

Instant death from heart attack more common in people who do not exercise

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An active lifestyle is linked with a lower chance of dying immediately from a heart attack, according to a study published today in the *European Journal of Preventive Cardiology*, a journal of the European Society of Cardiology (ESC).

Heart disease is the leading cause of death globally and prevention is a major public health priority. The beneficial impact of physical activity in stopping [heart](#) disease and sudden death on a [population level](#) is well documented. This study focused on the effect of an active versus [sedentary lifestyle](#) on the immediate course of a heart attack—an area with little information.

The researchers used data from 10 European observational cohorts including healthy participants with a baseline assessment of physical activity who had a heart attack during follow-up—a total of 28,140 individuals. Participants were categorized according to their weekly level of leisure-time physical activity as sedentary, low, moderate, or high.

The association between activity level and the risk of death due to a heart attack (instantly and within

28 days) was analyzed in each cohort separately and then the results were pooled. The analyses were adjusted for age, sex, diabetes, blood pressure, family history of [heart disease](#), smoking, body mass index, blood cholesterol, alcohol consumption, and socioeconomic status.

A total of 4,976 (17.7%) participants died within 28 days of their heart attack—of these, 3,101 (62.3%) died instantly. Overall, a higher level of physical activity was associated with a lower risk of instant and 28-day fatal heart attack, seemingly in a dose–response-like manner. Patients who had engaged in moderate and high levels of leisure-time physical activity had a 33% and 45% lower risk of instant death compared to sedentary individuals. At 28 days these numbers were 36% and 28%, respectively. The relationship with low activity did not reach statistical significance.

Study author Dr. Kim Wadt Hansen of Bispebjerg Hospital, Copenhagen, Denmark said, "Almost 18% of patients with a heart attack died within 28 days, substantiating the severity of this condition. We found an immediate survival benefit of prior physical activity in the setting of a [heart attack](#), a benefit which seemed preserved at 28 days."

He noted: "Based on our analyses, even a low amount of leisure-time physical activity may in fact be beneficial against fatal heart attacks, but statistical uncertainty precludes us from drawing any firm conclusions on that point."

The authors said in the paper: "Our pooled analysis provides strong support for the recommendations on weekly physical activity in healthy adults stated in the 2016 European Guidelines on cardiovascular disease prevention in clinical practice, especially as we used cut-off values for physical activity comparable to those used in the guidelines."

The guidelines recommend that [healthy adults](#) of all ages perform at least 150 minutes a week of

moderate intensity or 75 minutes a week of vigorous intensity aerobic [physical activity](#) or an equivalent combination thereof.

Dr. Hansen concluded, "There are many ways to be physically active at little or no cost. Our study provides yet more evidence for the rewards of exercise."

More information: Kim Wadt Hansen et al. Association of fatal myocardial infarction with past level of physical activity: a pooled analysis of cohort studies, *European Journal of Preventive Cardiology* (2021). [DOI: 10.1093/eurjpc/zwaa146](https://doi.org/10.1093/eurjpc/zwaa146)

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