

Air Pollution and Health: Patient Information Leaflet

What is Air Pollution?

Air pollution is a complex mix of particles and gases emitted from a range of man-made and natural sources. The key air pollutants which impact health are Particulate Matter (PM) and Nitrogen Dioxide (NO₂). The main sources of these are fuel combustion and physical tyre and brake wear of vehicles, with emissions from diesel cars and vans contributing significantly to the problem.

Why is Air Pollution a problem?

Many years of life are lost each year in the UK, as a result of air pollution. Particulates contribute to heart disease, lung disease and lung cancer. Air pollution affects everyone, and can particularly affect some individuals who are more vulnerable to harm - including those with heart and lung disease, children, and the elderly.

What are the health effects of air pollution?

Long-term exposure (over years or lifetimes)^{1,2,4}

- Suppresses the growth of children's lungs, leading to breathing problems when they are older
- Increases risk of asthma and infections like pneumonia in children
- Increases the risk of diseases such as heart attacks, stroke and lung cancer
- Accelerates decline of lung function
- Associated with dementia, type 2 diabetes, low birth weight and premature birth
- Reduces life expectancy

Short-term exposure (over hours or days)^{1,2}

- Cough, wheezing and shortness of breath
- Exacerbations of asthma and COPD
- Increased hospital admissions
- Increased risk of early death

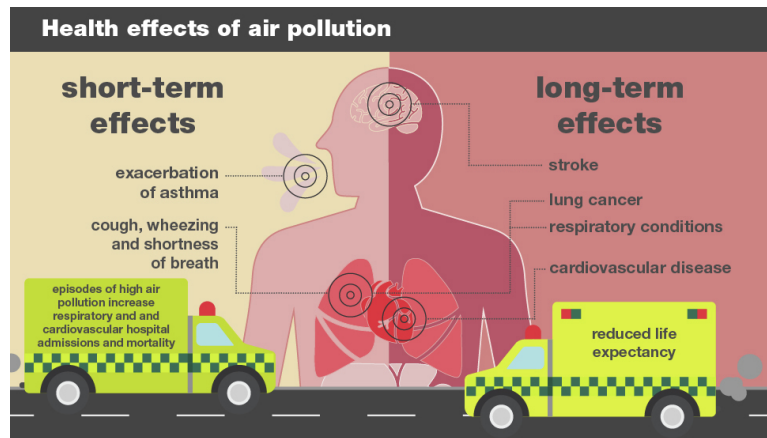


Image downloaded with permission from Public Health England⁵

Am I more vulnerable to the health effects of air pollution?

The groups who are most vulnerable to the health effects of air pollution are:

- Pregnant women
- Developing babies in the womb
- Children
- Elderly (> 65 years old)
- Adults with pre-existing health conditions, especially breathing problems such as asthma and COPD and heart and circulation problems such as angina, heart failure, or stroke
- People from low-income communities, because they are more likely to live in areas with poorer air quality (eg. near to busy roads or industry)

Air pollution affects everyone but there are **inequalities in exposure** and the **greatest impact on the most vulnerable**

older people
(65 and older)

pregnant women

communities with
poorer air quality
(eg. those situated
closer to main roads)

children

those with
cardiovascular
disease and/or
respiratory disease

Image downloaded with permission from Public Health England⁵

What should I do during a period of poor air quality?

- Avoid or reduce strenuous activity outside, especially in highly polluted locations such as busy streets, and particularly if experiencing symptoms such as sore eyes, a cough or sore throat.
- Use an asthma reliever inhaler more often, as necessary.
- Close external doors and windows facing a busy street at times when traffic is heavy or congested to help stop highly polluted air getting in.

How can I minimise my exposure to air pollution?

- **Walk and cycle instead of drive:** Generally you will experience less pollution than if you were sat in a car. This also has added benefits for your health and wellbeing.
- **Increase your distance from traffic:**
 - Change routes to avoid highly polluted areas.
 - Walk alongside quiet roads rather than busy roads.
 - Walk along the section of pavement furthest from traffic. Even a distance of 1 metre can help.
 - When you have the option, always try to walk upwind of the pollution from vehicles.
 - If possible, avoid busy roads at peak times.
- **Consider using a mask as protection.** The tightness of the fit is crucial, and facial hair prevents a good seal. Please be aware that breathing through a mask is more difficult, and this may not be a good option if you already suffer with breathing difficulties.
- If you do need to drive, avoid morning and evening rush hours if possible to reduce increased congestion
- If you are particularly sensitive to pollution eg. Heart condition, severe asthma etc, watch out for alerts on BBC weather forecasts.

How can I reduce my contribution to air pollution?

- **Walking and Cycling:** If your journey is less than a mile try walking or cycling which is good for our physical and mental health. Switching more journeys to active travel will improve health, quality of life and air pollution.
- **Public transport:** By taking public transport we are reducing the number of cars on the road. Reduce the number of motor vehicle journeys, if possible.
- **Change the way you drive:** Drive in a style that minimises emissions by avoiding rapid accelerations and decelerations, restricting the time spent with an engine 'idling' and ensuring the vehicle is correctly maintained. Adhering to speed limits and ensuring your tyre pressures are correct saves money by using less fuel and reduces air pollution.

Where can I find information on local air quality?

Pollution Map of Bristol: <http://www.claircity.eu/bristol/city-shockers/air-pollution-map-of-bristol/>

Defra's [Pollution forecast](https://uk-air.defra.gov.uk/forecasting/) - <https://uk-air.defra.gov.uk/forecasting/>

Defra updates on [social media](https://twitter.com/DefraUKAir). - <https://twitter.com/DefraUKAir>

Defra's [Daily Air Quality Index \(DAQI\)](https://uk-air.defra.gov.uk/air-pollution/daqi?view=more-info) provides recommended actions and health advice for both the general population and for at-risk individuals – <https://uk-air.defra.gov.uk/air-pollution/daqi?view=more-info>