

# Traffic Pollution Is as Harmful for Kids as Second-hand Smoke

Written by Julia Haskins | Published on March 22, 2013

**New research sheds light on the ways air pollution triggers childhood asthma.**



Need some fresh air? You might want to think twice before inhaling freely. New research on air pollution and second-hand smoke has yielded some alarming findings, but knowing the risks and avoiding the sources of pollution will help you breathe easier.

Air pollution can have lifelong health effects no matter a person's age, but its consequences are especially apparent in [children](#), many of whose asthma and [other conditions](#) can be traced back to nasty pollutants like cigarette smoke and car exhaust fumes. Now, experts are taking note of the serious side effects of air pollution and developing tools to combat bad air.

## **Sending Smoke Signals**

If you're worried about your family's exposure to second-hand smoke, researchers at Dartmouth College have found an unprecedented solution in the form of a tobacco smoke detector made from nicotine-sensing film.

Second-hand smoke permeates countless surfaces and spaces, making it difficult to know what, precisely, is making a person sick. But the new device

can detect second-hand (and even third-hand) smoke through the adsorption of vapors and then report the results in real time. Research on the device was recently published in the journal *Nicotine and Tobacco Research*.

Lead researcher Dr. Joseph J. BelBruno sees many potential applications for the technology. “The device is intended to be worn by older children or to be clipped near the crib or bed of a smaller child,” he explained. “It may, of course, be worn by an adult to record exposure, although that was not the original drive for this research.”

He added, “The results are meant...to reduce the exposure of non-smoking family members to cigarette smoke. The idea is that when a smoker knows that he or she is exposing others, the smoker will be more careful.”

Should the technology become mainstream, the designers plan to make understanding the sensor data easier for the average user.

“The device analyzes the output of second-hand smoke in relation to the number of cigarettes,” BelBruno said. “At the moment, we analyze this in a laptop, but it can (and will) eventually be programmed into the controller to make it more user-friendly by outputting a number rather than a data stream.”

## High Traffic Means More Disease

Air pollution, including second-hand smoke, is a major concern worldwide. According to a study of 10 European cities published in the *European Respiratory Journal*, exposure to high-vehicle traffic roads accounted for 14 percent of all the asthma cases studied. In fact, the researchers have concluded that “the entire ‘chronic disease progression’ should be attributed to air pollution, no matter what the proximate cause was.”

“Air pollution has previously been seen to trigger symptoms, but this is the first time we have estimated the percentage of cases that might not have occurred if Europeans had not been exposed to road traffic pollution,” said lead author Dr. Laura Perez of the Swiss Tropical and Public Health Institute. “In light of all the existing epidemiological studies showing that

road-traffic contributes to the onset of the disease in children, we must consider these results to improve policy making and urban planning."

The researchers focused their efforts on childhood asthma. Though pinpointing its source can be tricky, traffic-related air pollution was shown to be a **major culprit**.

While they noted that the cause of asthma in individual patients is not always known, "Studies conducted in the past 10 to 15 years in the U.S. and Europe strongly indicate that traffic-related air pollution belongs on the list of complex factors that can...incite asthma in a child that had no asthma initially, similar to passive smoking and other known risk factors," researchers said.

It's safe to say that proximity to heavy traffic does no good for breathing, asthma or not.

### **How Can You Protect Your Family From Air Pollution?**

Sources of air pollution must be restricted by government officials, factory owners, and automakers. Policies promoting zero-emission vehicle fleets along with improved urban planning to separate busy traffic centers from residential locations would be a step in the right direction, according to Perez and her colleagues.

But as an individual, you do have some power to ensure that you and your family breath clean, fresh air. Steer clear of outdoor spaces with heavy traffic and opt instead for places off the beaten path that haven't been tainted by pollution. When indoors, patronize establishments that don't allow smoking. Your lungs (and the rest of your body) will thank you.

<http://www.healthline.com/health-news/children-traffic-pollution-as-harmful-as-second-hand-smoke-032213#1>