Exercise can offer many benefits to an individual’s physical and mental health. Research has begun to examine the effects of exercise on disease processes, such as Alzheimer’s disease. Additionally, in recent years, our understanding of the roles and benefits of antioxidants in Alzheimer’s disease has greatly advanced. A particular antioxidant, EGCG, is found in green tea and has shown potential promise in helping to mitigate some of the symptoms and pathology seen in Alzheimer’s disease.

This study used a mouse model of Alzheimer’s disease (the TgCRND8 strain specifically) to examine the benefits of certain lifestyle interventions (exercise; diet rich in antioxidants, specifically EGCG) on the course of the disease. We found that long-term exercise (5-months duration) reduced levels of amyloid-beta (pathological symptom) in the brains of Alzheimer’s mice. Additionally, Alzheimer’s mice that were physical active performed better on tests of learning and memory, compared to sedentary mice. Additionally, EGCG-treated mice performed better on learning and memory tasks, compared to untreated mice, and showed lower levels of amyloid-beta in the brain.

The present study showed that regular physical activity, as well as daily EGCG dietary supplementation, can exert beneficial effects on cognition and lower amyloid burden in the cortex and hippocampus of Alzheimer’s mice, when treatment is started at the onset of disease pathology. This research was supported by NIH grant funding (2P01 AG18357).