

# Ozone levels pose health risk even below current U.S. air safety standard: expert

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Exposure to ozone even at levels below the current U.S. standard for safe and clean air poses a breathing risk for healthy people.

Researchers from the University of North Carolina at Chapel Hill working with colleagues from the [Environmental Protection Agency](#) found that breathing a level of ozone at 0.06 parts per million (ppm), which is below the current U.S. standard of 0.075 ppm, can decrease lung function in healthy young adults. [Lung function](#) is a measure of how well a person is breathing.

Moreover, this study for the first time also shows that a level of ozone below the current safety standard causes people's airways to become inflamed. This can trigger respiratory attacks in susceptible people, including asthmatics. Increased inflammation also increases response to things to which one is allergic.

What might this study mean to parents whose children are younger than the study participants?

“Even though this study was done in healthy adults ages 19 to 35, the findings clearly have public health implications for asthmatics and others with lung disease of all ages,” said co-author David B. Peden, MD, MS, director of the UNC Center for Environmental Medicine, Asthma and Lung Biology. He is also professor of pediatrics and medicine, and chief of the Division of Pediatric Allergy, Immunology, Rheumatology and Infectious Diseases in the Department of Pediatrics.

To minimize the effect of ozone, Peden said, one should be alert to forecasts of increased ozone exposure in newspapers and on local weather forecasts. This usually occurs in the summer. “If at all possible, people with asthma should not be heavily exercising outdoors in afternoons on days that ozone will be increased,” he advises. “Also, using controlled asthma medications, which are important for asthma control in general, may be especially helpful at times when ozone will be elevated.”

According to the EPA, variations in weather conditions play an important role in determining ozone levels. Ozone is more readily formed on warm, sunny days when the air is stagnant. Conversely, ozone production is more limited when it is cloudy, cool, rainy, and windy (see: [www.epa.gov/airtrends/ozone.html](http://www.epa.gov/airtrends/ozone.html)).

Peden and co-authors point out that more than 100 million people in the US now live in counties that do not meet the current [ozone](#) standard “and [the] public health consequences are enormous.”

**More information:** A report of the research appears online in the January issue of the *American Journal of Respiratory and Critical Care Medicine*.

Provided by University of North Carolina at Chapel Hill School of Medicine

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