
Ozone, Air Quality, and Asthma

Have you ever heard TV weather forecasters talk about ozone levels? They might say: "Ozone and air pollution levels will be very high." Those levels matter to people who have asthma or other breathing problems. Let's find out why.

What Is Ozone?

Ozone (say: OH-zone) is a gas that is a part of the Earth's atmosphere (say: AT-muss-feer). The atmosphere is made up of the gases (like oxygen) that surround the Earth, like a shell. Ozone that is found 10 to 30 miles (16 to 48 kilometers) above the Earth protects us from the sun.

But the ozone that is closer to the ground pollutes the air and is the main ingredient in smog. This ozone is created when the exhaust given off by cars, power plants, and factories mixes with sunlight. That's why ozone tends to be higher in sunny places or during hot, still weather.

What Else Makes the Air Dirty?

Particle pollution (say: PAR-tih-kul puh-LOO-shun) also makes the air dirty. Particle pollution is created when tiny bits of dust, dirt, smoke, soot, chemicals from factories, and droplets from aerosol (say: AYR-uh-sol) cans hang in the air we breathe. The smaller the particles, the deeper they can get into the lungs.

Dirty Air and People With Asthma

Low-lying ozone and other things that pollute the air can cause breathing problems for anyone, even if they have healthy lungs.

As you have probably guessed, people with asthma have an even tougher time dealing with air pollution. The airways (the breathing tubes in the lungs) of someone who has asthma are already swollen and may contain lots of mucus.

Air pollution can make this worse. It can be a trigger, like pollen or cigarette smoke, for people with asthma. It can make someone's asthma symptoms worse and it can lead to a flare-up.

In fact, when ozone and other air pollution levels are high, more people with asthma end up at the hospital.

What You Can Do

If you find that air pollution worsens your asthma, ask your mom or dad to keep an eye on the weather report for you. On days when the air pollution level is high, run the air conditioning. If you plan to be outside, do it early in the day. The rest of the time, stay inside. And avoid places where there is a lot of traffic.

If you play a sport that has outside practices during hot weather, talk to the 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. If you do end up working out, inside or out, make sure that you have your quick-relief medicines (also called rescue or fast-acting medicines) with you.

Reviewed by: Elana Pearl Ben-Joseph, MD

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