

# Diet-exercise combo best for obese seniors

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Senior exercisers speak with Dennis T. Villareal, MD, while participating in a study to find effective ways to boost physical function and reduce frailty in the elderly. Both were obese when the study began but lost weight through a combination of diet and exercise. Credit: Joe Angeles

For obese seniors, dieting and exercise together are more effective at improving physical performance and reducing frailty than either alone.

The research, by a team at Washington University School of Medicine in St. Louis, is reported March 31 in The [New England Journal of Medicine](#).

[Older adults](#) who are obese face severe [health risks](#), including [high blood](#)

[pressure](#), heart disease and diabetes, which can be compounded by a lack of mobility.

"We wanted to tease apart the effects of dieting and [exercise](#) in older people who are obese," says principal investigator Dennis T. Villareal, MD, adjunct associate professor of medicine at Washington University School of Medicine in St. Louis. "In older adults, obesity exacerbates declines in [physical performance](#) and leads to frailty, impaired quality of life and increases in nursing home admissions. Given the increasing prevalence of obesity even among older people, it is important to find ways to combat the problem and help seniors remain healthier and more independent."

In this study, Villareal and his colleagues evaluated the effects of dieting and exercise in more than 100 obese seniors over a one-year period. Although weight loss alone and exercise alone improved physical function by about 12 percent and 15 percent, respectively, neither was as effective as diet and exercise together, which improved physical performance by 21 percent.

The investigators used the Physical Performance Test, a test that evaluates an individual's ability to perform tasks, such as walking 50 feet, putting on and removing a coat, standing up from a chair, picking up a penny, climbing a flight of stairs and lifting a book.

In addition, the researchers evaluated peak oxygen consumption during exertion with treadmill walking. On that test, obese elderly people who both dieted and exercised improved 17 percent from their baseline. The diet-only group showed a 10 percent gain, and the exercise-only group improved about 8 percent.

All subjects in the study were over 65, with some as old as 85 when the study began. Their average age was about 70. Volunteers were randomly

assigned to one of four groups. One set of seniors was placed on a low-calorie diet to help them lose weight. Members of a second group attended exercise sessions three times a week, doing balance work, resistance training and aerobic exercise. A third group combined both the low-calorie diet and the exercise. The last group made no changes in diet or exercise habits.

All subjects had medically significant obesity, defined as having a body mass index (BMI) of 30 or more. BMI measures the relationship between a person's height and weight.

At the study's outset, participants had evidence of frailty and impaired physical function based on their Physical Performance Test and on measures of their peak aerobic capacity using an exercise stress test and a questionnaire about their physical function.

Villareal and his team also surveyed study subjects about their quality of life, and again, those in the combined diet-exercise group had the biggest improvements. Their scores improved by 15 percent, compared to 14 percent in the diet-only group and 10 percent in the exercise-only group. By every measure, strength, balance and gait all showed the most consistent improvement in the diet-exercise group.

"In older, obese people, it may be more important to improve physical function and quality of life, rather than to reverse or treat risk factors for cardiovascular disease," says Villareal, now chief of geriatrics at the New Mexico Veterans Affairs Health Care System and professor of medicine at the University of New Mexico School of Medicine, both in Albuquerque. "Combining exercise and weight loss isn't designed so much to extend their life expectancy as it is to improve their quality of life during their remaining years and to help seniors avoid being admitted to a nursing home."

There is some debate, however, about whether it's good for elderly people to lose weight, even if they are obese. Some studies have found an association between weight loss in seniors and mortality risk, but Villareal says many of those studies did not distinguish between voluntary weight loss and involuntary weight loss that may be related to illness.

But even if voluntary [weight loss](#) carries no significant risk of shortening life, another potential drawback is that when older people lose fat, they also tend to lose muscle and bone.

In this study, the researchers did find slight reductions in lean body mass and bone mineral density among those who lost weight, but the decreases were smaller in the combined diet-exercise group than in those who dieted or exercised alone. The diet-exercise group participants lost 3 percent of their lean body mass, with a 1 percent bone mineral loss in the key area of the hip. Those who only dieted lost 5 percent of their lean body mass and 3 percent in bone mineral density at the hip.

Just as in younger people, the prevalence of obesity has increased in the elderly. About 20 percent of people 65 and older are obese, and that is expected to continue rising as more baby boomers become senior citizens. Elevated weight is known to be associated with impairments in daily living, limitations in mobility and an increased risk for physical decline and frailty.

"Although losing weight is beneficial and exercise also is good, when seniors do both, they get a greater improvement," he says.

Provided by Washington University School of Medicine

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