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## Health impacts of air pollution go well beyond our airways

The association between poor air quality and heart and lung diseases is well known, but a recent Australian study has also shown links with diabetes.

The research, led by Associate Professor Fay Johnston at the University of Tasmania's Menzies Institute for Medical Research, looked at the medical reasons behind almost 400,000 ambulance call-outs and their links to air quality.

The study found that increases in air pollution particles of less than 2.5 micrometres in size (a micrometre is one-thousandth of a millimetre) were associated with an increased risk of ambulance call-outs for low blood glucose levels, irregular heartbeats, heart failure, fainting, asthma, chronic obstructive pulmonary disease and croup. The association with call-outs for low blood glucose in people with diabetes was a consistent finding across all states.

"Air quality is commonly, but erroneously, thought of as a respiratory issue. That is, affecting mainly our airways," Associate Professor Johnston said.

"But the findings in this study support the strong evidence that worsening air quality can lead to cardiovascular conditions, and the emerging evidence of its links with diabetes.

"Air pollution is known to promote inflammation and be linked with higher blood glucose, but this is the first report of a possible association with low blood glucose"

She said the way in which air pollution and diabetes were linked was still unknown and researchers were keen to explore this association further.

Associate Professor Johnston said the study was also novel in that, by using ambulance rather than hospital data, it opened up new ways of unlocking answers on how air pollution negatively affects health.

The analysis looked at call-outs in Tasmania, Victoria and New South Wales between 2009 and 2014. It also involved researchers from the School of Natural Sciences at the University of Tasmania, the University of Sydney, Monash University, University of British Columbia and Ambulance Victoria.

[Ambient Particulate Matter and Paramedic Assessments of Acute Diabetic, Cardiovascular, and Respiratory Conditions](#)

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