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Fire and Smoke Health Concerns Frequently Asked Questions

What is the health threat from fires and smoke?

Smoke from wildfires is a mixture of gases and fine particles from burning trees and other plant materials. Smoke can hurt your eyes, irritate your respiratory system, and worsen chronic heart and lung diseases. *If you are experiencing serious medical problems for any reason, seek medical treatment immediately.*

How can I tell if the smoke is affecting my family or me?

- Smoke can cause coughing, scratchy throat, irritated sinuses, shortness of breath, chest pain, headaches, stinging eyes, and runny nose.
- If you have heart or lung disease, smoke might make your symptoms worse.
- People who have heart disease might experience chest pain, rapid heartbeat, shortness of breath, and fatigue.
- Smoke may worsen symptoms for people who have pre-existing respiratory conditions, such as respiratory allergies, asthma, and chronic obstructive pulmonary disease (COPD), in the following ways:
 - Inability to breathe normally
 - Cough with or without mucus
 - Chest discomfort
 - Wheezing and shortness of breath
 - When smoke levels are high enough, even healthy people may experience some of these symptoms.

If you have asthma or another lung disease, follow your health care provider's about your respiratory management plan. Call your health care provider if your symptoms worsen and talk with them about whether and when you should leave the area.

How can I protect myself and my family from the harmful effects of smoke?

The best thing to do is to limit your exposure to the smoke. Specific strategies to decrease exposure to smoke include staying indoors whenever possible, using air conditioners (air conditioned homes usually have lower air exchange rates than homes that use open windows for ventilation), using mechanical or electronic air cleaners, keeping windows closed while driving in a vehicle, reducing physical activity levels, and minimizing other sources of air pollution (e.g., smoking, wood burning stove use, burning candles, and vacuuming).

Will I be at risk if I stay in my house?

No. The most common call for evacuation during a wildfire is a direct threat of exposure to fire rather than exposure to smoke in the air. When smoke concentrations become hazardous in a community, leaving the area may be a good protective measure for members of sensitive groups, but it is often difficult to predict the duration, intensity, and direction of smoke. During severe smoke events, clean air shelters can be designated to provide residents with a place to get out of the smoke. These can occur in community centers, large commercial buildings, educational facilities, shopping malls, or any place with effective air conditioning and particle filtration.

How can I create a clean room at home?

People who live in areas that are regularly affected by smoke from wildfires may consider creating a “clean room” in their home. A good choice is an interior room, with as few windows and doors as possible, such as a bedroom. Some suggestions for maintaining a clean room include the following:

- Keep windows and doors closed.
- Set up a properly sized room air cleaner, which will help remove particles from the air while emitting no or minimal levels of ozone (see below).
- Run an air conditioner or central air conditioning system if you have one. If the air conditioner provides a fresh air option, keep the fresh-air intake closed to prevent smoke from getting inside. Make sure that the filter is clean enough to allow good air flow indoors.
- Do not vacuum--vacuuming stirs up particles.
- Do not smoke or burn anything, such as candles or incense, anywhere in the house.
- Keep the room clean.

What should I do about closing up my house when it is too hot inside?

If you do not have an air conditioner, it is too warm to stay inside with the windows closed, or if you are very sensitive to smoke, seek shelter elsewhere.

Will facemasks or dust masks protect me from the smoke?

In order for a mask to provide protection during a smoke event, it must be able to filter very small particles (around 0.3 to 0.1 microns), and it must fit, providing an airtight seal around the wearer’s face. Dust masks are not enough. Paper “comfort” or “dust” masks commonly found at hardware stores are designed to trap large particles, such as sawdust. These masks will not protect your lungs from smoke. It is best to stay indoors and limit your exposure to the smoke.

What about respirator masks, will they help?

Some masks (technically called respirators, but they look more like paper masks) are good enough to filter out much of the smoke. Smoke particles are typically smaller than 2.5 microns and respirator masks will filter out a significant portion of these particles if they are properly fit to the wearer’s face. An airtight seal on the face is very important for these masks to provide any benefit. Individuals with beards will find it nearly impossible to achieve a good seal on the face and hence these masks will provide little, if any, protection for those with beards.

Respirator masks, which may include an exhale valve, do not require cartridge filters. They are marked with one of the following: “R95”, “N95”, or “P95.” Soft masks with higher ratings (R, N or P 99 and R, N, or P 100) are also available and are designed to filter out even more particles. *NOTE: Masks increase resistance to airflow and hence can make breathing more difficult. Some individuals may experience physiological stresses such as increased respiratory and heart rates when wearing a mask.*

Will a wet towel or bandana provide any help?

Wet towels or bandanas have similar shortcomings to those of paper dust masks for filtering out pollutants. However, they can be helpful to keep the lung airways moist.

What should I do if I must drive to work?

Reduce the amount of particles in your vehicle by keeping the windows closed. The car's ventilation system typically removes a portion of the particles coming in from outside. Also, most cars have the ability to recirculate the inside air, which helps to keep particle levels lower.

Our community has an outdoor game scheduled for this evening, should we cancel it?

- Pay attention to state-issued air quality reports.
- Stay alert to any news coverage or health warnings related to smoke.
- Find out if the Alaska Department of Environmental Conservation has an Air Quality Index (AQI) for your area/community. The AQI, based on data from local air quality monitors or other data sources, tells you about the daily air quality in your area and recommends precautions you can take to protect your health. As smoke gets worse, the concentration of particles in the air changes, and so do the steps you should take to protect yourself.

Do air-purifying machines help with indoor air?

Air cleaners can be effective at reducing indoor particle levels, provided the specific cleaner is adequately matched to the indoor environment in which it is placed. Some devices, known as ozone generators, personal ozone devices, "energized oxygen" generators, and "pure air" generators, are sold as air cleaners, but they can do more harm than good. Ozone does not remove particles from the air, so these generators are not effective for smoke events. Humidifiers are not technically air cleaners and will not significantly reduce the amount of particles in the air during a smoke event. See the guidance document (pp 14–16) at:

https://www3.epa.gov/airnow/wildfire_may2016.pdf

If I have respiratory problems and cannot reach my doctor, where should I go?

If you have a medical emergency you should call 911 or go the hospital emergency room immediately.

What do I bring if I am told to evacuate my home?

When asked or instructed to evacuate your home, follow any instructions provided. Make sure to bring your medications, important family documents (e.g., birth certificates, wills, insurance policies, etc.), and your family disaster supply kit. Your disaster supply kit should contain enough food, water and supplies to sustain your family for 5-7 days. Do not forget any medications or special items such as a first aid kit.