

This Type of Cooking Is Linked to Childhood Asthma

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

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STORY AT-A-GLANCE

- › Evidence shows that cooking on a gas stove contributes to childhood asthma, likely from known respiratory irritants, including nitrogen dioxide, carbon monoxide and particulate matter
- › President Biden briefly said he would like to eliminate gas stoves by the end of 2023, but quickly backpedaled on it in the face of massive backlash
- › Gas stoves have been in homes since the 1800s, yet asthma rates only began climbing within the last couple of decades. Other factors that may influence the rising rate are more airtight, energy-efficient homes and less time spent outdoors
- › Dietary strategies that help mitigate some of the effects of air pollution include a balanced omega-6 to omega-3 ratio, drinking raw milk and optimizing vitamins B, C, D and E

A 2023 study¹ of 27 peer-reviewed manuscripts from previous studies links 1 in every 8 cases of asthma in children in the U.S. to air pollution given off by cooking on gas stoves.² Study authors admit childhood asthma is relatively rare: According to the CDC,³ the national prevalence of asthma is just 5.8% in children under 18 years old.

According to the featured study, 42.7% of children under 18 had at least one asthma attack in 2020, 8.8% of which required an inpatient hospital stay. In 2020, 204 children under 18 died following an asthma attack. For comparison, the CDC⁴ recorded 199 deaths in the same age range in 2020 from COVID-19.

It is important to note that asthma is a chronic health condition.⁵ Once the condition develops, asthma symptoms will appear or worsen when an individual is exposed to environmental or systemic factors, such as pollen, viral infections, cold air or exercise.⁶

Symptoms include chest tightness, coughing, shortness of breath and wheezing. The symptoms are a product of swelling in the airways that make it more difficult to breathe. A lack of oxygen can make you feel light-headed.

In addition to knowing and avoiding their triggers, people with asthma can make lifestyle changes that reduce their potential risk for an attack, such as maintaining a healthy weight, managing stress, not smoking or avoiding secondhand smoke and developing healthy sleep habits. I discuss additional dietary strategies you can use to reduce your risk of asthma and allergies below.

How the Study Found Gas Stoves Contribute to Childhood Asthma

The featured study was led by researchers from Rocky Mountain Institute (RMI), and the lead author, Talor Gruenwald, is a data scientist at electrification advocacy group Rewiring America, which bills itself⁷ as “focused on electrifying everything in our communities.”

Although the study notes that no “reported new associations between gas stove use and childhood asthma specifically in North America or Europe” were found, in an interview with France 24, Gruenwald said the study still suggests that roughly 650,000 children in the U.S. developed asthma after being exposed to gas stoves.⁸

Based on a 2013 study that found that “living in a home with a gas stove corresponds to a 42% higher chance of current childhood asthma,” Gruenwald and colleagues estimated how many more childhood cases might exist today due to gas stoves, and came up with the 650,000.⁹ Overall, 12.7% of childhood asthma was estimated to be triggered by exposure to gas stoves.¹⁰

The researchers suggested that asthma in these children could theoretically be prevented since gas stoves are in 35% of homes in the U.S. One researcher in the study, Brady Seals, carbon-free buildings manager at RMI, spoke to a reporter from Yahoo! News, explaining:¹¹

“When the gas stove is turned on, and when it’s burning at that hot temperature, it releases a number of air pollutants. So, these are things like particulate matter, carbon monoxide and nitrogen dioxide, along with others. So, for example, nitrogen dioxide is a known respiratory irritant. And the EPA, in 2016, said that short-term exposure to NO2 causes respiratory effects like asthma attacks.”

A 2022 study¹² published by Stanford University found gas stoves pose an annual climate impact equal to 500,000 cars. The data supported a movement that began in California in 2019 to ban gas appliances in new construction.¹³

However, a 2021 New York Times¹⁴ article notes that “gas cooking doesn’t deserve as much climate-related ire as it has been getting lately, because it represents a tiny part of household energy use and carbon emissions.” In fact, “as of 2015, the most recent year with detailed data¹⁵ from the U.S. Energy Information Administration, gas stoves accounted for less than 3% of household natural gas use in the U.S.”

The authors of the featured study admitted their data was limited by the number of states that had available data (only nine) and their interpretation may have been skewed by children who were also exposed to other indoor air pollutants, such as tobacco smoke.

And, although the risk could be reduced by better ventilation — only 21.1% of households reported always using a stove vent — they suggest removing gas stoves and replacing them would be a cleaner alternative. “The fact that we have good, and now affordable, alternatives to gas stoves — we’re really showing that we could potentially prevent 12.7% of childhood asthma in the U.S., and I don’t know anyone who wouldn’t want to do that,” Seals said.¹⁶

Children Have Higher Risk From Indoor Air Pollution

Yahoo! News¹⁷ describes a 2020 RMI study¹⁸ in which they found homes with gas stoves had 50% to over 400% increased nitrogen dioxide concentrations over homes running electric stoves.

According to RMI, the health effects of nitrogen dioxide in children are not limited to an increased susceptibility to asthma and lung infections. They also include learning deficits, cardiovascular effects and an increased susceptibility to allergies. These increased risks are related to immature development in the lungs and brains, which places children at greater risk of inflammation and other damage from pollutants.

Children also have a longer life expectancy, which gives the pollutants more time to do damage and for diseases to emerge. A 2018 report from the WHO¹⁹ analyzed studies published within the last 10 years and used input from dozens of experts. The report revealed some of the top health risks of air pollution to children, among them:

Adverse birth outcomes	Infant mortality
Neurodevelopment including lower cognitive test outcomes, children's mental and motor development and may contribute to autism and attention deficit hyperactivity disorder (ADHD)	Childhood obesity
Impaired lung development and lung function in childhood	Acute lower respiratory infection, including pneumonia
Asthma	Ear infections
Childhood cancers, including retinoblastomas and leukemia	Increased risk of chronic lung disease and cardiovascular disease as an adult

Is Eliminating Gas Stoves as Feasible as It Sounds?

Many people who spend a significant amount of time cooking prefer gas cooktops. The heat response time is faster than electric, and it's easier to control. However, before he called a halt to it in the face of a massive backlash,²⁰ the Biden administration and the Consumer Product Safety Commission were focusing on climate change and eliminating greenhouse gases to ban gas stoves by the end of 2023, rather than deferring to preferences or convenience.²¹

In response to the featured study, a gas lobby group was quick to criticize that, too, saying it's an "advocacy-based mathematical exercise that doesn't add any new science" that has "no measurements or tests based on real-life appliance usage, emissions rates, or exposures."²²

Florida Gov. Ron DeSantis lashed out, too, saying that during hurricanes when the power is out across the state, people rely on their gas stoves to boil water and cook food. Matt Dean of the Heartland Institute also blasted Biden's plan, quoting industry estimates that show it would cost the average American family \$1,000 per year, in addition to the initial replacement costs.²³

In 2021 California company Energy in Depth²⁴ called the results of studies that show the dangers of gas cooktops misleading. They quoted one report from Catalyst Environmental Solutions that supports the continued use of gas, and said the studies used to demonstrate health risks and a policy change "mischaracterize emissions from gas stoves while advocating for an expensive and burdensome transition to all-electric."

So, while we wait to see if a ban is enacted, whether you choose to switch to an electric stove or not is your decision. If you have a gas cooktop, seek to increase the ventilation in your house by always using the stove vent and even **opening windows** at least once a day, no matter the outdoor weather. Also consider using fans to draw in fresh air from one window and push out stale air through another.

Is Banning Gas Stoves the Real End Goal?

Gas stoves have been part of American households since the 1800s,²⁵ yet it is only within the last decades that the incidence of asthma has risen dramatically. Several factors may influence this, not the least of which is that new homes are now more airtight to help lower energy bills.

A lack of airflow and ventilation throughout the home increases exposure to all indoor air pollutants. Additionally, 20 or 30 years ago, children spent more time outdoors and less time indoors in front of digital devices.

But, like most things that have occurred in the last three years, you must ask what is the underlying goal for banning gas stoves?

At the same time they're talking about banning gas stoves in the U.S., one computer model²⁶ shows that if wood and charcoal stoves in sub-Saharan Africa were replaced with both gas and electric stoves, roughly 463,000 deaths each year could be prevented and save approximately \$66 billion in health care costs. The move is proposed to prevent indoor air pollution.

So why are gas stoves good for pollution solutions in Africa, but not in America? Tyler Durden from ZeroHedge²⁷ sees the push to ban gas stoves in the U.S. as an overreach that hides something far more nefarious.

Since at least 35% of homes in the U.S. use gas stoves, it would be nearly impossible to remove them all and unenforceable to criminalize their use. However, while watching the global news, Durden notes a concerted effort to draw your attention to indoor air pollution and the need to do something about it:

Singapore is considering new regulations on indoor air quality, but because of formaldehyde²⁸

The Conversation²⁹ ran an article titled "indoor air pollution kills"

In December 2022,³⁰ Sir Chris Whitty, the U.K.'s chief medical officer, "demands action on indoor air pollution"

A January 8, 2023, Guardian lifestyle piece³¹ about "smelly candles," called indoor air quality a "going concern" and recommended "frequently ventilating spaces, using vacuum cleaners with Hepa filters, using air purifiers, surrounding yourself with greenery and cleaning regularly"

And,³² The Tyee, a Canadian magazine that receives some funding from the Canadian government, ran an opinion piece January 11, 2023, "We Need a Revolution in Clean Indoor Air." In it they attempted to link indoor air quality to "ending COVID"

The Irish Times³³ ran a piece January 12, 2023, calling for a health check on indoor air pollution at home and at work

Jill Notini, a vice president at the Association of Home Appliance Manufacturers argues "ventilation is really where this discussion should be, rather than banning one particular type of technology"³⁴

These news stories coincide with the release of a new "smart air monitor" from IKEA,³⁵ and a "smart air purifier" from Samsung.³⁶ And the coincidences don't stop there. One report³⁷ expects the market share for air monitoring technology will grow to \$5.9 billion by 2026.

Durden theorizes that the gas stove ban is a bait and switch. The ban will be set aside, and a compromise reached in which smart air monitors are mandatory in new-build houses, rentals and hotels. Like their smart electricity meter counterparts, they may be used to harvest data and give others the ability to control your home. He expects more news stories in the coming months about poor air quality and how it makes COVID worse.

Dietary Strategies May Reduce Risk of Asthma and Allergies

One of the best options you have to reduce your risk of asthma and allergies is to eat well and fortify your diet with nutrients that can have a protective effect against

pollutants as well as boost your immune system. These include:

- **Omega-3 fats** – It is essential you have a **balance of omega-6 and omega-3** fatty acids in your diet. One study³⁸ evaluated the results of 695 pregnant women after using either a fish oil or olive oil supplement in the last trimester of their pregnancy. The researchers followed these babies for the first five years of their life.

They found the children whose mothers took the fish oil supplement had a 30.7% lower risk of asthma when compared to the children whose mothers took the olive oil.³⁹ The researchers theorized that low levels of EPA and DHA increased the children's vulnerability to inflammation and a sensitized immune system reaction.

- **Vitamins B, C and E** – A 2015 review of the literature found studies indicating vitamins B, C and E could modulate the effect of air pollution by reducing oxidative stress and inflammation.⁴⁰ A human trial found high doses of the combination of vitamins B6, B9 and B12 offset the damage by very fine particulate matter air pollution.⁴¹
- **Raw milk** – Interstate sales or distribution of raw milk is illegal in the U.S. following passage of the U.S. Pasteurized Milk Ordinance, which requires milk crossing state lines to be pasteurized. However, as more about the health benefits of raw milk are learned, demand for the product has grown.

One study⁴² followed 983 infants from rural areas in Austria, Finland, France, Germany and Switzerland for their first year of life, looking at their consumption of different types of cow's milk and comparing that data to rates of common respiratory infections. The data showed that children who drank raw milk had a 30% lower risk of respiratory infections and fever as compared to those who did not.

If milk was boiled on the farm, it had a diminished protective effect and ultra-pasteurized milk had no protective effect. The researchers concluded the public health impact of minimally processed raw milk may be "enormous, given the high prevalence of respiratory infections in the first year of life and the associated direct and indirect costs."⁴³

A 2007 study⁴⁴ involving data from 15,000 children also found raw milk was inversely associated with asthma and may offer protection against asthma and allergy. A 2011 study⁴⁵ of 8,334 school-age children found those who drank raw milk were less likely to develop asthma and hay fever than children who drank pasteurized milk.

- **Vitamin D** – Evidence supports an association between vitamin D levels and asthma. Daily doses of sunshine in safe amounts without burning is the ideal way to obtain a healthy level of vitamin D. A higher intake of vitamin D-rich foods during pregnancy may lead to a lower risk of asthma⁴⁶ and rhinitis⁴⁷ in children.

Vitamin D can be found in mushrooms, fish, eggs and dairy products. The only way to know if you have adequate levels of vitamin D is to be tested and monitored during pregnancy.

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