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LIVING WITH AIR POLLUTION

Simple tips to reduce the impact of air pollution

This guide is available in Chinese, Arabic, Hindi, Farsi, and Braille (English).

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1. What is urban air pollution?

Everything that smells (bad or good) could be considered as air pollution. However, there are also gases or particles in the air that we don't see or smell which can have a serious impact on our health.

The main sources of air pollution in urban streets are vehicles, especially the diesel ones like vans, buses, and trucks.

The exhaust from these vehicles contains different pollutants like Nitrogen Dioxide (NO₂) and Particulate Matter (PM). Inhaling these pollutants can have different impacts on us, from irritation of airways and coughing to even lung cancer or heart attacks due to long-term exposure [1]. Every year, twenty-eight to thirty-six thousand deaths are associated with air pollution in the UK. This number is 7 million across the world [2]. Infants, children under 8 years old, pregnant women, and the elderly (over 65 years old) are the most vulnerable to air pollution [3].

What can we do?

Air pollution has become an inseparable part of urban life, and we need to learn how to live with it. To avoid its negative impacts, we should learn where and when in our city air pollution is higher. This short guide provides helpful tips for limiting the exposure to both outdoor and indoor air pollution, including specific advice for protecting children and young adults.





2. Does air pollution vary throughout the day or year?

In general, air pollution is higher in colder months compared to the warmer summer months. Cold temperatures make the air denser, so particles and gases released by vehicles don't rise up into the air. Instead, they are trapped near the ground, at the same level as pedestrians. This phenomenon is called inversion. Because children breathe air at a lower height that is closer to car exhausts, it's important to keep children away from traffic, especially in colder weather. Air quality is also worse during rush hour.

Exercising, or even sitting, near busy roads has a negative impact on our respiratory system (especially near intersections). This gets worse when joggers breathe heavily near idling vehicles, for example at a traffic light or near queueing traffic.

What can we do?

Vulnerable people are recommended to reduce their outdoor activities in cold seasons in polluted areas like city centres, and specifically during rush hour. Sitting and dining near busy roads where diesel vehicles pass by should be avoided.

3. Could indoor air be polluted as well?

We spend most of our time indoors. Even when we go outside, we are often on our way to an indoor space like a café, supermarket, or school. Therefore, it's important to understand more about indoor air pollution and its sources.

Kitchens are polluted when we fry food, or if food is burned. Utility rooms have high levels of Volatile Organic Compounds (VOCs) when laundry cleaning products are inhaled. In bedrooms, carpets need to be vacuumed regularly. Cosmetic products (mostly sprays) can be inhaled, and they irritate our airways. In living rooms, carpets, sofas, and upholstery should also be cleaned or vacuumed regularly. Animal hair and dusty surfaces are also other sources of air pollution. Air conditioners and chimneys can bring outdoor air pollution indoors. In bathrooms, detergents and sprays are the main pollutants. In offices, printers emit tiny particles, especially if they print images.

What can we do?

Indoor air should be ventilated while cooking, especially when frying, and when spraying detergents for cleaning. Kitchen hoods and air purifiers that use replaceable filters are also great help. Compared to sprays, roll-on products are better for our lungs.

Indoor heating with solid fuel (like wood) is extremely dangerous for all ages. Electric cooking and heating are much healthier for our respiratory system.

Drying freshly washed clothes outside is much healthier than inside. If indoor drying is the only option, we need to ventilate the room, and infants should be kept away, so that they don't inhale the products.





4. Idling near schools and asthma

Children are particularly vulnerable to air pollution. Our respiratory system matures when we are approximately 8 years old [4]. Several studies have shown that respiratory problems like asthma develop from an early age [5, 6]. Currently, we don't have regulations concerning air quality on roads near primary schools, but parents idling their cars contributes significantly to the air pollution around schools. Therefore, it is highly recommended that parents turn off their engine while waiting near schools.

Air pollution is higher in city centres compared to suburbs. It is also very high in train stations and central bus stations. Diesel cars, buses, and trains are the main sources of air pollution in city centres. As pedestrians, or even as passengers in diesel vehicles, we could inhale the particles from surrounding cars. Wearing a mask could significantly reduce the risk of inhaling air pollution. Surgical masks that we use for coronavirus could block particles in the air from entering into our system.

What can we do?

We need to avoid idling cars near schools. Students should be advised to stay far from roads when they are waiting for their parents. A study showed that the indoor environment of a diesel bus in London was more polluted than outside [7]. If a diesel car or bus is used for student transportation, it should be continuously ventilated.

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