

Genes may thwart seniors' exercise gains

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Keeping strong and physically fit is crucial to maintaining independence among the elderly. Exercise has repeatedly been shown to reduce or slow age-related declines in physical function and is a widely recommended for seniors, but the way that older people respond to exercise varies widely. A new study by Thomas W. Buford et al. examines the ACE I/D gene and whether its variations—the ID, DD, and II genotypes—impact some seniors' ability to fully reap the benefits of exercise.

Researchers followed 424 sedentary, mobility-limited seniors aged 70-89 for a year. Participants were randomly placed in a group that focused on either health education or [physical activity](#). The health education group received ongoing presentations on eating right, how to properly use medication, and other information on maintaining a [healthy lifestyle](#), but did not perform [exercise](#) as part of the study. Seniors in the physical activity group were taught a variety of strength (e.g., squats and leg raises) and balance exercises and a walking program that they were encouraged to perform both in a group setting and at home.

The researchers measured changes in walking speed and participants' ability to perform other tasks such as getting up from a chair. They found that the physical activity intervention led to greater improvements walking speed among ID and DD genotype carriers (29.9% and 13.7% respectively). However, among II genotype carriers, health education alone led to more improvements in walking speed than physical activity intervention (20% vs. 18.5%). II carriers in the physical activity group also experienced smaller gains in lower body performance than those in the [health education](#) group.

These findings suggest that the ACE I/D genotype may be a significant factor in how well seniors respond to exercise. This insight could be used to develop more effective, individualized, and senior-friendly exercise recommendations for improving physical function and preventing in disability. The full study "Genetic influence on exercise-induced changes in physical function among mobility-limited older adults" is published in *Physiological Genomics*: [physiolgenomics.physiology.org...
ontent/46/5/149.full](https://physiolgenomics.physiology.org/content/46/5/149.full)

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