

# STAND UP, PLEASE!

## THE CONSEQUENCES OF A MAINLY SEDENTARY LIFESTYLE

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Does regular exercise make up for long hours of sitting? A meta-study conducted in Sweden suggests that it takes more than that to stay healthy.

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### The approach of the study

The World Health Organization (WHO) recommends that adults whose periods of sedentary activity are too frequent or too long, either on the job or in private life, spend at least 150 minutes per week doing moderate exercise. This could reduce their risk of obesity, cardiovascular diseases, high blood pressure, diabetes and even certain types of cancer. However, Elin Ekblom Bak, Mai-Lis Hellénus and Björn Ekblom, who are researchers at the renowned Karolinska Institute or The Swedish School for Sport and Health Sciences in Stockholm, have come to the conclusion that this may not be enough. The scientific studies they analyzed suggest that regular breaks during periods of sedentary activity can be just as important as the exercise recommended by the WHO. The crucial factor seems to be exercising the muscles at all—throughout the whole body as much as possible and as often as possible.

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### Selected results

In laboratory trials, the researchers were able to demonstrate that rats that could move around as often as they wanted to had a significantly higher concentration of the enzyme lipoprotein lipase (LPL) in their bodies than rats that did not have this opportunity. Because LPL is an important driver of fat metabolism, this difference had far-reaching consequences not only for the rats' body weight but also for their health in general. Another interesting aspect of the experiment was the fact that the concentration of LPL also remained at a relatively low level even when the rats were compelled

to interrupt enforced long rest periods with more intense exercise. Only frequent periods of exercise that were distributed throughout the day had a positive effect. The researchers suspect that these effects can also be found in human beings.

An Australian study that addressed the consequences of uninterrupted sitting on human beings used as an indicator the connection between the length of time spent watching TV and the occurrence of a metabolic syndrome. The concept of a metabolic syndrome comprises diseases such as obesity, high blood pressure, diabetes and lipometabolic disorders. For the test persons, most of whom were women, the likelihood of suffering from one of these diseases increased by 26% for each additional hour spent sitting in front of the TV. In addition, each hour during which the test persons did not stand up cancelled out the effect of half an hour of exercise.

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## The conclusion

As a result of this and similar studies, Ekblom Bak, Hellénus and Ekblom conclude that exercise during an individual's leisure time is not in itself sufficient to compensate for the possible negative effects of long sedentary periods. The exercise must be supplemented by frequently repeated breaks in the sedentary activity. Specifically, they recommend that people walk whenever possible and stand up for at least five minutes during every hour of sitting.



A walk in the fresh air is an ideal contribution to good health.



Meetings and other types of work that can be done standing up are also helpful.

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## INFORMATION ABOUT THE STUDY

Source: Ekblom Bak, E.; Hellénus, M.-L.; Ekblom, B. Are we facing a new paradigm of inactivity physiology?, published in Br J Sports Med 2010, 44:834–835

You can find more information about the study and a PDF file on this page of the [National Library of Medicine](#).

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*Photography in this article: IBA, taken on the premises of New Work SE Hamburg*