

Weight loss plus aerobic and resistance exercise can reduce frailty in obese older adults

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This is an image of a weight scale. Credit: CDC/Debra Cartagena

Although losing weight is generally considered a helpful step toward leading a healthier life, for obese older adults it can actually have adverse health consequences that can include accelerating age-related loss of muscle and bone mass. However, in a new study published today in the *New England Journal of Medicine*, researchers at Baylor College of Medicine found that weight loss plus combined aerobic and resistance training provided greater improvement in physical function and reduction of frailty in older obese adults.

"The prevalence of obesity in the elderly population is rapidly increasing, and the appropriate management of obesity in the elderly is still controversial," said first author Dr. Dennis Villareal, professor of medicine in the division of diabetes, endocrinology and metabolism at Baylor. "Although weight loss is the first line of treatment for obesity in general, weight loss in the [elderly population](#) is not uniformly accepted. This is because there is a potential to worsen their frailty since weight loss

will induce not only loss of fat but also loss of muscle and [bone mass](#)."

For this reason, the study focused on determining the specific type of exercise that would be most appropriate to combine with caloric restriction to induce weight [loss](#) while improving functional status and preserving muscle and bone mass, said Villareal, also a staff physician at the Michael E. DeBakey VA Medical Center.

Villareal and his colleagues analyzed a total of 160 people with obesity, aged 65 and older, over a 26-week period. At the beginning of the study, participants were randomly assigned to a weight-management program and one of three exercise programs—[aerobic training](#), [resistance training](#), or combined aerobic and resistance training—or to a control group (no [weight](#)-management or exercise program). Results were observed using the objective Physical Performance Test [score](#). The test simulates nine different activities of daily living – walking 50 feet, putting on and removing a coat, picking up a penny, standing up from a chair, lifting a book, climbing one flight of stairs, performing a progressive Romberg test, going up and down four flights of stairs, and making a 360-degree turn. Each component has a maximum score of four so a perfect score equals 36. To be eligible for the study participants needed to have evidence of mild to moderate frailty, meaning their Physical Performance Test score had to be at 31 or less. The mean score was around 28.

At the conclusion of the study, researchers found participants had the most robust improvement in their physical function when [weight loss](#) was combined with aerobic and resistance [training](#). In fact, some of them were no longer frail because their Physical Performance Test score was higher than 31.

"The most important message of this study is that it is never too late in life to change lifelong habits and unhealthy lifestyles," Villareal said.

More information: Dennis T. Villareal et al. Aerobic or Resistance Exercise, or Both, in Dieting Obese Older Adults, *New England Journal of Medicine* (2017). [DOI: 10.1056/NEJMoa1616338](https://doi.org/10.1056/NEJMoa1616338)

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