

Consumer Reports

Air pollution—outdoors and in—can make you sick Here's how to protect yourself

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Tiny specks of air pollution can cause big health problems. Air quality in the U.S. is gradually improving, but “particles you breathe in can increase blood pressure, inflame arteries, and speed up heart rate,” says Norman H. Edelman, M.D., senior consultant for scientific affairs at the American Lung Association.

A 2012 study in the Archives of Internal Medicine found that breathing outdoors on one moderately polluted day led to a 30 percent spike in strokes 12 to 14 hours later. And, says Gregory A. Wellenius, Sc.D., lead author and associate professor of epidemiology at Brown University, “Other studies also show more ER and hospital admissions for heart attacks on polluted days.”

Indeed, a study [published online this month in the Journal of the American College of Cardiology](#) suggests air pollution may be linked to a dangerous narrowing of neck arteries that occurs before strokes. The researchers looked at medical test records for more than 300,000 people living in New York, New Jersey, or Connecticut and found that people living in ZIP codes with the highest average levels of pollution were significantly more likely to show signs of narrowing in their internal carotid arteries, compared with those living in ZIP codes with the lowest pollution levels.

“We spend a lot of time thinking about traditional risk factors for stroke such as high blood pressure, cholesterol, diabetes and smoking—but our data underscore the possibility that everyday air pollution may also pose a significant stroke risk,” says Jeffrey S. Berger, M.D., an assistant professor in the department of medicine at New York University Langone Medical Center and a study author.

Air pollution is especially problematic for children; people 65 and older; and people with asthma, [diabetes](#), chronic obstructive pulmonary disease, [high blood pressure](#), and [heart disease](#).

Learn more in our [guide to a healthy heart](#). And find out how to get the [best air conditioner](#) and [air purifier](#) for your home.

Outdoor air problems

Medical researchers are highly concerned about ozone (a potentially hazardous gas) and fine-particle pollution—from car and truck exhaust, factories, power plants, and wildfires. Those particles, smaller in diameter than a human hair, can lodge deep in your lungs or enter your bloodstream. What to do:

- Check your local pollution levels at [airnow.gov](https://www.airnow.gov). If you're at higher risk, try to stay in [air-conditioned](#) areas when the Environmental Protection Agency's Air Quality Index is 101 or higher.
- During higher-pollution periods, exercise and work outdoors early in the morning, when pollution levels are usually lower.
- High-traffic areas are more polluted; avoid them when on foot or bicycling.
- Don't burn trash or wood outside or leave your car idling. On high-pollution days, don't run fuel-burning power equipment.
- Don't assume face masks are going to solve the problem. N-95 masks may provide some benefit, but most commercially available air masks are not designed to protect against all forms of air pollution, like smog.

Indoor air problems

The major indoor pollutants include cigarette smoke, [fireplace and wood-stove smoke](#), kitchen-range fumes, mold and mildew, air-freshener ingredients, animal dander, and dust. Those are especially worrisome for people with allergies or asthma. They can also irritate the eyes, nose, and throat or cause headaches in anyone. To breathe easier indoors:

- Ban smoking in your home and car.
- [Vacuum](#) to reduce dust and dander.
- Run [air conditioners](#) or [dehumidifiers](#) to help thwart mold and mildew.
- Use exhaust fans in your bathrooms, kitchen, and laundry area.
- Use a [vented range hood](#) to extract smoke and kitchen odors.
- Replace older wood stoves; newer models emit less smoke. A lower number on the [EPA's certification label](#) means it burns more cleanly.
- Burn only untreated, fully dried wood in your fireplace, and don't light it around anyone with a heart or lung condition.
- Nix air fresheners. They can contain volatile organic compounds and phthalates that can cause headaches and eye, nose, and throat irritation, and worsen asthma symptoms.

Can an air purifier help?

Indoor air purifiers filter dust, tobacco smoke, and pollen—helpful for those with allergies or asthma. But they may not eliminate the ultrafine particles. There are two types:

Portable air purifiers

Designed to clean the air in one area or room, they range in price from \$80 to \$1,700. In our recent tests, [the best large portable models](#) removed more particles at high speeds and still did well at lower, quieter speeds.

Tip: Choose a model designed for an area larger than yours.

Whole-house purifiers

For forced-air heating or cooling systems only, these special filters replace the regular one in your furnace. They cost \$7 to \$100. [Our top models](#) excelled at

filtering dust and pollen without impeding airflow in our tests. Note that the Lennox requires professional installation.

—*Sue Byrne*

<http://www.consumerreports.org/cro/news/2015/03/air-pollution-can-make-you-sick/index.htm>