

PENNSYLVANIA ENVIRONMENTAL ASTHMA FACT SHEET

2010

ENVIRONMENTAL ASTHMA

According to the Division of School Health, Pennsylvania Department of Health, 10.7 percent of Pennsylvania's School Students in the 2007-2008 school year had asthma. The environment that children live, learn, and play in can greatly affect their asthma. Thirty percent of childhood asthma exacerbations (or asthma attacks) are due to environmental exposures.ⁱ Avoid outdoor activity, such as yard work or exercising, when ozone levels are high. If possible, use indoor air conditioning, which cools and dries the air during hot, muggy summer days. To avoid contributing to the problem, use public transportation, carpool, and encourage others to limit activities that can contribute to outdoor air pollution.

Keep your quick-relief medicine on hand when you are active outdoorsⁱⁱ

INDOOR ENVIRONMENT

Americans spend up to 90 percent of their time indoors. Therefore, indoor allergens and irritants can play a significant role in triggering asthma attacks.

- According to EPA Research, exposure to dust mites, molds, pet dander, and second hand smoke can trigger asthma attacks.ⁱⁱⁱ
- Exposure to pests such as, cockroaches can trigger asthma.^{iv}
- Under some circumstances, asthma can be *caused* by dust mites and secondhand smoke.^v

OUTDOOR ENVIRONMENT

Air pollution can make asthma symptoms worse and trigger attacks. Exposure to outdoor air pollutants can greatly affect childhood and adult asthma.

Ozone: Ozone is produced at ground level when tailpipe pollution from cars and trucks reacts with oxygen and sunlight. Ozone is often worst on hot summer days, especially in the afternoons and early evenings.

- Increases in ozone are associated with increased asthma symptoms such as wheezing, chest tightness, and shortness of breath.^{vi}
- When ozone levels are high, more people with asthma have attacks that require a physician's attention.^{vii viii}
- Ozone makes people more sensitive to asthma triggers such as pet dander, pollen, dust mites, and mold.^{ix}

Particulates: Particulates are a wide range of pollutants -- dust, soot, fly ash, diesel exhaust particles, wood smoke and sulfate aerosols -- which are suspended as tiny particles in the air. They can be bad any time of year.

- Soot pollution causes about 5,000 premature deaths in Pennsylvania annually.^x
- Particulates can cause asthma attacks.^{xi}
- Studies have shown that the number of pediatric hospitalizations for asthma increases when levels of particulate matter in the air rise.^{xii}

PENNSYLVANIA FACTS

Around 2, 130 adult nonsmokers die each year from exposure to secondhand smoke.

Over 858,000 children in Pennsylvania are exposed to environmental tobacco smoke because of an adult smoker.^{xiii} Six out of ten Americans live in urban areas where air pollution can cause major health problems.

Pittsburgh, Pennsylvania was one of the most polluted U.S cities in 2008^{xiv}.

Philadelphia, the Harrisburg-Carlisle-Lebanon region, the state college metro area and the Allentown-Bethlehem-Easton metro area ranked in the "Worst 25" cities for short-term particulate pollution in 2008.

Allegheny, Beaver, Lancaster, and York ranked in the "Worst 25" counties for long-term particulate pollution.^{xv} A total estimate of 203,047 people with asthma resides in these four counties with poor air quality.^{xvi}

The Pennsylvania Asthma Partnership is sponsored by the Pennsylvania Department of Health through a cooperative agreement with the Centers for Disease Control and Prevention.

ⁱ Landrigan, PJ, Schechter, CB, Lipton, JM, Fahs, MC, and Schwartz, J. (July 2002) Environmental pollutants and disease in American children: estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities. *Environmental Health Perspectives*. 110(7): 721–728.

ⁱⁱ Ibid

ⁱⁱⁱ United States Environmental Protection Agency. (May 2007) Asthma Facts. *Indoor Environments Division*. EPA 402-F-04-019

^{iv} Ibid

^v Ibid

^{vi} Gent, Jf, Triche, EW, Holford, TR, Belanger, K, Bracken, M, Beckett, WS, Leaderer, BP. (2003) Association of Low-Level Ozone and Fine Particles With Respiratory Symptoms in Children with Asthma. *JAMA*. 2003 Oct 8; 290(14): 1859-1867.

^{vii} Cody, R.P., et al. The effects of ozone associated with summertime photochemical smog on the frequency of asthma visits to hospital emergency departments. *Environmental Research* 58, 184-194, 1992.

^{viii} Schwartz, J. PM10, ozone and hospital admissions for the elderly in Minneapolis-St. Paul, Minnesota. 49:5 366-374, 1994.

^{ix} Ibid

^x Madsen, T. and N. Wilcox. (April 2006) Air Pollution and Public Health in Pennsylvania. *PennEnvironment Research and Policy Center*

^{xi} United States Environmental Protection Agency. (May 2007) Asthma Facts. *Indoor Environments Division*. EPA 402-F-04-019

^{xii} Peel JL, Tolbert PE, Klein M, Metzger KB, Flanders WD, Todd K, Mulholland JA, Ryan PB, Frumkin H. Ambient air pollution and respiratory emergency department visits. *Epidemiology*. 2005 Mar;16(2):164-74.

^{xiii} Pennsylvania Department of Health. Tobacco Use in Pennsylvania. Accessed April 2008. www.dsf.health.state.pa.us/health/cwp/view.asp?A=174&Q=236092

^{xiv} American Lung Association. (May 2009) State of the Air: 2009.

<http://lungaction.org/reports/stateoftheair2008.html> ~ Will be accessible May 1 2008

^{xv} Ibid

^{xvi} Ibid