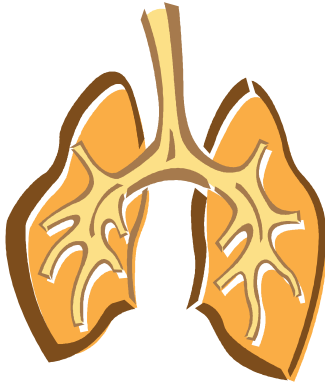


What's so wrong with idling?

Health hazards of vehicular emissions



You have been told again and again that you should turn off your car rather than idle, especially when in a public place. Perhaps you have heard that it's bad for your vehicle and that it wastes gas, but you're still not convinced that you should turn off your car. If this sounds familiar, try to remember the last time you were sitting in heavy traffic on the freeway and forced to close the windows to keep out the noxious fumes that were pouring into your car from other vehicles. The reason these fumes smell bad and make you feel sick and dizzy is because they are toxic to your body. As with any toxic substance, a substantial level of exposure for a prolonged period of time can be detrimental to your health. The list below includes descriptions of those atmospheric pollutants found in car exhaust and the adverse effects they can have on both your short-term and long-term health.

Carbon Monoxide (CO): Of all the major air pollutants, carbon monoxide is the silent assassin – colorless, odorless, tasteless, and lethal in high amounts. This gas is produced as the result of incomplete combustion of gasoline and other fossil fuels, and thus is present in nearly all vehicular emissions. When carbon monoxide enters the bloodstream, it interacts with oxygen-carrying hemoglobins and prevents them from carrying oxygen to tissues, resulting in noticeable effects such as headaches and nausea. If enough oxygen is prevented from reaching vital organs (i.e., the heart or brain) it may ultimately lead to death. Although such a high degree of exposure is unlikely to result from the pickup line at your child's school, studies suggest that children who are consistently exposed to carbon monoxide have an increased risk of developing long-term health problems, such as asthma or bronchitis. And even relatively short exposures to carbon monoxide, such as in the school parking lot, can add up over time.

PM₁₀ and PM_{2.5}: This refers to suspended (airborne) particulate matter with an aerodynamic diameter of 10 micrometers and 2.5 micrometers, respectively. The particulate matter comprises a complex mixture of particles and droplets, which may contain a variety of organic chemicals, metals, soil and dust. PM_{2.5}, or "fine particulate matter," can be especially dangerous to respiratory health, as the compounds are small enough to embed themselves deep into lung tissues. Some of the health effects may include irritation of the airways, coughing, difficulty breathing, decreased lung function, aggravated asthma, development of chronic bronchitis, irregular heartbeat, nonfatal heart attacks, and premature death in people with heart or lung disease.

Nitrogen Oxides (NO_x): Includes N₂O, NO, and NO₂. Both nitric oxide (NO) and nitrogen dioxide (NO₂) increase the production of ozone, which itself is deleterious to respiratory health (see below). While nitric oxide reacts rapidly in air to form nitrogen dioxide, brief exposure can cause eye, nose, and throat irritation. Studies also suggest that nitrogen dioxide exposure can exacerbate asthma-related symptoms.

Ozone (O₃): Although we tend to think of ozone as a good thing—protecting our planet from the sun's harsh radiation—it is not so good when it's at ground level. In fact, ozone can be quite harmful to our respiratory health, particularly for active children. This should bring concern, as idling cars emit O₃ as a byproduct of combustion. The acute effects of short-term exposure include coughing, wheezing, pain when taking deep breaths, and decreased lung function. Long-term exposure to ozone may result in diminished lung capacity, accelerated aging of lungs, or aggravated asthma, bronchitis and emphysema.

Benzene: Vehicular exhaust accounts for nearly a quarter of the total benzene exposure faced by a typical American. At the low levels of exposure typical of car exhaust, short-term health effects such as drowsiness, headaches, and dizziness can result. Prolonged exposure over long periods of time, however, can have more detrimental effects, such as a weakened immune system, abnormal blood production, and an increased risk of developing leukemia and lymphoma, to name a few. Although the likelihood of developing these chronic symptoms from exposure to car exhaust is low, it is nevertheless important to acknowledge the risk.

Considering the host of health-related issues stemming from the short list of pollutants above, it's clear that automobile exhaust is not something that you, and especially your children, should be breathing. But, however perilous some of these pollutants may sound, this information is not meant to scare you into keeping your kids locked inside a bubble! This is meant to merely inform you of the risks involved with exposing yourself and your children to vehicular exhaust on a daily basis, such as during school pick-up/drop-off. In such situations, try to remember potential impacts that your idling may have your children and their friends. Every idling car counts! Spread the word to other parents who may not realize the hazards that idling poses, and if nothing else, lead by example and turn off your engine!

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