

# Is Ozone Bad for Your Lungs?

By Frank Shallenberger MD

I use ozone therapy every day in my clinic. It's one of the best treatments I've found for a number of conditions. Its healing ability is absolutely astonishing. And yet many of my patients balk when I recommend using ozone. Why? They think ozone is air pollution.

Now, nothing is more misleading than associations. A recent article in the Riverside Press-Enterprise describes how easily it is to be misled by associations. In this case, it is the association between ozone and pollution. According to the article, "An estimated 828,000 Californians could be endangering their health by using portable air purifiers that generate lung irritating ozone." **Why? Because Dimitri Stanich, a California air board spokesman, says so.**

According to Stanich, "It's [ozone] the main constituent of smog .... It's a nasty thing." But Stanich is all wet. It's true that smog does cause lung disease. And it's true that smog does contain ozone. But Stanich is like so many others who mistakenly think that just because ozone is associated with smog, it causes the damaging effects of the smog.

Consider this crude analogy that shows why assuming that an association between two things represents a cause and effect relationship is often a misleading thing to do. Let's pretend you're walking through the park and there in the grass is a little present from Fido. And it's all covered with flies. Now, if you didn't know better, you would probably conclude that the flies caused the unpleasant pile. After all, every single time you see dog poop, it's covered with flies. Therefore, the flies must have caused it. Of course, you would be wrong. Flies are attracted to feces. That's why they are there. Not because they actually made the feces. The flies then bury their eggs in Fido's "gift." When the eggs hatch, the flies start emerging, and you might then conclude that the flies didn't cause the dog poop, the dog poop caused the flies. Again you would be completely wrong. This fly/poop example points out that just because two things are found together doesn't mean that one causes the other. So what does all of this have to do with ozone and your health?

Just because two things are associated does not prove anything.

The fact is that Mr. Stanich is wrong. Ozone is not the main constituent of smog. It is only one of many constituents. Smog also includes nitrogen oxides, sulphur oxides, volatile organic compounds (VOCs), peroxyacetyl nitrates (PANs), and aldehydes (ROs). Who is to say that ozone is the cause of the lung irritation associated with smog?

The answer is no one. **To date there has not been one study which shows that the lung irritation caused by smog is caused by the ozone component of the smog.**

All we know is that ozone is a good marker for smog. The higher the concentration of ozone in the air, the greater the concentration of all of the other components of smog. This is because the nitrogen and sulphur oxides, along with the VOCs, PANs, and ROs react with the oxygen in the air to produce ozone. In the same way that you'll find poop with flies, we also find smog with ozone. But just like the dog poop isn't producing the flies, the ozone is not producing the irritation - the smog is.

Simple association does not prove cause and effect.

So if what I'm saying is true, why don't we just measure the concentration of the actual smog components that cause the lung irritation? The answer is a practical one. It is cheap and easy to measure ozone in the air. Anyone can buy an air ozone analyzer and begin to determine smog levels. But it is much more complex and expensive to measure nitrogen/ sulphur oxides, VOCs, PANs, and ROs.

The problem is that we have always associated high levels of smog with high levels of ozone. **And this association has led many scientists, doctors, and politicians to incorrectly believe that it is the ozone component of smog that is so dangerous.**

For example, just recently, UC Berkeley statistician Robert H. Lee stated that about 14% of Californians sampled in a survey had a portable air purifier. Lee used the results to estimate that 828,000 Californians could be exposed to levels of ozone from the machines that were harmful. There is no scientific basis at all for such an assumption. Especially in view of the fact that the people using the ozone air purifiers already had respiratory disorders, and apparently felt that the purifiers were helping them. So let's look at the real facts about the use of ozone. Like oxygen, ozone is a gas. It consists of three oxygen atoms as opposed to oxygen, which has two oxygen atoms.

The third oxygen atom in ozone is what makes it so special. It makes ozone a form of supercharged oxygen. That third oxygen atom can very easily react with other molecules and destroy them. This is what makes ozone such a powerful purifier and disinfectant. In fact, it's possible the reason you find ozone with smog is because it is nature's way of cleaning the air. Ozone is no different from every other natural substance in the universe. Just like water and vitamin C, it can be toxic in high enough doses. **But in normal doses, it is completely safe. Studies prove it.**

**Published safety studies on ozone in industrial work sites have established that ozone is safe to inhale on a continuous basis up to a concentration of one fifty thousand mcgm/cc (microgram per cubic centimeter). This is 1,000% higher than the level at which you can smell ozone. Thus, regarding toxicity, your nose turns out to be a very reliable indicator. If you can't smell it, you are way below the level of toxicity. Even if you can smell it, you may still be way below toxic levels.**

Secondly, ozone is a natural component of the human body. It is not some form of pollution or something foreign to the human body. According to Professor Richard A. Lerner, MD and a team of investigators at The Scripps Research Institute, our immune systems manufacture ozone and use it to kill infections. Additionally, doctors worldwide use ozone as a medical therapy for a great many medical conditions. They safely inject it into body tissues as well as into the blood. For example, I inject it all the time into damaged or arthritic hips and knees. It gets rid of the pain, and rejuvenates the joint cartilage.

Hotels, restaurants, and home reclamation specialists have used ozone purifiers for years. It cleans the air of bacteria, mold, and gasses and fumes such as carbon

monoxide, formaldehyde, and smoke. I have been prescribing ozone air purifiers for over 20 years now. I prescribe them to patients with lung disease and/or allergies. When using an ozone purifier, it's important to let your body get used to it slowly. Start with the lowest concentration on the purifier and slowly increase the output as the lungs become used to it. Ozone purifiers are a form of oxidative medicine. As such, they stimulate the antioxidant enzyme systems in the respiratory tract that are so important to protect the lungs against smoke, smog, and other inhaled chemicals. So if you have an ozone purifier in your home, congratulations. If you don't, one of the best ozone purifiers for home use is the one I use in my clinic and at home. You can buy it at [www.ecoquestair.com](http://www.ecoquestair.com) (951-277-7923)

Refs:

- Bardi, Jason Socrates. "Antibodies Produce Ozone Dming Bacterial Killing and Inflammation." [www.scripps.edu/newsandviews/e\\_2002111S/ozone.html](http://www.scripps.edu/newsandviews/e_2002111S/ozone.html)
- Bocci, V "Oxygen-Ozone Therapy - A Critical Evaluation." Kluwer Academic Publications, PO Box 17, 3300 AA Dordrecht, The Netherlands.
- Danelski, David, The Press-Enterprise, January 17, 2007; [http://www.pe.com/localnews/inland/stories/PE\\_News\\_Local\\_D\\_pureairIS.2397c74.html](http://www.pe.com/localnews/inland/stories/PE_News_Local_D_pureairIS.2397c74.html)
- Viebahn, Renate. The Use of Ozone in Medicine, Karl F Haug Publishers, Heidelberg, 1994.