

# High pollution levels linked to increase in heart attack risk

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High levels of pollution could increase the risk of having a heart attack for up to six hours after exposure, finds research published in the British Medical Journal today.

However, the researchers found no increased risk after the six hour time frame.

Given the transient nature of the increased risk, they speculate that the heart attack would have happened anyway and was merely brought forward by a few hours. This is known as a short-term displacement (or "harvesting") effect of pollution.

While established research has concluded that high pollution levels are associated with premature death from heart disease, the link to an increased risk of heart attack is less clear, say the authors.

Krishnan Bhaskaran, an epidemiologist from the London School of Hygiene and Tropical Medicine, and colleagues reviewed 79,288 heart attack cases from 2003 to 2006 and exposure, by the hour, to [pollution levels](#).

The authors used the UK National Air Quality Archive to investigate the levels of specific pollutants in the atmosphere. These included pollutant particles (PM10), carbon monoxide (CO), nitrogen dioxide (NO2), sulphur dioxide (SO2) and ozone.

Higher levels of PM10 and NO2 are well-known markers of traffic related pollution, says Bhaskaran.

Given the authors found no net increase in [heart attack risk](#) over a broader timescale, they argue that there may be "limited potential for reducing the overall burden of [myocardial infarction](#) through reductions in pollution alone, but that should not undermine calls for action on air pollution, which has well established associations with broader health outcomes including overall, respiratory and

[cardiovascular mortality](#)."

In an accompanying editorial, Professor Richard Edwards and Dr Simon Hales from the University of Otago in New Zealand say that "despite the strengths of the study, it is possible that a true effect was missed because of imprecise measurements and inadequate statistical power."

They conclude that "given other evidence that exposure to [air pollution](#) increases overall mortality and morbidity, the case for stringent controls on pollutant levels remains strong."

Provided by British Medical Journal

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