

#AskAboutAsthma blog

Professor Clare Murray, paediatric respiratory consultant at the Royal Manchester Children's Hospital, writes about air pollution and its impact on young people with asthma.

"I run the paediatric severe asthma service for Greater Manchester and the North-West region, and my research interests focus on asthma and allergic diseases. In my clinical role, I mostly look after children with severe asthma and try to improve their quality of life as much as possible.

For most of them, asthma really impacts on their everyday life and prevents them from doing many of the things that children and young people usually do without thinking, such as playing football or going out with friends. Ultimately, we try to find treatment that will keep them in school and out of hospital and living as full a life as possible.

Many patients ask about the effects of pollution on their asthma and whether there is anything that they can do about it. Air pollution clearly affects people with asthma, but it is hard to gauge how much of a problem it is and how you measure it against everything else in their environment that impacts on their disease.

Air pollution varies from day to day, at different times of day, and from place to place. You may live in an area with low pollution levels but go to school or work in a more polluted location or walk by a busy main road to get there. It is not always easy to think how you can help someone with asthma to reduce exposure to air pollution but simple things like advising to avoid main roads, busy junctions, bus stations and car parks and using quieter back roads when walking are helpful.

Weather forecasts and apps often include information on pollution levels and if the forecast is high try to avoid going out or go out earlier in the day when pollution levels have not had the chance to build up.

If the pollution levels are particularly high avoid planning activities outside that involve a lot of physical activity. Remember that other triggers for asthma can also add to the irritation of pollution; outdoor pollution levels tend to be higher on warm, still days when pollen counts can also very high, and also on cold, still foggy days when icy air may also trigger asthma symptoms. Be mindful of other sources of outdoor air pollution; for example bonfires, fireworks and barbeques and try and keep a good distance from them.

When people think about air pollution they often focus on outdoor air and traffic and forget that we can be exposed to pollution in our indoor environment – in our homes and in our schools or workplaces.

As long as you don't live on a busy road, or the pollen count is particularly high, we should try to ventilate our houses well. Open the windows for a time each day or use extractor fans in kitchens and bathrooms. This helps to let out indoor fumes and also reduce humidity. Reducing humidity also reduces other indoor asthma triggers such as dust mites, damp and moulds.

If you are making choices about new appliances or heating systems, then it is useful to do some research beforehand. Gas cookers for example give off more pollution than electric ones as they produce nitrogen dioxide which can get into the lungs and cause inflammation.

Central heating will cause less pollution than open or woodburning stoves, but still give off pollutants so try and avoid having the boiler in a bedroom or high use area and make sure it is serviced regularly.

Avoid using aerosols, sprays, cleaning products with strong smells and air fresheners. Be especially mindful if you are painting and decorating in your house; try to choose products low in VOCs (volatile organic compounds) and increase the ventilation for several days in the house.

New furnishings, floor coverings and carpets also are often made using VOCs which become a gas at room temperature and can give off fumes such as formaldehyde. This can make airways more sensitive to other triggers too like allergens. So, if you have bought a new carpet or new furniture try and increase ventilation further in your home for a short while afterwards.

Cigarette smoke remains a common pollutant in our homes. Did you know tobacco smoke can stay in a room for 2½ hours and can also stick to clothes and furnishings, so is present long after the cigarette has gone out.

If people step outside to smoke, make sure they are well away from the door or open windows, so smoke does not get blown back in. When they do come back in, some smoke particles will come with them as they will be on their clothing; ideally don't have anyone smoking in or around your home.

Remember that cigars, hand rolled cigarettes and shisha have all the same risks and problems. Many people now choose to vape rather than smoke cigarettes and a lot of asthmatics report that vaping or being exposed to second hand vape triggers their asthma symptoms. Really, we don't know as yet what the short- or long-term consequences of vaping are on asthma, so ideally avoid this in your home too.

Although it sometimes feels like pollution is something that we as an individual can do little about, there are lots of small things we can do to try and reduce our exposure to both outdoor and indoor pollutants and that in turn will improve your asthma.

Remember to stick to your preventer routine, always carry your reliever and see your doctor if your asthma is getting worse."