



HOW AIR POLLUTION HARMS PREGNANCY

Air pollution threatens the health of everyone, but it poses outsized risks for pregnant people and babies. Children who are exposed to air pollution in the womb are at risk of low birth weight, early birth, improper immune system development, lower cognitive intelligence, and gestational diabetes as well as long-term health impacts, including asthma and high blood pressure. Climate change has drastically increased the incidence of heat waves, wildfires, and superstorms, all of which also increase air pollution. Exposure to air pollutants such as ozone, especially during certain periods of pregnancy, has also been linked to preterm birth, which can have lasting health consequences.

Here's a primer on how pollutants in the air harm growing babies and some ideas for safeguarding them during pregnancy.

Daily exposures

Air pollution in our everyday lives can affect pregnant individuals, and detrimental health effects can emerge in children even many years after they're born. These are some typical air pollutants that can impact children exposed in utero:

Soot pollution

Soot pollution consists of tiny droplets or particles in the air. It can come from a variety of sources, such as the burning of fossil fuels for energy and from wildfires. The smallest particles are no more than 2.5 microns wide—30 times smaller than the width of a human hair. These particles, also called PM2.5 or particle pollution, are easily inhaled and can become embedded in our lungs and pass directly into the bloodstream. Soot pollution has been found in placentas, the temporary organs that support fetal growth. Children exposed to soot pollution at varying points during development are at higher risk of elevated blood pressure and asthma.

Smog

Smog, also known as ozone, is a powerful lung irritant. It forms in the atmosphere when certain chemicals combine with heat and sunlight. Power plants, fracking, cars and trucks, and diesel engines can all be sources of smog-forming chemicals. Higher smog levels can significantly increase preterm birth risk.

Indoor air pollution

Indoor air pollution in any home or workplace can include volatile organic compounds (VOCs), chemicals released in the air as gas. They can enter homes from cars, trucks, and oil and gas operations,



from wells to pipelines to power plants. They can also come from household items like paints, personal care products, pesticides, furniture, and cleaning products. Breathing VOCs can lead to respiratory issues, damage to the central nervous system and organs, and cancer. Exposure to VOCs in the womb can increase the risk of low birth weight and childhood respiratory disease.

Hazardous materials

Hazardous materials like asbestos, radon, PCBs, lead dust from paint, and mercury in flooring are of concern, especially in older homes. Ambient air exposure can result in adverse birth outcomes.

Indoor mold

Mold can be a respiratory concern when water enters homes through leaky roofs, pipes, windows, foundations, floods, poor drainage, and other routes. Breathing mold can cause allergic and respiratory symptoms, though mold exposure has not been well studied in pregnancy.

Wildfires

Wildfires driven by climate change are becoming more frequent and longer in duration. Wildfire smoke is dangerous to breathe.

While adverse effects from tobacco, secondhand smoke, and even wood-burning stoves are fairly well studied, the effects of wildfire smoke on pregnancy are less known. Studies have demonstrated it can lead to preterm birth. Children exposed to wildfire smoke in utero are more likely to suffer respiratory infections.



How to limit air pollution exposure during pregnancy

It's not up to pregnant people alone to protect themselves from air pollutants. Still, it's good common sense to consult with your health care provider, check the local air quality on your preferred weather app, and limit outdoor exercise during extreme heat and when pollution levels are unsafe for sensitive groups. Wearing an N95 particulate respirator mask can help minimize exposure to wildfire smoke.

Air pollution, pregnancy, and environmental justice

While air pollution is a threat to all pregnant people, the impacts are not felt equally.

In the United States, Black women of all income and education levels are two to three times more likely to die from pregnancy-related complications than white women. While exposure to air pollution is often worse in all low-income neighborhoods, historically marginalized communities of color face the greatest risk because systemic racism has created practices that force Black, Latino, and Indigenous families to live in places that are more susceptible to extreme heat, smog, soot, wildfire smoke, and other air pollutants.

Communities with greater exposure to air pollution have higher than average childhood asthma rates.

Join us

Pregnant people and children deserve to breathe clean air. Everyone who carries and gives birth to babies—and those who love them—can join Moms Clean Air Force to demand strong policies that fight climate change and limit air pollution.

www.momscleanairforce.org

For sources, please visit:
www.momscleanairforce.org/sources-pregnancy-airpollution

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Moms Clean Air Force is a community of more than 1.6 million moms, dads, and caregivers united against air pollution—including the urgent crisis of our changing climate—to protect our children's health. www.momscleanairforce.org

The American Academy of Allergy, Asthma & Immunology (AAAAI) is the leading membership organization of more than 7,100 allergists/immunologists and a trusted resource for patients. www.aaaai.org