

An hour of moderate exercise a day enough to counter health risks from prolonged sitting

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Credit: Peter Griffin/Public Domain

The health risks associated with sitting for eight or more hours a day - whether at work, home or commuting - can be eliminated with an hour or more of physical activity a day, according to a study from an international team of researchers.

Ever since a study back in 1953 discovered that London bus drivers were at greater risk of [heart disease](#) compared to bus conductors, scientists have found increasing evidence that lack of physical activity is a major risk factor for several diseases and for risk of [early death](#). Recent estimates suggest that more than 5 million people die globally each year as a result of failing to meet recommended daily activity levels.

Studies in [high-income countries](#) have suggested that adults spend the majority of their waking hours sitting down. A typical day for many people is driving to work, sitting in an office, driving home and watching TV. Current physical activity guidelines recommend that adults do at least 150 minutes of [moderate intensity](#) exercise per week.

In an analysis published today in *The Lancet* that draws together a number of existing studies, an international team of researchers asked the question: if an individual is active enough, can this reduce, or even eliminate, the increased risk of early death associated with sitting down?

In total the researchers analysed 16 studies, which included data from more than one million men and women. The team grouped individuals into four quartiles depending on their level of moderate intensity physical activity, ranging from less than 5 minutes per day in the bottom group to over 60 minutes in the top. Moderate [intensity exercise](#) was defined as equating to walking at 3.5 miles/hour or cycling at 10 miles/hour, for example.

The researchers found that 60 to 75 minutes of moderate intensity exercise per day were sufficient to eliminate the increased risk of early death associated with sitting for over eight hours per day. However, as many as three out of four people in the study failed to reach this level of daily activity.

The greatest risk of early death was for those individuals who were physically inactive, regardless of the amount of time sitting - they were between 28% and 59% more likely to die early compared with those who were in the most active quartile - a similar risk to that associated with smoking and obesity. In other words, lack of physical activity is a greater health risk than prolonged sitting.

"There has been a lot of concern about the [health risks](#) associated with today's more sedentary lifestyles," says Professor Ulf Ekelund from the Medical Research Council Epidemiology Unit at the University of Cambridge. "Our message is a positive one: it is possible to reduce - or even eliminate - these risks if we are active enough, even without having to take up sports or go to the

gym.

"For many people who commute to work and have office-based jobs, there is no way to escape sitting for prolonged periods of time. For these people in particular, we cannot stress enough the importance of getting exercise, whether it's getting out for a walk at lunchtime, going for a run in the morning or cycling to work. An hour of [physical activity](#) per day is the ideal, but if this is unmanageable, then at least doing some exercise each day can help reduce the risk."

The researchers acknowledge that there are limitations to the data analysed, which mainly came from participants aged 45 years and older and living in western Europe, the US and Australia. However, they believe that the strengths of the analysis outweigh these limitations. Most importantly, the researchers asked all included studies to reanalyse their data in a harmonized manner, an approach that has never before been adopted for a study of this size and therefore also provides much more robust effect estimates compared with previous studies.

More information: Ekelund, U et al. Physical activity attenuates the detrimental association of sitting time with mortality: A harmonised meta-analysis of data from more than one million men and women. *The Lancet*, 28 July 2016; [DOI: 10.1016/S0140-6736\(16\)30370-1](#)

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