physical and emotional lightness. Pacing yourself to use less energy throughout your day. Learning some “AT Drop Ins” about the anatomy of your ribs for free and easy breathing coordination during your day. Practicing simple ways to refresh yourself and bounce back at any time during your daily life.

4. **Inner Ergonomics: Your Neck and Spine Mobility and Support.**

Practicing what you learned in Class Three.

New information: Locating unique joints at the top of your spine and how they move subtly. Avoiding strain in the middle of your neck. Learning how this knowledge is important to help improve your overall balance and stability, reduce your fatigue, and reduce your potential for physical strain and wear and tear. Learning some “AT Drop Ins” about the anatomy of your head, neck, and spine that you can think about at any moment during your day that may help to reduce the impact of stressful physical and emotional situations. Learning how to use choice as a go-to option. Introducing a simple practice known as Active Rest to gently focus on your awareness of poise and your AT principles in a calm and refreshing way. Active Rest can be an easy, quick way for you to help shed physical and mental tension when it arises so that you don’t carry it with you into the rest of your day or night.

5. **Inner Ergonomics: Your Ankles, Legs, Pelvis, and Lower Back Mobility.**

Practicing what you learned in Class Four.

New information: Understanding that you are built for mobility, not rigidity, and how movement happens inside you, inside your many joints. Learning to move with less stiffness and rigidity so that daily life can be less “jarring,” and you may feel more resilience and flow. Learning some “AT Drop Ins” about your pelvic bones, your hip sockets, and your ankles that can help you

experience more efficient, pleasurable, lighter movement.

6. Inner Ergonomics: Your Knees, Shoulders, and Upper Back Mobility.

Practicing what you learned in Class Five.

New information: Learning about your knee joints so that you can choose to move more smoothly and efficiently and help reduce joint wear and tear. Experiencing how your back muscles are strong, but also stretchy, supple, and flexible. Practicing ways to release them rather than holding them tightly against your ribs and neck. Integrating more freedom and flowing motion within your torso and arms. Learning some “AT Drop Ins” about your back muscles and shoulders that can help you have freer, more gliding motion.

7. Inner Ergonomics: Your Arms and Hands, Spiraling and Reaching.

Practicing what you learned in Class Six.

New information: Learning new ways to use your arms and hands for caregiving tasks. Learning some “AT Drop Ins” about the unique structure of the joints in your arms and hands. Learning how to apply spiraling motion that can help you to reduce strain when carrying out any activity during your daily life.

8. Inner & Outer Ergonomics: You and Your Environment Together.

Practicing what you learned in Class Seven.

New information: Improving your visual perception. Using a widened awareness that opens you up to the space around you while at the same time letting you also have continued attention on yourself and what you are doing. Learning some “AT Drop Ins” to keep your whole-body coordination, integrity, and agency even while also carrying out daily activities. Learning how to be aware of the world around you while at the same time being aware of what you are doing.

9. Inner & Outer Ergonomics: You and Your Partner Together.

Practicing what you learned in Class Eight.

New information: Strengthening your personal agency and your Whole-Self-awareness. Beginning to practice including interactions with your partner while still maintaining your awareness of yourself. Learning “AT Drop Ins” that can help you to refresh yourself and get back “in sync” during your daily life. Learning how to model calm for your partner. Gaining more insights into the Active Rest practice as a way of helping you to shed any residual physical and mental stress at any time during your day.

10. Review, Recover, Refresh: Choosing Poise. I am Partnering with Poise.

Practicing what you learned in Class Nine.

Looking back and reviewing all your strategies. Feeling self-confident about what you have learned and how “The 5Ps” will support you and your partner over the long term. Understanding that your AT principles and strategies will continue to grow over time as you apply them during your daily life and how they can help you to develop a kind of low-level conscious awareness. Knowing that you now have a valuable tool for lifelong agency and personal growth, and that

you have become a First-Person Expert of your personal poise and are also ready to offer AT-based support and interventions for your care receiver. Sharing your course insights with each other.

Description of Objective Assessments

Inhibitory control was assessed with a classic Stroop task (Stroop, 1935). Fifty items each of color blocks, color words, and color words written in conflicting ink colors were presented in blocks, in that order. Participants were asked to name the colors, read the words, and then name the colors (ignoring the words), in that order. The first two tasks served to prime the participant, and only the final (interference) condition was analyzed. Errors were caught by the assessor and corrected in real time by participants so that they affected the overall task completion time. Stroop interference is thought to be relatively robust to test-retest bias, especially in healthy adults (Holm et al., 2022). In addition, different stimulus sets were used at later testing sessions to reduce practice effects.

Short-term and working memory were assessed with two versions of a digit span task (Wechsler, 1955). To assess short-term memory, we used the digit span forward task, in which participants were asked to listen to sequences of numbers and repeat them back in the same order. Sequence length increased from 3 up to 9, and participants had two chances at each sequence length. The final score was equal to the length of the longest sequence the participant could repeat correctly. To test working memory, we used the digit span backward task. The procedure and scoring were the same as for the digit span forward task, except that participants were asked to repeat the digit sequences in reversed order and sequence length increased from 2 up to 8. This test has shown stable test-retest performance in healthy individuals across 6-month time intervals (Holm et al., 2022). Different stimulus sets were used for forward and backward tests, and different stimulus sets were used at later testing sessions to minimize any possible practice effects.

Balance was assessed with a validated short version of the Balance Evaluations Systems Test (MiniBEST), which can be administered in 10-15 minutes (Franchignoni et al., 2010). A recent investigation showed that test-retest results scores were stable and reliable in a population of older adults, with no improvement over 4 weeks (Anson et al., 2019). Thus, MiniBEST appears robust to practice effects. Subjects who score lower than 25 out of 28 possible points have been shown to be at increased risk for falls (Magnani et al., 2020).

Description of Surveys

The Self-efficacy survey and the Perceived Stress Scale, both drawn from NIH Toolbox, each comprise ten questions on a 5-point Likert scale with answers ranging from “never” to “very often” (Kupst et al., 2015).

The Stress and Burnout Questionnaire comprises 25 questions about how often stressful experiences have occurred over the past 3-6 months, on a 3-point Likert scale (El Dalatony, 2019). The Zarit Burden Interview includes 22 questions about feelings associated with caregiver burden; each is scored from “never” to “nearly always” (Zarit et al., 1980).

The Mindful Attention and Awareness Scale (MAAS) consists of 15 statements about the participant’s tendency to remain aware and attentive to what is occurring in the present moment; participants rate each on a 6-point scale from “always” to “never” (Brown & Ryan, 2003).

Self-Efficacy for Managing Emotions, a PROMIS inventory (Gruber-Baldini et al., 2017) asks about current level of confidence to handle, manage, prevent, and avoid negative emotions; each of the 25 questions is rated from “not at all confident” to “very confident.”

Positive Affect, from NIH Toolbox (Salsman et al., 2014) contains 34 statements claiming positive emotions. Subjects are asked to indicate their agreement with each statement on a 5-point scale from “not at all” to “very much.”

Emotional Distress - Depression (Pilkonis et al., 2011) is from PROMIS. It contains 28 statements endorsing distressing feelings. Participants are asked to respond to each statement with a 5-point scale from “never” to “always” indicating the accuracy of the statement for the past 7 days.

Fear (Pilkonis et al., 2013) is an NIH Toolbox inventory with 29 questions. Participants are asked to rate each statement from “never” to “always” on a 5-point scale, indicating the accuracy of the statement for the past 7 days.

Fatigue (Ameringer et al., 2016) is a PROMIS inventory with 37 questions rated from “never” to “always”; 16 rated from “not at all” to “very much”; and one rated from “none” to “very”. All questions are asked with regard to the past 7 days, and several are reverse scored.

Mobility is a PROMIS inventory with 12 questions about if the participant is able to carry out different everyday activities and 3 questions about whether their health limits their ability to do certain things (Hays et al., 2013).

Pain Interference (Amtmann et al., 2010) is a PROMIS inventory with 40 questions regarding how pain interfered with their life over the past 7 days. Twenty are rated from “not at all” to “very much”; 16 are rated from “never” to “always,”; and one is rated from “never” to “every few hours.”

Table S1. Demographic Characteristics of 63 Course Participants

	Range	Mean (SD)
Age	51-80	68 (6.9)
	n	%
Gender		
Woman	56	88.9%
Man	7	11.1%
Race		
White	62	98.4%
Black or African American	1	1.6%
Ethnicity		
Hispanic or Latino	2	3.2%
Not Hispanic or Latino	57	90.5%
Not reported	4	6.3%
Education		
High school graduate or equivalent	4	6.3%
Associate degree: vocational/technical	3	4.8%
Associate degree: academic	2	3.2%

Some college, no degree	11	17.5%
Bachelor's degree	22	34.9%
Master's degree	19	30.1%
Doctoral degree	2	3.2%
Religious Affiliation(s)		
Protestant	32	50.8%
Baptist	6	
Methodist	7	
United Church of Christ	5	
Lutheran	5	
Presbyterian	5	
Episcopal	1	
Quaker	1	
Unity	1	
Not reported	1	
Roman Catholic	13	20.1%
Greek or Russian Orthodox	3	4.8%
Jewish	5	7.9%
Buddhist	2	3.2%
Baha'i	1	1.6%
Other: Spiritual; Open minded; non-denom.	3	4.8%
Agnostic or atheist	2	3.2%
Nothing in particular	4	6.4%
Not reported	2	3.2%
Marital Status		
Married	57	90.5%
Divorced	5	7.9%
Separated	1	1.6%
Employment Status		
Employed*	7	11.1%
Self-employed*	7	11.1%
*Hours per week		
1-19	3	
20-29	4	
30-39	2	
40+ (up to 60)	4	
Not reported	1	
Retired	48	76.2%
Not reported	1	1.6%

Military Service		
Active duty	2	3.2%
Retired	10	15.9%
No military service	49	77.7%
Not reported	2	3.2%
Household residents		
Self	6	9.5%
2	52	82.5%
3	4	6.4%
4 or more	1	1.6%
Household Income		
Under \$15,000	1	1.6%
\$15,000 - \$24,999	4	6.4%
\$25,000-34,999	7	11.1%
\$35,000-49,999	6	9.5%
\$50,000-\$74,999	14	22.2%
\$75,000-\$99,999	10	15.9%
\$100,000 or more	12	19.0%
Not reported	9	14.3%
Health insurance		
Medicare Only	11	17.5%
Private or Group Insurance Only	12	19.0%
Both	35	55.5%
VA/Military Only	2	3.2%
VA/Military & Medicare	1	1.6%
VA/Military & Medicare & Private/Group	1	1.6%
National Health Insurance	1	1.6%
Location		
Urban	12	19.0%
Suburban	36	57.2%
Rural	15	23.8%

Table S2. Information about Care Recipient and Care Relationship. Note: these numbers total to 62 instead of 63 because one participant's care recipient passed away before the course began but she was included as she was continuing to lead a care partner support group and so wanted to learn new strategies to support care partners.

	Range	Mean (SD)
Care Recipient Age	60–84	72.5 (6.2)
Years Since Diagnosis	0.6–22.75	7.6 (5.9)
	n	%
Years with PD		
0-4	25	40.3%
5-9	13	21.1%
10-14	12	19.3%
15-19	4	6.4%
20+	3	4.8%
Not reported	5	8.1%
Type of PD		
Early Onset	5	8.1%
Late Onset	54	87.1%
Not reported	3	4.8%
Cognitive Decline/Memory Loss		
Yes, a great deal	6	9.5%
Yes, some	40	63.5%
No, not at all	16	25.4%
Not reported	1	1.6%
Relationship to care receiver		
Spouse or partner	57	90.4%
Parent or Guardian	4	6.4%
Friend	1	1.6%
Not reported	1	1.6%
Caregiver Role		
Sole caregiver	50	79.3%
Primary caregiver w/ other unpaid caregivers	3	4.8%
One of several caregivers	8	12.7%
Involved	1	1.6%
Not reported	1	1.6%
Care receiver's home		
With CP	54	85.7%
Not with CP*	8	12.7%
Not reported	1	1.6%

*Kind of dwelling		
Their own home	6	
Independent or Assisted living	1	
Nursing home	1	
*Distance from CP		
Less than 20 minutes	6	
20 to 60 minutes	1	
More than 1 hour	1	
*CP Visiting frequency		
More than once a week	7	
Once a month	1	
Number of ADLs, IADLs & other daily tasks assisted with ++		
0-2	14	22.2%
3-5	16	25.4%
6-8	15	23.9%
9-11	12	19.0%
12-16	5	7.9%
Not Reported	1	1.6%
Hours of care provided per week		
Less than 1 hour	4	6.3%
1-8 hours	15	23.8%
9-20 hours	13	20.7%
21-40 hours	12	19.0%
40+ hours	11	17.5%
Not reported	8	12.7%
Care recipient had paid care/aid in last 12 months		
Yes	18	28.6%
No	42	66.6%
Not Reported	3	4.8%
Second Care Recipient?		
No	57	90.5%
Parent	4	6.3%
Child	2	3.2%
Third Care Recipient?		
No	62	98.4%
Other	1	1.6%

++ADLs (activities of daily living) are dressing, bathing, feeding, toileting, managing incontinence needs, and transferring in and out of beds, chairs, etc. IADLs (instrumented activities of daily living) are transportation, shopping, housework, preparing meals, managing finances, managing medications, and arranging/supervising outside services. Additional tasks reported were monitoring health, communicating with health care professionals, and advocating with providers and agencies, for a total maximum of 16.

REFERENCES

- Ameringer, S., Elswick, R. K., Menzies, V., Robins, J. L., Starkweather, A., Walter, J., Gentry, A. E., & Jallo, N. (2016). Psychometric Evaluation of the PROMIS Fatigue-Short Form Across Diverse Populations. *Nursing Research*, 65(4), 279–289. <https://doi.org/10.1097/NNR.0000000000000162>
- Amtmann, D., Cook, K. F., Jensen, M. P., Chen, W.-H., Choi, S., Revicki, D., Cella, D., Rothrock, N., Keefe, F., & Callahan, L. (2010). Development of A Promis Item Bank to Measure Pain Interference. *Pain*, 150(1), 173–182. <https://doi.org/10.1016/j.pain.2010.04.025>
- Anson, E., Thompson, E., Ma, L., & Jeka, J. (2019). Reliability and Fall Risk Detection for the BESTest and Mini-BESTest in Older Adults. *Journal of Geriatric Physical Therapy*, 42(2), 81–85. <https://doi.org/10.1519/JPT.0000000000000123>
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822–848. <https://doi.org/10.1037/0022-3514.84.4.822>
- El Dalatony, M. (2019). Stress and Burnout among Nurses Working in Menoufia University Hospitals. *Ergonomics International Journal*, 3(3). <https://doi.org/10.23880/EOIJ-16000207>
- Franchignoni, F., Horak, F., Godi, M., Nardone, A., & Giordano, A. (2010). Using psychometric techniques to improve the Balance Evaluation Systems Test: The mini-BESTest. *Journal of Rehabilitation Medicine*, 42(4), 323–331. <https://doi.org/10.2340/16501977-0537>
- Gruber-Baldini, A. L., Velozo, C., Romero, S., & Shulman, L. M. (2017). Validation of the PROMIS® Measures of Self-Efficacy for Managing Chronic Conditions. *Quality of Life Research : An*

- International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 26(7), 1915–1924. <https://doi.org/10.1007/s11136-017-1527-3>
- Hays, R. D., Spritzer, K. L., Amtmann, D., Lai, J.-S., DeWitt, E. M., Rothrock, N., DeWalt, D. A., Riley, W. T., Fries, J. F., & Krishnan, E. (2013). Upper-Extremity and Mobility Subdomains From the Patient-Reported Outcomes Measurement Information System (PROMIS) Adult Physical Functioning Item Bank. *Archives of Physical Medicine and Rehabilitation*, 94(11), 10.1016/j.apmr.2013.05.014. <https://doi.org/10.1016/j.apmr.2013.05.014>
- Holm, S. P., Wolfer, A. M., Pointeau, G. H. S., Lipsmeier, F., & Lindemann, M. (2022). Practice effects in performance outcome measures in patients living with neurologic disorders – A systematic review. *Heliyon*, 8(8), e10259. <https://doi.org/10.1016/j.heliyon.2022.e10259>
- Kupst, M. J., Butt, Z., Stoney, C. M., Griffith, J. W., Salsman, J. M., Folkman, S., & Cella, D. (2015). Assessing Stress and Self-Efficacy for the NIH Toolbox for Neurological and Behavioral Function. *Anxiety, Stress, and Coping*, 28(5), 531–544. <https://doi.org/10.1080/10615806.2014.994204>
- Magnani, P. E., Genovez, M. B., Porto, J. M., Zanellato, N. F. G., Alvarenga, I. C., Freire, R. C., & De Abreu, D. C. C. (2020). Use of the BESTest and the Mini-BESTest for Fall Risk Prediction in Community-Dwelling Older Adults Between 60 and 102 Years of Age. *Journal of Geriatric Physical Therapy*, 43(4), 179–184. <https://doi.org/10.1519/JPT.0000000000000236>
- Pilkonis, P. A., Choi, S. W., Reise, S. P., Stover, A. M., Riley, W. T., & Cella, D. (2011). Item Banks for Measuring Emotional Distress From the Patient-Reported Outcomes Measurement Information System (PROMIS®): Depression, Anxiety, and Anger. *Assessment*, 18(3), 263–283. <https://doi.org/10.1177/1073191111411667>
- Pilkonis, P. A., Choi, S. W., Salsman, J., Butt, Z., Moore, T. L., Lawrence, S. M., Zill, N., Cyranowski, J. M., Kelly, M. A. R., Knox, S. S., & Cella, D. (2013). Assessment of self-reported negative affect in the

NIH Toolbox. *Psychiatry Research*, 206(1), 88–97.

<https://doi.org/10.1016/j.psychres.2012.09.034>

Salsman, J. M., Lai, J.-S., Hendrie, H. C., Butt, Z., Zill, N., Pilkonis, P. A., Peterson, C., Stoney, C. M.,

Brouwers, P., & Cella, D. (2014). Assessing Psychological Well-Being: Self-Report Instruments for

the NIH Toolbox. *Quality of Life Research : An International Journal of Quality of Life Aspects of*

Treatment, Care and Rehabilitation, 23(1), 205–215. <https://doi.org/10.1007/s11136-013-0452-3>

Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*,

18(6), 643–662. <https://doi.org/10.1037/h0054651>

Wechsler, D. (1955). *Wechsler Adult Intelligence Scale (Form I)*. The Psychological Corporation.

Zarit, S. H., Reever, K. E., & Bach-Peterson, J. (1980). Relatives of the Impaired Elderly: Correlates of

Feelings of Burden. *The Gerontologist*, 20(6), 649–655. <https://doi.org/10.1093/geront/20.6.649>