

# Exercising first, dieting later protects patients with metabolic syndrome from muscle loss

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Younger and older women tend to lose lean muscle mass, along with fat, unless they engage in physical activity before they attempt weight loss, a new study from Israel finds. The results were presented Sunday at the joint meeting of the International Society of Endocrinology and the Endocrine Society: ICE/ENDO 2014 in Chicago.

"To preserve muscle in [metabolic syndrome](#), irrespective of age, exercise should precede the initiation of weight loss and not be started at the same time as diet," said lead study author Yonit Marcus, MD, PhD, endocrinologist at the Institute of Endocrinology, Metabolism and Hypertension of Tel Aviv Medical Center in Tel Aviv, Israel.

The recommended treatment for metabolic syndrome (MetS) patients is a combination of proper diet and exercise, yet most attempted weight loss periods end with later weight regain. Muscle loss often occurs during diet, so repeated [weight loss](#) attempts may lead to increasing loss of [muscle mass](#), frailty and disability.

"The metabolic syndrome and obesity have become the pandemic of the 21st century," Dr. Marcus said, "and the only measures taken to counter this problem are exercise and diet. Exercise and diet are commonly started at the same time, but this should be reconsidered."

For this study, Dr. Marcus and colleagues recruited 38 patients with

MetS, aged 19 through 71 years. All patients completed a 1-year intervention program involving frequent interactions with physicians, a dietician and a physiologist. Overall, 9 men and 8 [women](#) were above the median age of 53 years, and 12 men and 6 women were below the [median age](#). At the beginning and the end of the year, dual-energy x-ray absorptiometry (DEXA) bone scans were performed to determine body composition.

The DEXA scans showed that women and men younger than 53 years lost 11% and 10% of their body weight, respectively, while those over 53 years lost only about 6% of their body weight. Younger women and men lost about 17% of their fat mass but older women and men lost only 10% and 15%, respectively. Younger men lost less of their muscle mass than women (1% vs 5%), and both older men and women lost 3% of their muscle mass.

Strikingly, the authors wrote, all patients who gained or lost less than 2.9% of muscle mass were exclusively those who engaged in physical activity prior to beginning the program and continued throughout the year.

Provided by The Endocrine Society

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