

# The National

## Something in the air

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As the heat increases outside, it is natural to reach for your air-conditioning unit to turn down the temperature inside. But should you? Research shows that although air conditioning in your home, car and workplace can aid asthma and allergy sufferers, neglected units can lead to all manner of serious health conditions, from persistent sinusitis to legionnaire's disease and hypersensitivity pneumonitis.

For anyone who lives in the city, air quality outside can pose a problem as well. Rising levels of air pollutants are responsible for approximately two million premature deaths worldwide each year, according to the World Health Organization.

With industrialisation and development continuing, it is a growing concern that can result in respiratory infections, heart disease and lung cancer.

With an assault on our fresh air taking place from both sides, what can we do to breathe a little easier and reduce the risk of health problems? The first thing to tackle is the air-conditioning unit, not only at home but in the car, the workplace and at the gym. If you haven't had your home or car air-conditioning repaired or reviewed in the last year, and especially if you can't remember the last time it was checked, you could be risking your health.

In a range of studies conducted over the past 20 years, those who worked in air-conditioned environments consistently reported more symptoms of ill health than those who did not. Symptoms ranged from mucous membrane irritation, irritated skin, headaches and fatigue to a higher susceptibility to colds and the flu, and breathing problems.

A collection of these symptoms and complaints adds up to what is known as sick building syndrome (SBS). This refers to poor indoor air quality, either due to a lack of adequate air filtration or fresh air. Newer buildings, particularly those with an environmentally sound design, tend to encourage cross ventilation and a high turnover rate of fresh air, but older ones often do not.

There are around 50 symptoms associated with SBS including respiratory complaints such as asthma, bronchitis and pneumonia. Some studies have also linked personality disorders such as rage, paranoia and depression to poor indoor air quality. Not surprisingly, it is difficult to blame the cause of such conditions entirely on SBS as each has a number of other possible triggers. In other words, if you fall out with your co-workers, that doesn't mean you can blame your mood on the building.

SBS is diagnosed after a number of colleagues suffer from a similar set of symptoms within a number of weeks. Some symptoms may disappear by spending time away from the contaminated space, but not all. There is the possibility of long-term damage to your health, so it's not to be taken lightly.

The most highly publicised risk with air conditioning is legionnaire's disease. This potentially fatal form of pneumonia can affect anyone, although it occurs more frequently in men than women. Those at greatest risk include the elderly, smokers and people with respiratory or chest problems. Initial symptoms are similar to the flu – high temperatures, feverishness, muscle pain, headaches and coughing – leading to pneumonia, diarrhoea and signs of mental confusion. Legionnaire's disease is treatable with antibiotics, although it can be hard to diagnose, and blood and urine tests will be taken to confirm it.

Legionnaire's is caused by a bacterium found naturally in rivers and lakes, usually in low numbers. The bacterium makes its way into purpose-built water systems such as air-conditioning units, especially in areas of moisture, thriving on nutrients like rust or sludge. When breathable droplets of infected water are spread through the air, the danger of legionnaire's is greater. It is usually contracted by inhaling tiny water droplets suspended in the air, rather than from another person.

Other viral and bacterial infections such as the flu and bronchitis can easily be spread through poorly maintained air-conditioning systems. Where there's moisture, something for the bacteria to feed on and a way of transmitting droplets through the air, you are at risk.

Another potentially serious condition is hypersensitivity pneumonitis, a chronic inflammation of the lung caused by exposure to bacteria. The disease is also known to affect bird breeders, farmers and mushroom pickers because of their exposure to certain types of dust or mould. Sufferers report fever, shortness of breath, muscular pain and coughing four to 12 hours after exposure. In its most chronic form, hypersensitivity pneumonitis can lead to an irreversible scarring of the lungs, but most cases go away when the sufferer is no longer exposed to the allergen.

For most of us, the worst consequences of our exposure to air conditioning are less serious but still debilitating. Lung and respiratory tract problems such as runny noses, blocked noses, sore throats and sinusitis can also be attributed to your air-conditioning system. Car systems that blow a constant stream of cold towards your face can aggravate your sinuses and contribute to acute sinusitis. This is especially true if there are allergens present in a system that hasn't had a regular service. Allergic reactions such as shortness of breath, an itchy nose, watering eyes and wheezing might indicate asthma or humidifier fever.

It is not just airborne infections that you should be aware of. Air conditioning has even been blamed for the rise in obesity. In 2006, the International Journal of Obesity published research from David Allison, a professor of biostatistics at the University of



People who work in air-conditioned buildings can be prone to such illnesses as asthma and sinusitis and even serious conditions such as legionnaire's disease. Getty Images

Alabama, claiming that the constant temperatures generated by air-conditioning units changed the way our hunger mechanisms worked. Usually in warmer weather we eat less, but by making us want to eat despite the climate, we are more likely to overeat. Without air conditioning, we would also burn more calories through sweating.

What can be done about it? There is obviously little you can do about the outside air quality. The Environment Agency has noted that air quality is an issue in Abu Dhabi, with air pollution resulting in a rising number of childhood respiratory illnesses, asthma and sensitivities. The air-quality index has been running since October 2008, allowing you to check for pollution on a daily basis at [www.adairquality.ae](http://www.adairquality.ae).

When it comes to air-conditioning units, the best advice is to make sure they're maintained and checked regularly, and report any faults. If there are areas of moisture, rust or standing water, that should alert you that an inspection is overdue. Likewise, if a number of your colleagues is suffering from a similar illness, it's time for check-up. SBS can lead to high staff absences and low productivity, so if your boss quibbles, don't forget to point that out.

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