

Scientific and Organizational Statements on the Adverse Effects of Leaf Blower-Related Air and Noise Pollution

AIR POLLUTION

American Heart Association 2010 Scientific Statement (Brook 2010)

“...Exposure to particulate matter (PM) air pollution contributes to cardiovascular morbidity and mortality... Exposure to PM <2.5 µm in diameter (PM2.5) over a few hours to weeks can trigger cardiovascular disease–related mortality and nonfatal events; longer-term exposure (eg, a few years) increases the risk for cardiovascular mortality to an even greater extent than exposures over a few days and reduces life expectancy within more highly exposed segments of the population by several months to a few years; **reductions in PM levels are associated with decreases in cardiovascular mortality** within a time frame as short as a few years; and many credible pathological mechanisms have been elucidated that lend biological plausibility to these findings. It is the opinion of the writing group that the **overall evidence is consistent with a causal relationship between PM2.5 exposure and cardiovascular morbidity and mortality**. This body of evidence has grown and been strengthened substantially since the first American Heart Association scientific statement was published. Finally, PM2.5 exposure is deemed a modifiable factor that contributes to cardiovascular morbidity and mortality.”

American Heart Association 2004 Scientific Statement (Brook 2004)

“Of special interest are several environmental air pollutants that include **carbon monoxide, oxides of nitrogen, sulfur dioxide, ozone, lead, and particulate matter** (“thoracic particles” [PM10] <10 µm in aerodynamic diameter, “fine particles” [PM2.5] <2.5 µm, and “coarse particles” [PM10 to 2.5]). These pollutants are associated with **increased hospitalization and mortality** due to cardiovascular disease, especially in **persons with congestive heart failure, frequent arrhythmias, or both**...At the very least, short-term exposure to elevated PM significantly contributes to increased **acute cardiovascular mortality**, particularly in certain at-risk subsets of the population. **Hospital admissions for several cardiovascular and pulmonary diseases acutely increase** in response to higher ambient PM concentrations. The evidence further implicates prolonged exposure to elevated levels of PM in reducing overall life expectancy on the order of a few years.”

American Lung Association – In *Protect Yourself: 10 Tips to Protect Yourself from Unhealthy Air*

“Use **hand-powered or electric lawn care equipment** rather than gasoline-powered. Two-stroke engines like lawnmowers and leaf or snow blowers often have **no pollution control devices**. They can pollute the air even more than cars.”

US Environmental Protection Agency – In *Improving Air Quality in Your Community*

“Lawn equipment emits pollutants such as **hazardous air pollutants (HAPs), particle pollution (dust), and VOC**. These pollutants can contribute to **health problems** that may affect homeowners, their families, and the community and include... Particle Pollution, also known as Particulate Matter [and Volatile Organic Compounds] VOC... VOC is released during the combustion of gasoline while using yard equipment. The chemicals in VOC can form ground-level ozone (smog) which can cause **breathing difficulties**, especially with those who are young, elderly, or have existing respiratory problems such as asthma.”

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NOISE POLLUTION

Children's Environmental Health Network

"Children develop better concentration skills in a **quiet environment**. Children who are exposed to noise pollution while learning are more likely to experience **reading delays**. Children who suffer from noise pollution learn to tune out not only noise but also the teacher's voice, which can **harm their reading and language skills**. Children have **more difficulty** understanding spoken language and distinguishing the sounds of speech when learning in a noisy environment. Children who spend time in noisier areas have **higher resting blood pressure and higher stress levels.**"

National Institute on Deafness and Other Communication Disorders, National Institutes of Health in *Noise Induced Hearing Loss*

"**Approximately 15 percent of Americans** between the ages of 20 and 69—or 26 million Americans—have **high frequency hearing loss that may have been** caused by exposure to loud sounds or noise at work or in leisure activities...**Harmful noises at home may come from lawnmowers, leaf blowers, and shop tools.**"

US Environmental Protection Agency – In *Noise: A Health Problem*

The U.S. EPA says noise **degrades quality of life** by impairing communication and social interaction; reducing the accuracy of work, particularly complex tasks; and **creating stressful levels of frustration and aggravation that last even when the noise has ceased.**

- "We now have millions with heart disease, high blood pressure, and emotional illness who **need protection from the additional stress of noise.**" Dr Samuel Rosen, Mt Sinai Hospital

World Health Organization – In *Burden of Disease from Environmental Noise*

"There is **overwhelming evidence that exposure to environmental noise has adverse effects on the health of the population.** Recognizing the **special need to protect children** from the harmful effects of noise, [there was a call for] all stakeholders to work together to **reduce the exposure of children to noise...**There is sufficient evidence from large-scale epidemiological studies linking the population's exposure to **environmental noise with adverse health effects.** Therefore, environmental noise should be considered not only as a cause of nuisance but also **a concern for public health and environmental health.**"

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References

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