

## Women must do more to reap same positive health outcomes as men, research suggests

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More than one-third of Americans are obese, and these individuals often experience accompanying health issues, such as Type 2 diabetes and cardiovascular problems. In response to the so-called "obesity epidemic," many medical professionals have suggested ways to improve the health outcomes of obese individuals through diet and exercise. Now, research conducted at the University of Missouri suggests certain exercises that benefit obese men may not have the same positive results for obese women. These findings could help health providers and researchers develop targeted exercise interventions for obese women.

"Our results indicate gender may contribute to differences in cardiovascular function of [obese individuals](#) with Type 2 diabetes," said Jill Kanaley, a professor in the Department of Nutrition and [Exercise Physiology](#) at MU. "Men saw improvement after aerobic [exercise training](#), but the women did not experience the same benefits."

Kanaley and her colleagues monitored cardiovascular responses, such as heart rate and blood pressure, of nearly 75 obese men and women with Type 2 diabetes. To monitor cardiovascular responses, the individuals completed an isometric handgrip test, which involves continually and forcefully squeezing an object for a few minutes, at the beginning and end of a structured, 16-week walking program.

"What this research highlights, at least using the handgrip test, is that the advantages we think exercise is going to give individuals may not be the same across genders, particularly for those who have Type 2 diabetes,"

Kanaley said. "This is a concern because there are high [mortality rates](#) with Type 2 diabetes, especially for women. We're trying to find successful interventions to help these individuals, and we keep assuming that exercise will do the trick—we think when we tell people to "go train," regardless of gender, everyone will get the same results. Our research indicates certain exercises may not be enough for women, as our walking program did not show positive improvements for them."

Obese women with [Type 2 diabetes](#) might benefit from longer durations or higher intensities of exercise, Kanaley said. In addition, Kanaley said more concern should be placed on how long it takes cardiovascular function to return to normal after exercise as well as how fast the heart beats during physical exertion.

"A lot of people focus on how high individuals' heart rates get during exercise, but their recovery rates also should be monitored," Kanaley said. "When you exercise, you want your blood pressure to rise, but you don't want it to get too high. Your blood pressure should return to normal relatively quickly after you stop exercise. In our study, the recovery rate for women was not as rapid as for men. After the men trained, they got an even better recovery time, whereas women's time stayed about the same."

**More information:** The study, "Exercise training improves hemodynamic recovery to isometric exercise in obese men with Type 2 diabetes but not in obese women," was published in the December issue of *Metabolism*.

Provided by University of Missouri-Columbia

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