

RUNNER'S WORLD

Fear Not, Marathoners: Too Much Running Won't Kill You

Researchers studied 661,000 adults, including 4,000 who exercised the equivalent of about 50 miles a week.

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A new study tracked mortality rates and found that excessive exercise carried no increased risk of dying.

A new and very large analysis of exercise levels and mortality outcomes has reinforced a universal conclusion: A modest amount of weekly exercise can produce big benefits. It's also shown that high levels of exercise appear to carry no excess risks.

The study was first published online by JAMA Internal Medicine. According to the authors, "Our findings are informative for individuals at both ends of the physical activity spectrum. They provide important evidence to inactive individuals by showing that modest amounts of activity provide substantial benefits, while reassuring very active individuals of no exercise-associated increase in mortality risk."

Specifically, the "Detailed Pooled Analysis" of 661,137 men and women found that individuals exercising at the level recommended by the federal government's 2008 "Physical Activity Guidelines for Americans" enjoyed a 20 percent reduction in mortality risk compared to non-exercisers. Those who exercised three to five times the recommended guidelines experienced the greatest reduction in risk, 39 percent. Those who exercised 10 times the recommended amount also maintained a high risk-reduction rate.

The analysis used MET-hours/week to group exercise levels, a measure that can be converted to miles per week. For instance, exercising three times the recommended guidelines is equivalent to running roughly 15 miles per week; five times is roughly 25 miles per week; and 10 times is about 50 miles/week. (See table below.)

The question of "excessive exercise" has been much debated in exercise and health journals in recent years, causing serious runners to wonder about the safety of their high-mileage regimens. (*Runner's World* contributing editor and Sweat Science columnist Alex Hutchinson has done an excellent job summarizing and critiquing several prior publications.)

Researchers of those earlier papers suffered the same problem—how do you reach valid conclusions about high-level exercisers like marathoners and half-marathoners when it's so difficult to find them in the general population?

This study's substantial size overcame that barrier. While only .6 percent of all subjects reached the "10 times" exercise level, that still amounted to 4,077 individuals. Of these, 212 died during the study's 14.2 years of follow-up. Few studies sport such impressive numbers of committed exercisers.

The paper includes separate analyses for cancer deaths and cardiovascular deaths. Interestingly, the risk of death from cancer continued to decrease from the lowest level of activity all the way through the highest level, the "ten times" group. Cardiovascular death rates bottomed out at those exercising three to five times the guidelines then increased slightly in higher-exercising groups. However, the risk never exceeded that found among much more modest exercisers.

TABLE: All-Cause Mortality Risk Over 14.2 Years By Level of Weekly Exercise

MET-hrs/week*	0	0-7.5	7.5-15	15-22.5	22.5-40	40-75	75+
Mortality risk	1.0	.8	.69	.63	.61	.61	.69

*7.5 MET-hrs/week is equivalent to about 5 miles of easy running per week.

The research team included public health specialists and epidemiologists from the National Cancer Institute, Johns Hopkins, and Harvard Medical School, among others. Study authors said their analysis produced three key findings:

1. "The currently recommended amounts of leisure time physical activity [LTPA i.e., "exercise"] provide most of the longevity benefits."
2. "The longevity benefit threshold appears to be approximately 3 to 5 times the recommended physical activity minimum."
3. "There does not appear to be an elevated mortality risk with LTPA levels as high as 10 or more times the recommended minimum."