

Air pollution found to increase the risk of cardiac arrest

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Air pollution is the fourth largest risk factor for premature death. [New research](#) from the Institute of Environmental Medicine (IMM) shows that even very low levels of air pollution can be associated with increased risk. This does not only apply to larger cities, but also in smaller towns.

The results come from a thesis at Karolinska Institutet where Marcus Dahlquist has studied the impact of the environment on the risk of heart disorders. Petter Ljungman, researcher at IMM, senior cardiologist at Danderyd hospital and supervisor to Dahlquist believes that the legislation in the area needs to be tightened.

"In order to reduce the levels of air pollution, effective legislation is needed. Although the particle levels in the Swedish outdoor air are well below the EU's limit value, we now see risks both in Swedish cities and in the countryside. Our research shows that current limit values need to be tightened in order to protect against the risk of cardiac arrest, which is an important message when the EU is now negotiating a new air quality directive that will become law for all EU countries."

In the current study, data from 30,000 cardiac arrests from all over Sweden has been combined with air quality data. The results show that the risk of suffering a [cardiac arrest](#) increases as air pollution increases. The research is [published](#) in the *Journal of the American Heart Association*.

Exposure to [air pollution](#) can have several [negative health effects](#). In addition to affecting the heart in the form of [heart](#) attacks, [heart failure](#) and rhythm disturbances, they can also affect the risk of dementia, COPD and asthma. Petter Ljungman's unit has shown in previous studies that pollution also affects the development of lung function in children in Stockholm.

More information: Marcus Dahlquist et al, Short-Term Ambient Air Pollution Exposure and Risk of Out-of-Hospital Cardiac Arrest in Sweden: A Nationwide Case-Crossover Study, *Journal of the American Heart Association* (2023). [DOI: 10.1161/JAHA.123.030456](https://doi.org/10.1161/JAHA.123.030456)

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