

WILDFIRE SMOKE FACTSHEET

Children's Health and Wildfires *A Resource for Families*



Summary of Key Points

- Children are especially vulnerable to health effects during wildfires due to their developing lungs and other factors.
- Wildfire concerns include the fire itself, the smoke and ash, and the chemicals from materials burned and fire retardants.
- Smoke can travel hundreds of miles from the source of a fire. Pay attention to local air quality reports, even if no fire is nearby (www.airnow.gov).

Health Effects from Wildfires

- Children who breathe in wildfire smoke can have chest pain and tightness; trouble breathing; wheezing; coughing; nose, throat, and eye burning; dizziness; or other symptoms.
- Children with asthma, allergies, or other chronic health conditions may have more trouble breathing when smoke or ash is present.
- Stress and mental health effects of all disasters, including wildfires, are serious.

Preparing for Wildfires

- Stay alert to smoke-related news coverage and public health advisories.
- Look up your local [Air Quality Index \(AQI\)](#) on the www.AirNow.gov web site or sign up for air quality alerts: <http://www.enviroflash.info/>.
- Improve the indoor air quality in your home.
 - If you have central air, talk to your HVAC or furnace professional about upgrading to a filter rated "MERV" 13 or higher.
 - Buy a portable air cleaner sized to the room it is intended for and **never** use an ozone-generating air cleaner. <https://bit.ly/3bmu8Rb>
 - If cost or availability of portable air cleaners are a problem DIY versions can be a good short-term solution. <http://bit.ly/DIY-air-purifier>

- Create a "clean room" in your home. Choose a room with few windows and doors. More information available here: epa.gov/indoor-air-quality-iaq/create-clean-room-protect-indoor-air-quality-during-wildfire
- If your child has chronic health conditions, discuss plans for wildfires with their primary care provider.
- Stock up on food, medicine, masks, and childcare supplies before the threat of a wildfire.
- Practice having children age 2 and up wear small N95 or surgical masks, using what fits your child's face best. See: pehsu.net/Wildfires_and_Mask_Use.html
- Evacuation may be necessary. Plan for it and prepare your children. (see [HealthyChildren.org – Disasters and Your Family: Be Prepared](http://HealthyChildren.org-Disasters_and_Your_Family:_Be_Prepared))

During Wildfires

- Keep children indoors with the doors and windows closed. If you have an air conditioner, run it with the fresh-air intake closed (recirculate mode), if you can, to keep outdoor smoke from getting indoors. Use your portable air cleaner as well.
- Keep the indoor air as clean as possible:
 - Avoid smoking and vaping
 - Avoid using gas, propane, or wood-burning stoves, fireplaces, or candles.
 - Avoid natural gas or gasoline-powered generators indoors.
 - Avoid using unnecessary chemical products.
 - Avoid frying or broiling meat
 - Avoid vacuuming (unless vacuum has a HEPA filter).All of these lead to poor air quality.
- A period of improved air quality is a good time to open windows to air out the house and clean away dust that has settled indoors.

- If it looks or smells smoky outside or if local air quality reports, health warnings, or the Air Quality Flag Program reports that the air quality is poor, wait until air quality is better before your family is active outdoors.
- Pay attention to announcements on the radio, TV, or online about changing conditions, cancelled events, or evacuation. Indoors, reduce health risks by avoiding strenuous activities.
- N95 or Surgical Masks: Children 2 and up may be able to get some protection from wildfire smoke from N95 masks or surgical masks, but only if they are fitted tightly to the face. Your child can use a mask safely if they can tell you about any problems they have with the mask. If your child is uncomfortable or says that it is hard to breathe, take off the mask. Use masks only for short periods where your child must be outdoors (i.e., travel between home and school). For more on mask use, visit:
https://www.pehsu.net/Wildfires_and_Mask_Use.html
- Humidifiers or breathing through a wet washcloth do not prevent breathing in smoke.

When to consider Evacuation

- If you must travel with children, reduce smoke in your vehicle by closing the car windows and using the air conditioning in recirculate mode. Do NOT leave children in vehicles unattended.
- Seek shelter elsewhere if your family does not have an air conditioner, air cleaner, if it is too warm in your home to stay inside with the windows closed, or if the AQI is high.
- Environments with cleaner air might include public clean air shelters, libraries, or malls. Check local news sources or county public health webpages for listing of such shelters.

After a Wildfire

- Before children return to an area affected by wildfires, make sure there are: safe drinking water; running electricity; safe road conditions; structurally sound homes; and sewage, ash, and debris have been removed.
- Children should not be at a cleanup site, nor should they do cleanup work. Fires may deposit large amounts of ash and dust contaminated with harmful chemicals such as asbestos, arsenic, and/or lead. Fires can lead to other hazardous conditions such as broken glass and exposed electric wires.
- Adults should avoid tracking contaminated substances and ash on clothing and shoes back to areas frequented by children (e.g., homes, cars). Remove shoes at the doorway, wash clothing separately, and change out of clothing prior to interacting with children or returning home.
- If your child has contact with any potentially hazardous substances call Poison Control (1-800-222-1222) or your local Pediatric Environmental Health Specialty Unit (<https://www.pehsu.net/findhelp.html>).

Special Considerations

- If your child has any difficulty breathing, is excessively sleepy, declines food and water, or there are other health concerns, reduce their exposure to smoke and seek medical help immediately.
- If your child has asthma, allergies, or another chronic health condition they may be at higher risk from health effects related to wildfire smoke and ash. Follow your asthma action plan and seek medical advice as needed.

Document Revised (2021-2023) by Laura Anderko, PhD, RN, Mark Anderson, MD, FAAP, Marissa Hauptman, MD, MPH, FAAP, Stephanie Holm, MD, PhD, Catherine Karr, MD, PhD, FAAP, and Mark Miller, MD, MPH. This factsheet is dedicated in memory of Dr. James M. Seltzer as well as the first responders and others who have been affected by wildfires.

This material was supported by the American Academy of Pediatrics (AAP) and funded (in part) by a cooperative agreement with the Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ATSDR). The U.S. Environmental Protection Agency (EPA) supports the PEHSUs by providing partial funding to CDC/ATSDR through an Inter-Agency Agreement. The findings and conclusions presented have not been formally disseminated by CDC/ATSDR or EPA and should not be construed to represent any agency determination or policy. Use of trade names that may be mentioned is for identification only and does not imply endorsement by the CDC/ATSDR or EPA.