# Quick Postmeal Walks Better Than Once-Daily Longer Ones

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A quick 15-minute walk after each meal may be a better exercise prescription than a once-daily 45-minute walk for older adults with prediabetes, a new study suggests.

Among 10 older adults with impaired fasting glucose (IFG), both a once-daily 45-minute walk at 10:30 AM and 15-minute walks after breakfast, lunch, and dinner significantly improved 24-hour glycemic control compared with a day of no exercise, but only the postmeal walking regimen was associated with better glucose levels after dinner.

The study, by Loretta DiPietro, PhD, MPH, professor and chair of the department of exercise science, the George Washington University School of Public Health and Health Services, Washington, DC, and colleagues, was published online June 11 in *Diabetes Care*.

"Similar to some pharmacologic treatments, a smaller exercise dose repeated several times per day may provide greater overall benefits than a single large dose taken once per day," write Dr. DiPietro and colleagues.

"I think these findings have tremendous clinical and public-health relevance, as older people, especially, may feel more capable of performing three 15-minute bouts that can be coupled with other chores, compared with large sustained bouts of walking," Dr. DiPietro told *Medscape Medical News*. "This may be especially so when the weather is lousy."

She suggested that patients who may be susceptible to impaired glucose tolerance (ie, have IFG) might couple the intermittent exercise with activities such as errands, dog walking, or meetings with family or neighbors. "Remember that *nothing* is worse than inactivity," she said.

**Timing vs Duration/Intensity**

The 10 study subjects had a mean age of 69 years and mean body mass index of 30 kg/m$^2$. All had IFG, defined as 105 to 125 mg/dL (mean 109 mg/dL), with normal fasting insulin levels.

All wore continuous glucose monitors for 48 hours, were fed the same standardized 3 meals each day, and spent the first day of the 2-day study moving as little as possible. On the second day, the subjects performed 1 of 3 exercise routines on a treadmill: a 15-minute walk 30 minutes after completion of each meal; a single 45-minute walk performed at 10:30 AM; or a single 45-minute walk at 4:30 PM.

Exercise intensity was standardized at 3 metabolic equivalents (METs), with treadmill speeds to achieve that exertion level varying from 2.1 to 3.5 mph (average 3.0 mph).

Compared with the no-exercise day, both the three 15-minute walks and the 45-minute morning walk were associated with significantly reduced 24-hour glucose concentrations ($P < .03$ for the postmeal walks and $P < .05$ for the longer morning walk, with reductions in glycemia of 10% and 8%, respectively).

In contrast, the 45-minute afternoon walk had no significant impact on the average 24-hour glycemic levels.

But only the postmeal walks were associated with significant reductions in 3-hour postdinner glucose levels compared with the no-exercise day ($P < .01$; area under the curve, $P < .03$). In fact, the 45-minute afternoon walk appeared to increase 3-hour postdinner glucose levels, a phenomenon that has been seen previously (*Obesity*. 2007;15:704-711 ).

Improvements in 24-hour glucose values were significantly correlated with 3-hour postdinner values ($P < .001$), but not with postlunch values or fasting blood glucose, "suggesting that an after-dinner walk may have the greatest relative benefits for overall daily glucose homeostasis," the authors write.

Dr. DiPietro told *Medscape Medical News*, "For the older population for whom this was intended, I think the three 15-minute bouts are superior [to the 45-minute walk] due to how impressively it lowered the postdinner glucose levels. These high levels later in the day continue into the late evening and are the primary contributor to 24-hour glycemic control.

"Given the excess disease burden associated with hyperglycemia in older age and the recognized value of noncommunicable disease prevention, there are enormous public-health benefits to designing exercise programs that are enjoyable and effective within the populations needing them the most," she and her colleagues conclude in their paper.

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