

WHY DO WE DO EACH OF THESE THINGS?

1. **Aerobic Exercise:** has the most research of any type of exercise for improvement in Parkinson's symptoms and cognition.

These 2 articles have a good summary and cover lots of research!

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136051/pdf/znl288.pdf>

<https://www.mayoclinicproceedings.org/action/showPdf?pii=S0025-6196%2817%2930898-4>

Here is the abstract from this article describing the importance of aerobic exercise: No medications are proven to slow the progression of Parkinson disease (PD). Of special concern with longer-standing PD is cognitive decline, as well as motor symptoms unresponsive to dopamine replacement therapy. Not fully recognized is the substantial accumulating evidence that long-term aerobic exercise may attenuate PD progression. Randomized controlled trial proof will not be forthcoming due to many complicating methodological factors. However, extensive and diverse avenues of scientific investigation converge to argue that aerobic exercise and cardiovascular fitness directly influence cerebral mechanisms mediating PD progression. To objectively assess the evidence for a PD exercise benefit, a comprehensive PubMed literature search was conducted, with an unbiased focus on exercise influences on parkinsonism, cognition, brain structure, and brain function. This aggregate literature provides a compelling argument for regular aerobic-type exercise and cardiovascular fitness attenuating PD progression.

2. **Skill Based Exercise** is also very important, to build new connections between neurons, and new neural pathways!

This article is an excellent resource: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3690528/pdf/nihms481987.pdf>

This is the abstract from this article: The purpose of this review is to highlight the potential role of exercise in promoting neuroplasticity and repair in Parkinson's disease (PD). Exercise interventions in individuals with PD incorporate goal-based motor skill training in order to engage cognitive circuitry important in motor learning. Using this exercise approach, physical therapy facilitates learning through instruction and feedback (reinforcement), and encouragement to perform beyond self-perceived capability. Individuals with PD become more cognitively engaged with the practice and learning of movements and skills that were previously automatic and unconscious. Studies that have incorporated both goal-based training and aerobic exercise have supported the potential for improving both cognitive and automatic components of motor control. Utilizing animal models, basic research is beginning to reveal exercise-induced effects on neuroplasticity. Since neuroplasticity occurs at the level of circuits and synaptic connections, we examine the effects of exercise from this perspective.

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3. Sleep! Sleep is an important opportunity for our body and brain to rest and repair for the next day. Lack of sleep can exacerbate Parkinson's symptoms and cognitive challenges. Each day, the amount of sleep you got the night before will affect how you feel, and there are long term effects of sleep deprivation as well. Here is one study that showed that when sleep apnea was treated in people with Parkinson's, they showed improved cognition over a 12 month period! <https://jcsn.aasm.org/doi/pdf/10.5664/jcsn.7114>

4. Hydration Dehydration is common in people with Parkinson's and can contribute to many challenges including constipation, low blood pressure and confusion. Here is a research article describing the changes with cognition in people who are dehydrated: <https://www.nature.com/articles/1601898>

5. Fruits, Veggies, Whole Grain, Nuts, Seeds, Spices, etc! Plant based foods have been healthy nutrients and higher intake of plant based foods have been shown to correlate with slower progression of Parkinsons (Study: <https://www.tandfonline.com/doi/abs/10.1080/1028415X.2020.1769411?journalCode=yanns20>)

This study showed people who ate more plants had a lower risk of cognitive decline later in life: <https://academic.oup.com/ajcn/article/110/4/912/5543218>

6. Brain Training Physical exercise has very beneficial for cognition, but it is also a good idea to work specific cognitive skills just like we do for physical exercise! The type of training done on BrainHQ.com has over 100 published studies showing the effectiveness of this type of brain training: <https://www.brainhq.com/world-class-science/published-research>

The research conducted in older adults is very relevant for people with Parkinson's, and they have also done a few studies specifically for people with Parkinson's: <https://www.brainhq.com/world-class-science/information-researchers/>

7. Meditation/Mindfulness Spending time with some breath practice or with a guided meditation can be a powerful way to decrease stress and help your nervous system switch from a fight/flight way of operating to rest/digest, so that you can rest and digest! Multiple studies have shown guided meditation to help people with Parkinson's improve their motor/non-motor symptoms, improve brain volume in specific areas and guided meditation has been shown to improve cognition specifically: <https://www.sciencedirect.com/science/article/abs/pii/S1053810010000681>

8. Have an Active Social Life! Many studies now show the positive effects of having an active social life on Parkinson's symptoms and cognition specifically. Here is just one of those studies: <https://pubmed.ncbi.nlm.nih.gov/15157849/>