

Study: Morbidly obese sedentary for more than 99 percent of day

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A new study appearing in *Clinical Cardiology* examines the average fitness level of the morbidly obese (body mass indexes between 40.0 and 49.9). The findings show that the tested population was sedentary for more than 99 percent of the day and, on average, walked less than 2,500 steps per day - far below healthy living guidelines of 10,000 steps per day. The results provide important links between obesity, poor fitness and cardiovascular disease.

The study used a precise body sensor to continually measure [physical activity](#), [caloric expenditure](#) and movement minute-by-minute over a 72-hour period within their home environments. Following collection of the data, structured cardiorespiratory [fitness](#) testing was performed on each subject.

Most morbidly obese participants in the study were markedly sedentary. On average, 23 hours and 51.6 min per day were spent sleeping or engaged in [sedentary activity](#) and the remaining 8.4 minutes were spent in moderate activity. On average, subjects took $3,763 \pm 2,223$ steps.

The highest level of activity attained by any single individual during one 24-hour period was 28 minutes of moderate activity. No length of time was spent at a high level of activity for any of the individuals while under observation. Two individuals in this study spent the entire monitoring period in sedentary activity.

Obesity contributes to five of the top 10 diseases with the highest mortality rates: cardiovascular disease, stroke, diabetes, [hypertension](#) and cancer. Increasingly, new technologic advances encourage individuals to move less and expend fewer calories.

However, it has been shown that, despite being obese, individuals with moderate-to-high levels of cardiorespiratory fitness have cardiovascular death

rates that are 71 percent lower than their unfit counterparts. Moreover, low cardiorespiratory fitness is an independent predictor of mortality in normal weight, overweight and [obese individuals](#) alike. Morbidly obese individuals, however, have severely reduced cardiorespiratory fitness that is similar to those with established systolic heart failure.

Despite the lack of moderate or vigorous physical activity in the studied population, lighter amounts of physical activity may yield significant health benefits. Even light walking in speeds of 1 to 2 miles per hour shows significant health benefits. Over time, increasing amounts of light physical activity may improve aerobic capacity and ultimately reduce mortality.

"Our findings have important implications for the relationship between obesity and physical activity," say authors Thomas Vanhecke, Barry Franklin, Wendy Miller, Adam deJong, Catherine Coleman and Peter McCullough of William Beaumont Hospital. "Our findings will add incentive to increase physical fitness in this population and increase the awareness of healthcare professionals of the need for recommending physical activity in their patients."

Source: Wiley ([news](#) : [web](#))

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