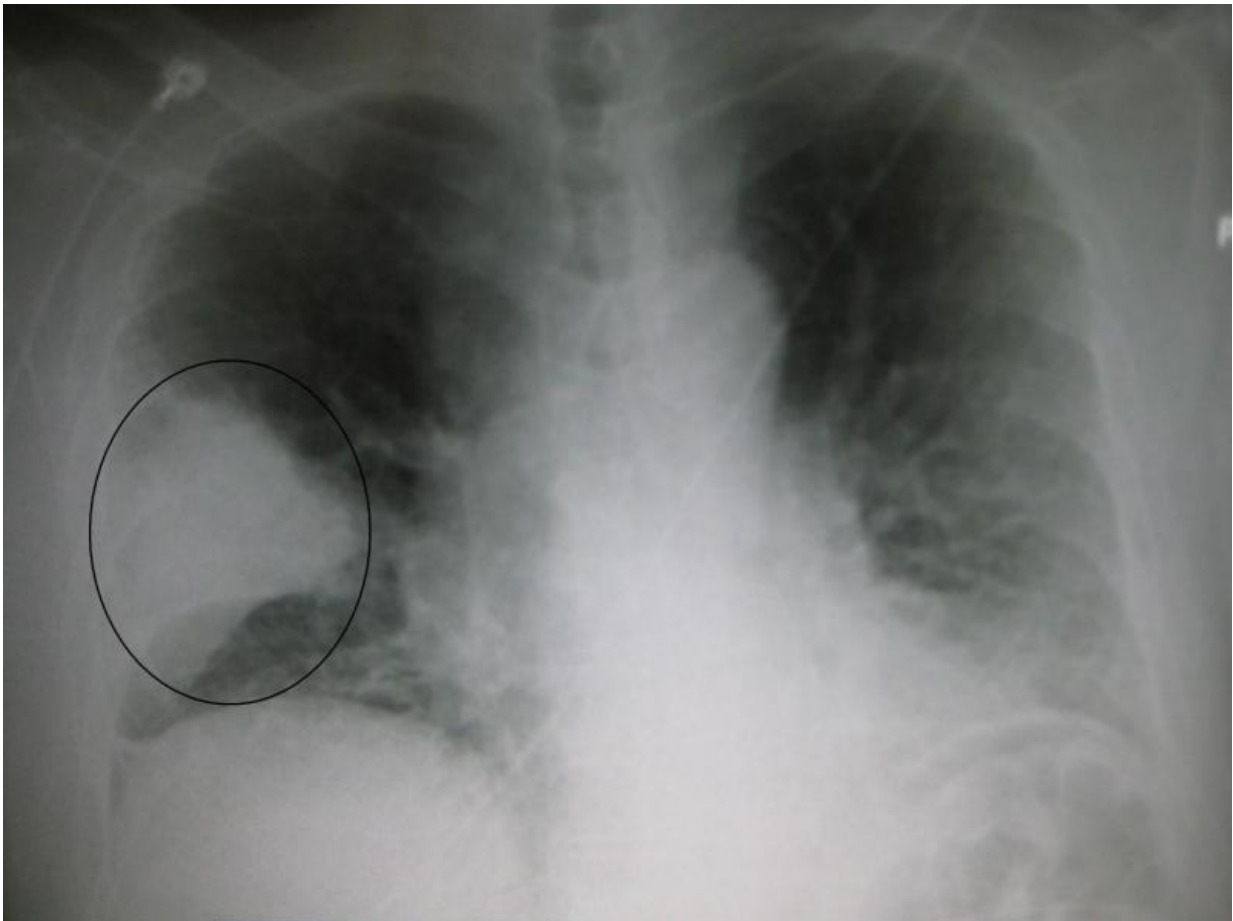


# Study: Regular exercise reduces the risk of and death from pneumonia

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A black and white X-ray picture showing a triangular white area on the left side. A circle highlights the area. Credit: James Heilman, MD./Wikipedia

People who exercise regularly can reduce their risk of developing and dying from pneumonia, new research has found. The study, led by the University of Bristol and published in *GeroScience*, analyzed, for the first time, ten population cohort studies with over one million participants.

The benefits of [regular exercise](#) are well-known and can reduce the risk, length or severity of infectious diseases. Previous research has suggested that regular [exercise](#) might be associated with a reduced risk of pneumonia, but the studies have had mixed findings with some reporting evidence of a relationship and others no evidence.

The researchers carried out a pooled analysis of all published studies to re-evaluate the relationship between regular exercise and the risk of developing pneumonia.

The questions the study aimed to answer included:

- Is there an association between [regular physical activity](#) and future risk of pneumonia?
- If there is an association, what is the strength and nature of the association?
- If there is an association, is it stronger or weaker in specific groups of people?

The study found people who exercise regularly have a lower risk of developing pneumonia and pneumonia-related death compared to those who were the least or not physically active. The relationship was shown for pneumonias that did not result in death and those that resulted in death. The results did not change on taking into account known factors that can affect pneumonia such as age, sex, body mass index, socioeconomic status, alcohol consumption, smoking, and pre-existing diseases. The strength of the association did not vary by age or sex.

Dr. Setor Kunutsor, Senior Lecturer in Evidence Synthesis in the Bristol Medical School, Translational Health Sciences (THS) and corresponding author on the paper, said: "In this first-ever pooled analysis of all studies conducted on the topic, we found strong and convincing evidence of a relationship between regular exercise and reduction in a person's risk of developing pneumonia as well as death from the disease.

"Though our study could not determine the amount and intensity of physical activity, which is essential to prevent pneumonia, some of the results suggest that walking for 30 minutes once a week has a protective effect on death due to pneumonia.

"During the winter months and with COVID-19 still circulating, developing severe pneumonia from COVID-19 and other respiratory diseases is a common occurrence. Taking regular physical activity could reduce the risk of respiratory diseases such as COVID-19 especially in at-risk groups like older adults and those with underlying health conditions."

The research does not prove cause and effect and further studies are needed to show if the associations demonstrated are causal. Also, additional work should be carried out to confirm the amount and intensity of physical activity, which is essential for the prevention of pneumonia or pneumonia-related deaths.

Finally, because regular exercise was self-reported, the values could be biased so future studies should focus on accurately assessing physical activity with the use of accelerometers or pedometers.

Pneumonia is an infection of the lung tissue usually caused by bacteria or viruses and is a leading cause of death among older people, the young, and people with pre-existing health conditions. In 2016 the disease was the fourth leading cause of death in the world.

Pneumonia is also associated with ill health, reduced quality of life, and high healthcare costs. Smoking, heavy drinking, respiratory conditions such as asthma, and chronic diseases such as diabetes and kidney [disease](#) , are well known to increase the risk of pneumonia, which is a preventable cause of death and disability.

The study's findings add to the well documented evidence that regular physical activity has the potential to reduce the [risk](#) of several chronic diseases, infectious diseases such as [pneumonia](#), as well as [death](#). Physical activity has huge benefits on overall health, as well as reducing healthcare costs caused by pre-existing health conditions.

**More information:** Setor K. Kunutsor et al, Physical activity reduces the risk of pneumonia: systematic review and meta-analysis of 10 prospective studies involving 1,044,492 participants, *GeroScience* (2021). [DOI: 10.1007/s11357-021-00491-2](https://doi.org/10.1007/s11357-021-00491-2)

Provided by University of Bristol

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