

High-intensity training delivers results for older men-but not for older women

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High-intensity training (HIT) is often recommended as a way to improve cardiovascular fitness in men and women. HIT exercise can have a positive effect on a person's maximum oxygen consumption (VO₂max) and mitochondrial oxidative phosphorylation (OXPHOS) capacity, the pathway that cells use to metabolize energy. However, studies on these exercise regimens have focused on younger subjects. University of Copenhagen researchers set out to study whether the effects were the same for older males and females as those noted in younger adults. They will present their results at the APS Conference "Physiological Bioenergetics: From Bench to Bedside" in Tampa.

The research team observed obese senior males and females 62 and older. The subjects were assigned a regimen of high-intensity exercise that occurred three times per week for six weeks. Each session included five one-minute bursts of exercise performed at 125 percent of VO₂max. OXPHOS was measured in the subjects' muscle and abdominal fat, along with their VO₂max, body composition and several other metabolic measurements before and after the [exercise regimens](#) were performed.

While males increased their VO₂max and OXPHOS in the muscle and reduced their [body fat percentage](#) by the end of the six weeks, no changes were seen in females. The researchers did note, however, that female OXPHOS capacity in abdominal fat was higher to begin with. They said that more analysis is needed to explain the gender differences in the results.

Provided by American Physiological Society

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