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[Health Information and Tools](#) > [Health A-Z](#) > Wildfire smoke and your health

Air Quality

Wildfire smoke and your health

When smoke from a wildfire (such as a forest fire or grassland fire) enters a community, it can cause problems for the people who live there. The biggest health risk comes from small particles in the smoke. These particles can get in your eyes, breathing (respiratory) system, and bloodstream. This can cause:

- burning eyes
- a runny nose
- coughing
- trouble breathing or illnesses like bronchitis

If you have a heart or lung problem, these small particles can make it worse.

Who is most at risk for health problems from wildfire smoke?

You might have problems earlier and at lower smoke levels if you:

- have heart or lung disease (such as congestive heart failure, angina, chronic obstructive pulmonary disease, emphysema, asthma)
- are an older adult (especially if you have heart or lung disease)
- are pregnant
- smoke
- are a child (Smoke can be more harmful to children because their respiratory systems are still developing, they breathe in more air than adults, and they're more likely to be active outside.)
- do heavy outdoor work or outdoor sports

Smoke can also be harmful to **pets**. Try to keep your pets inside as much as possible and make sure they have lots of water. If your pet has trouble breathing, contact your vet.

If smoke is a problem where I live, what can I do to lower my health risk?

If smoke is a problem in your community, stay inside as much as possible and keep all windows and doors closed. Here's what else you can do to keep your indoor air clean:

- Close fresh air intakes from furnaces, fireplaces, or stoves.
- Turn on your air conditioning if you have it, and set it to recirculate. Keep it running to help filter the air and keep your family cool. (Just remember that some air conditioning systems don't filter the air or improve indoor air quality.)

- If you have room air cleaners with high-efficiency particulate air (HEPA) filters, turn them on. Don't use air cleaners that may produce ozone. For portable air cleaners, follow all the manufacturer's instructions for changing the filter, where to place the device, and the size of room it's meant to be used in.
- Check your furnace filter often. You may need to replace it more often than usual. Upgrade your furnace filters to the highest efficiency your ventilation system can handle. They may help lower the levels of smoke and particles in the air in your home.
- Use humidifiers, which might help remove some of the smoke. The humid air can also help keep your nose and mouth moist.
- Don't use wood stoves, gas stoves, or candles because they make the indoor air quality worse. If you can, prepare foods that you don't have to cook. Cooking (especially frying and broiling) can affect the air quality in your home.
- Don't use spray air fresheners or electric fragrance dispensers because they can affect air quality.
- Don't vacuum because it stirs up particles that are already inside your home.
- Don't let anyone smoke, vape, or use e-cigarettes in your home.

What can I do if it's too warm inside my home?

When you keep doors and windows closed to keep smoke out and you don't have air conditioning, your house might get very warm. If you need to cool down, you could visit a place that is more air-tight with cooler filtered air. Examples include a shopping mall, library, community centre, or movie theatre.

If you can't leave your home, watch for signs of [heat-related illness](#) like heat exhaustion or heatstroke. Turn on the furnace fan or standalone fans to move air around in your home. If the air quality gets better for a short time, you can air out your home by opening doors and windows for a bit.

How can I stay aware of what's going on in my community?

When wildfire smoke is in your community, regularly check for air quality updates on local media (T.V., radio, or online). If you have neighbours, friends, or relatives who live alone, check on them to make sure they're OK.

What if I need to leave my home?

When the air quality is poor and you're in your vehicle, keep the windows closed. Put the air system on recirculate so smoky air doesn't get inside. When driving through an area with low or no smoke, switch the circulation system to let outside air into your vehicle.

If you need to leave your community, only think about leaving if it's safe to travel and you're going somewhere that's likely to have less smoke.

If you're in the wildfire area, be ready to evacuate. Follow **all** public service announcements. [Build an emergency kit](#) and have it ready.

Can wearing a mask help protect me from smoke?

Wildfire smoke is a mixture of gases, particles, and water vapour¹. Particulate matter, particularly fine particulate matter, is the main public health concern with wildfire smoke^{1,2}. Like other air quality issues, a multi-layered approach is recommended to reduce the health effects of wildfire smoke^{1,2}. Personal protective equipment like respirators (such as N95, KN95 or P100) may be used to reduce exposure to wildfire smoke but are most effective when used as part of a multi-layered approach. Other important layers include staying indoors with doors and windows closed as long as temperatures remain comfortable, cleaning indoor air, and minimizing outdoor activities.

Respirators are effective for filtering fine particulate matter (as small as 0.3µm), but do not protect the user from gases in wildfire smoke. Proper fit and use are critical for respirators (such as N95, KN95 or P100) to provide the level of protection expected. Users should follow the manufacturer's instructions for use, including performing a "seal check" to determine proper fit. People at increased risk of adverse effects from wildfire smoke, such as those with heart or lung problems or older adults, should consult with their health care professionals before using a respirator, as using a respirator can make breathing more difficult.

When a well-fitting respirator is not available, a high-quality medical mask (such as an ASTM-certified mask) may provide some limited protection against wildfire smoke. However, the overall benefits are uncertain as the harmful particles are so small that they can go around or through these masks.

Can I still be active when there's wildfire smoke in the air?

Pay attention to the local [air quality health index \(AQHI\)](#). Adjust your activities according to the AQHI messages. Move outdoor activities indoors and keep your indoor air as clean as possible. Reschedule or cancel outdoor events (such as sports or competitions) if smoke levels are too high.

When you're outside, don't do any heavy activity or exercise. Heavy activity and exercise can make you breathe 10 to 20 times more than you do while you're resting. Stop or slow down if what you're doing makes you cough or feel tired.

Drink lots of water to stay hydrated. This will keep your nose and mouth moist, which makes it easier to breathe. This is important when you're inside and outside.

When there is a lot of haze in the air, don't let your children play outside for a long time.

Do I follow the same health and safety measures for other types of fires (such as building, factory, and landfill fires)?

In most cases, health and safety measures for other types of fires are the same as for wildfires. But you may need to take different measures if other types of fires cause more chemicals in the smoke. For example, you may be told to [shelter-in-place](#) (stay indoors and don't leave unless you're told to). Check your local media and follow all public service announcements.

What if I start to feel unwell?

When there's wildfire smoke where you live, pay close attention to your health, especially if you have heart or lung problems. Take all your regular medicines. It's a good idea to have a week's supply of medicine with you. Do everything your healthcare provider told you to do, and contact your healthcare provider if you have any health concerns, even if you don't have heart or lung problems.

If you have chest tightness, chest pain, shortness of breath, or another health emergency, **call 911** or go to the nearest emergency department right away.

For 24/7 nurse advice and general health information, call [Health Link](#) at 811.

References

1. Environment and Climate Change Canada. "Protecting your health from wildfire smoke." May 12, 2023. <https://www.canada.ca/en/environment-climate-change/services/air-quality-health-index/wildfire-smoke/wildfire-smoke-health.html>.
2. California Air Resources Board, California Office of Environmental Health Hazard Assessment, U.S. Centers for Disease Control and Prevention, U.S. Forest Service, U.S. Environmental Protection Agency. "Wildfire Smoke: A Guide For Public Health Officials". 2019. https://www.airnow.gov/sites/default/files/2021-09/wildfire-smoke-guide_0.pdf.

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