American Lung Association.

Facts About

Outdoor Air Pollution and Your Health

How Air Pollution Endangers Our Health

For millions of Americans, just breathing the air outside can be unhealthy, even dangerous. Air pollution:

- Can be harmful for everyone to breathe, even healthy adults. It can cause individuals to cough, wheeze, and have eye, nose, mouth and throat irritation.
- Makes it unsafe to exercise or play outside, and causes increased medication use and hospital visits for people with asthma and COPD.
- Is especially harmful for children, whose lungs are still developing. Breathing air pollution contributes to reduced lung function and development, potentially leading to a lifetime of health issues.
- Increases the risk of lung and heart disease, lung cancer and stroke.
- Shortens lives.

What in the Air Is Making Us Sick?

Ozone and particle pollution are the most dangerous and widespread pollutants in the United States. Ground-level ozone, or smog, forms when emissions from car exhaust, refineries, chemical plants, paint and solvents react with heat and sunlight.

Inhaling ozone is like getting sunburn on your lungs. It's proven to cause early death, even with low-level exposure. It also causes shortness of breath, chest pain, wheezing, coughing and asthma attacks, which lead to more hospital stays and emergency room visits for respiratory problems.

Particle pollution occurs when tiny particles from dirty power plants, construction and demolition activities, wood and fuel burning, road dust, and car and truck emissions enter

Air pollution can harm children and adults in many ways

Respiratory

Wheezing and coughing
Shortness of breath
Asthma attacks
Worsening COPD
Lung cancer

Other

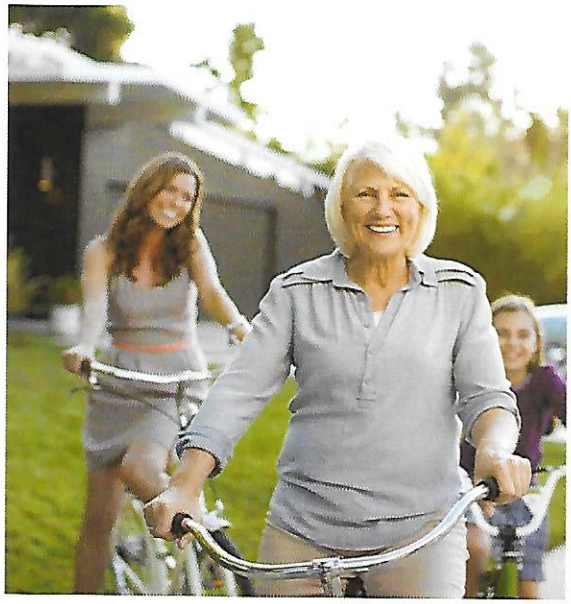
Premature death
Susceptibility to infections
Heart attacks and strokes
Impaired cognitive functioning
Metabolic disorders
Preterm births and low birth weight

the air. When breathed in, the particles get trapped in the lungs and enter the bloodstream. There they can cause asthma attacks, lung cancer and heart attacks. Particle pollution can also cause early death, risking even more lives than ozone pollution.

The changing climate is one factor in an increase in ozone and particle pollution.

Other air pollutants also do their share of damage:

- Nitrogen oxides from burning fuels causes inflammation of the airways, asthma attacks and may cause new cases of asthma in children. It also contributes to the formation of ozone pollution.
- Carbon monoxide is a by-product of combustion that affects mental alertness in healthy adults and triggers respiratory and cardiac symptoms in at-risk groups.
- Sulfur dioxide from power plants and refineries constricts airways and worsens asthma symptoms.
- Air toxics from power plants, manufacturing and other sources can cause cancer, heart attacks and neurological damage.
- Lead from incinerators and the burning of contaminated materials causes developmental problems in children and damages the blood, brain, nerves, kidneys, reproductive organs and immune system



Who is Most at Risk

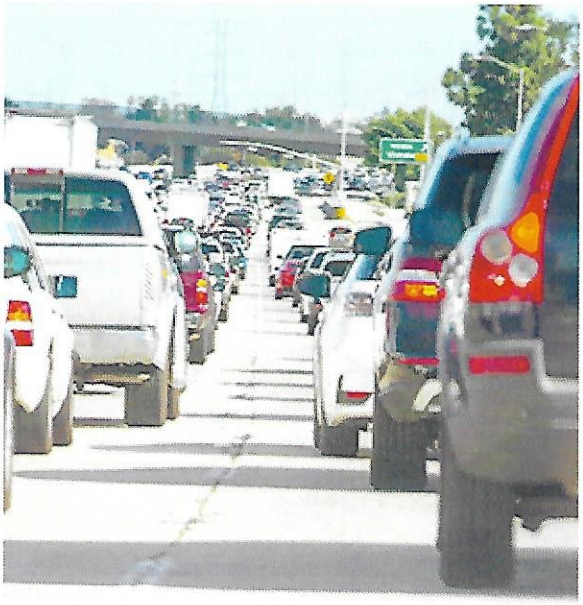
No one is immune from the effects of air pollution, but certain people are at greater risk:

- Infants and children
- Adults age 65 and older
- People who work or exercise outdoors
- People with lung disease such as asthma or COPD
- People with cardiovascular disease or diabetes
- Pregnant individuals
- People with lung cancer
- Communities of color
- People with low incomes

Where Is Air Pollution Found?

Air pollution isn't just a problem in major cities. Small towns and rural areas struggle with it too. Dirty air can travel long distances, affecting communities far from the pollution source.

Common pollution sources include power plants, factories, oil and gas operations, farming, smoke from wildfires, construction and mining activities, vehicles at ports and warehouses, school buses, solvents, lawn mowers and residential wood burning. Busy highways and roads are another major source of pollution.



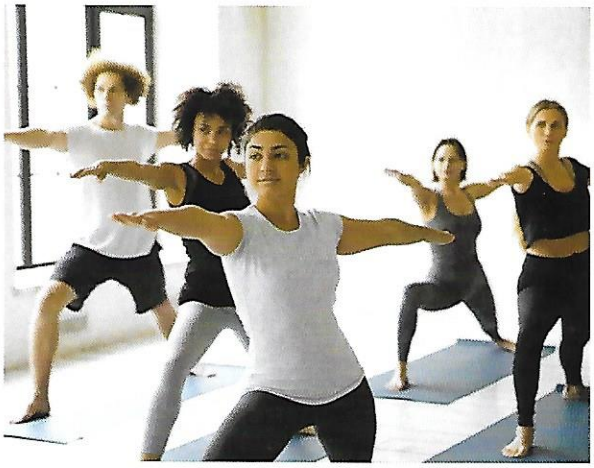
More than 4 in 10 people in the U.S. live in an area with unhealthy levels of ozone or particle pollution.

How You Can Protect Yourself

You can't always see or smell air pollution. The best way to know when pollution is high is to check the Air Quality Index (AQI) daily for your area's pollution forecast. Many local weather reports and newspapers include AQI information, or you can go online to airnow.gov.

The color- and number-based system will help you decide what actions to take. In general, if it's an unhealthy air day:

- Avoid exercise or strenuous activity outdoors. Instead, go to the gym, walk at an indoor mall or use home equipment. Save yard work for when the forecast is better.
- Limit the time children are outdoors. Because children tend to be more active and breathe faster, they are exposed to more pollution than adults.



- If you are in a high-risk group, stay inside if air quality is at the orange level or above.
- Always avoid exercising around high-traffic areas.

If you show any warning signs of lung disease, tell your healthcare provider right away. These include shortness of breath, a cough or chest pain that doesn't go away, excess mucous, wheezing, or coughing up blood.

Air Quality Index Categories and Colors

If the color and number are...	It means air quality is...
Green (0-50)	**Good.** Do normal activities.
Yellow (51-100)	**Moderate.** While acceptable for most activities, people who are unusually sensitive should consider limiting activities.
Orange (101-150)	**Unhealthy for Sensitive Groups.** Most people will not be affected, however sensitive groups should limit outdoor activities or stay indoors.
Red (151-200)	**Unhealthy.** Everyone may experience health effects, which will be more serious for sensitive groups. Limit outdoor activities or stay indoors.
Purple (201-300)	**Very Unhealthy.** This level triggers a health alert. Everyone should limit outdoor activities. Sensitive groups should stay indoors.
Maroon (301-500)	**Hazardous.** This level is a warning of emergency conditions. Everyone is likely to be affected and should stay indoors.

Based on Understanding the AQI at airnow.gov, May, 2018.

Help Clear the Air

The best way to protect your health is to prevent air pollution altogether. It's not an easy or fast job, but the Clean Air Act is working to reduce emissions and clear the air. For decades the air has been getting cleaner. But now climate change is starting to reverse that progress. Rising temperatures and changing weather patterns are making ozone worse and causing wildfires that create particle pollution. It is more important than ever to safeguard the air we breathe.

You can take action to keep harmful pollution out of the air:

- **Drive less.** Walk or bike whenever you can. Prioritize public transit for longer distances. If you drive a gas-powered car, combine trips or carpool. If you're getting ready to buy a car, consider an electric vehicle.
- **Use less electricity.** Turn out the lights, set your thermostat to reduce energy use when you're out of the house, and use energy-efficient electric appliances. If you have the option in your community, buy power from clean, renewable sources• Don't burn wood or trash. Use cleaner sources of heat if you can. Avoid the use of polluting outdoor wood boilers. Dispose of other waste properly. Support efforts in your community to ban outdoor burning.
- **Urge your local school system to use cleaner school buses.** Converting to electric buses or retrofitting old school buses to reduce emissions helps protect childrens' health.

For More Information

To learn more about air pollution, how to protect yourself and ways to support local and national efforts to fight for clean air, call the American Lung Association at 1-800-LUNGUSA or visit us at **Lung.org**. See the Lung Association's latest "State of the Air" report at **Lung.org/sota**.

About the American Lung Association

The American Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease through research, education and advocacy. The work of the American Lung Association is focused on four strategic imperatives: to defeat lung cancer; to improve the air we breathe; to reduce the burden of lung disease on individuals and their families; and to eliminate tobacco use and tobacco-related diseases. For more information about the American Lung Association, a holder of the Better Business Bureau Wise Giving Guide Seal, or to support the work it does, call **1-800-LUNGUSA** or visit: **Lung.org**.

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