

Ozone, Air Quality, and Asthma

Ozone and other things that pollute the air are problems for anyone who breathes. And if a person has asthma, these pollutants can be triggerstriggers that cause worsening symptoms and asthma flare-ups.

What Is Ozone?

You've probably heard about the ozone layer and how we need to protect it. The ozone layer is up high in the atmosphere. It protects us from the sun's rays. But there's a different layer of ozone closer to the ground. This kind of ozone is pollution that can irritate the lungs and cause breathing problems.

Ground-level ozone is created when chemicals from cars, power plants, and factories mix with sunlight. It tends to be higher in sunnier climates or during hot weather.

Ozone pollution is a main part of smog — the brownish-yellow haze often seen hanging over cities on the horizon. More than a third of the people in the United States live in areas with unhealthy ozone levels.

What Are Other Pollutants?

Particle pollution also makes the air dirty. Particle pollution is created when tiny bits of dust, dirt, smoke, soot, and other stuff hang in the air. Particle pollution can also be droplets from aerosol products, acids called nitrates (pronounced: NYE-trates) and sulfates (pronounced: SUL-fates). The smaller the particles, the deeper they can get into the lungs.

One in seven people in the United States live in places where the levels of particle pollution are unhealthy all year. The Environmental Protection Agency (EPA) keeps tabs on air quality and created the Air Quality Index (AQI) so people know how much ozone and particle pollution are in the air as well as the levels of gases — like carbon monoxide — that can affect the lungs.

How Poor Air Quality Affects People With Asthma

Because people with asthma have more sensitive lungs, poor air quality affects them more quickly and more severely.

For someone with asthma, polluted air can cause flare-ups. Air pollution may also increase the chance of respiratory infections, like flu, that can make asthma symptoms worse. When air quality is poor, more people with asthma end up in the hospital.

What You Can Do

If air pollution is a trigger for you, you'll want to avoid it as much as possible. Talk to your doctor about what to add to your asthma action plan.

You can track air quality by going online to AIRNow. The EPA created the site to help people affected by air pollution decide whether they need to stay inside. The system is color coded. Green or yellow means it's OK to be outside. Orange, purple, or maroon mean you should stay indoors. You can also get air quality information from weather reports and apps.

On days when air quality is bad, run the air conditioning. Plan any outdoor activities for early in the day, when air quality tends to be better, and don't spend time in places where there is a lot of traffic.

If you play a sport that has outdoor practices in hot weather, talk to your coach about what you can do to stay out of dirty air. This may mean you need to work out in an air-conditioned gym or miss some practices. Wherever you are, always have your quick-relief medicine with you.

You may not be able to prevent air pollution, but you can do your part to help the environment. When air pollution levels are high:

- Don't drive. Share a ride, take public transportation, ride a bike, or walk.
- Don't put gas in your car until after 7 p.m.
- Don't use outboard motors, off-road vehicles, or other gasoline-powered recreational vehicles.
- Avoid mowing the lawn or using other gasoline-powered gardening equipment when air quality is bad.

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