

Asthma the Environment and Your Child



What Is Asthma?

Asthma is a serious respiratory disease that is increasing around the world.

Asthma is an inflammation of the small airways of the lungs. Its symptoms include coughing, wheezing, and shortness of breath.

About 20 million people in the United States have asthma, twice the number who had it in 1980.

Among children, asthma is the number one chronic health condition and the number one cause of hospitalization. And, for children who are hospitalized with asthma, the chance of becoming seriously ill or dying has doubled over the past 20 years.

We do not know why more people are getting asthma, nor do we know how to prevent it. However, we are learning much more about environmental exposures that can cause asthma or make it worse.

Here is some information on these exposures and what you can do to reduce your child's risk.



Genetics & Asthma

Asthma, like allergies, often runs in families. It is found in nearly one of every three children whose mothers have asthma. But it is found in only one of every ten children whose mothers don't have asthma.

If you know there is asthma in your family, be sure to tell your pediatrician and other health care professionals who care for your child.

Breastfeeding & Asthma

Breastfed infants are less likely to develop asthma and allergies than babies who are fed infant formula. Scientists believe that substances in breast milk can help the infant's immune system develop in a way that reduces the risk.

Viral Infections & Asthma

Viral respiratory infections, like the common cold, can be far more severe in children with asthma. For these children, viral infections can trigger wheezing. Some respiratory viruses may contribute to the onset of asthma in infants who did not previously have the disease.

To help prevent viral infections, encourage flu shots and handwashing for the entire family.



The Indoor Environment

Secondhand cigarette smoke may cause or worsen asthma in children who are exposed either before or after they are born. *Smoke or fumes* from wood stoves, fireplaces, or gas ovens can worsen asthma symptoms.

To help prevent asthma attacks:

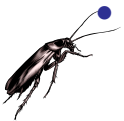
- Don't smoke in your home or car, or let others do so. Get help in quitting.
- Avoid heating your home with a wood stove or gas oven.

Allergies

Children with asthma may wheeze when exposed to *cockroaches, dust mites, pollen, furry pets, indoor dampness, and common molds*. Try to reduce these allergens. A doctor's evaluation for allergies may help identify what makes your child's asthma worse.

For children with allergies consider:

- Use covers on mattresses and pillows to reduce exposure to dust mites, and wash bedding frequently in warm water.
- Control cockroaches by sealing cracks, putting food away, and using "roach motels" or baits if necessary. Avoid spraying with pesticides.
- Use vacuum cleaners and air purifiers with HEPA filters to help reduce dust mites, pollen, and mold.
- Make sure there is no water damage or mold growth in the house or basement.
- Avoid frequent humidifier use.



The Outdoor Environment

Asthma is more common in urban areas, especially among children living or going to school near roads with heavy traffic.

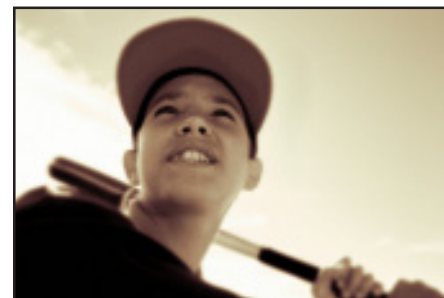
Diesel exhaust and ozone smog may cause asthma in previously healthy children, and may trigger attacks in children who already have asthma.

For example, California school children who are very active and live in areas where there is a smog problem are over three times more likely to develop asthma. Outdoor sports are not associated with asthma in less smoggy areas.

Smoke, soot, and vehicle exhaust are linked to emergency room visits for asthma. Pollutants such as *nitrogen oxides* and *sulfur dioxide* can irritate the respiratory system, causing airway constriction, chest tightness, and asthma symptoms.

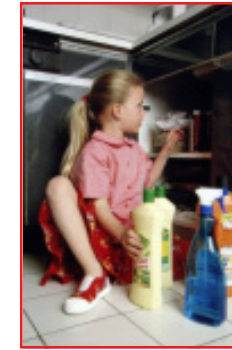
To help prevent asthma attacks:

- Support efforts to reduce air pollution, such as improving mass transportation.
- Minimize outdoor activities on days with air pollution warnings.



Asthma & Chemicals

Chemicals in the home or workplace can cause asthma or make it worse. For example, breathing a lot of smoke or irritating chemicals such as drain cleaner, bleach, or ammonia can cause asthma-like disease.



Chemicals that cause asthma may be found in:

- Sprayed polyurethane foams, coatings, paints, shellacs, and varnishes
- Epoxy resins
- Photographic fluids
- Cements used in home hobbies, orthopedic surgery, and dentistry
- Latex
- Grain dust and wood dust.

Although it is unusual for a child to be exposed to these substances, it is possible that they may be present in the home or in dust that parents bring home from the workplace on their clothing.

Some researchers believe that *volatile organic compounds* may play a role in asthma. These are irritating chemicals, such as formaldehyde, that are found in modern buildings. They may be released from building materials, carpets, furniture, glues, paints, pesticides, fragrances, and cleaning products.

Several *pesticides* at high levels can cause allergic reactions or airway constriction. These include some chemicals that are widely sprayed for control of cockroaches.

To help prevent asthma attacks:

- Use household chemicals and pesticides cautiously. If you must use them, keep children away from them and make sure the area is well ventilated.
- Avoid scented fragrances if your child is sensitive to them.
- If you work with chemicals, shower and change your clothes before coming home.



How to Contact Us

Mailing Address

UCSF Pediatric Environmental Health Specialty Unit (PEHSU) Program
c/o California Poison Control System
Box 1369, University of California
San Francisco, CA 94143-1369

Toll-Free Phone/Website

1-866-UC PEHSU (1-866-827-3478)
www.ucsf.edu/ucpehsu

For More Information

www.lungusa.org/asthma
www.epa.gov/airnow
www.acaai.org

PEHSU is funded by the U.S. Agency for Toxic Substances and Disease Registry (ATSDR) and the U.S. Environmental Protection Agency (EPA). Funds are administered through the Association of Occupational and Environmental Clinics (AOEC).