

WILDFIRE SMOKE 101

Wildfire smoke and your health

Learn how to protect yourself from wildfire smoke.

Wildfire smoke and pollution levels

In Canada, wildfires can significantly increase air pollution levels. Wildfire smoke is a complex mixture of gases, particles, and water vapour that contains:

- ozone
- sulphur dioxide
- nitrogen dioxide
- carbon monoxide
- volatile organic compounds
- fine particulate matter (PM_{2.5})

It is the fine particles (PM_{2.5}), not visible to the human eye, that get deep into our lungs and bloodstream. These fine particles are the main health risk from wildfire smoke.

There is no evidence of a safe level of exposure for most of these pollutants. This means that smoke can impact your health even at very low levels. As smoke levels increase, your health risks increase. Air quality may be decreased even if you can't see or smell smoke.

Symptoms of smoke exposure

Milder and more common symptoms of smoke exposure include:

- headaches
- a mild cough
- a runny nose
- production of phlegm
- eye, nose and throat irritation



These symptoms can typically be managed without medical intervention.

More serious symptoms include:

- dizziness
- chest pains
- severe cough
- shortness of breath
- wheezing (including asthma attacks)
- heart palpitations (irregular heart beat)

If you have any of these symptoms, talk to a health care provider or seek urgent medical attention. Less commonly, exposure to wildfire smoke can lead to heart attack, stroke and even premature death. If you think you are having a medical emergency, dial 911 and seek immediate medical assistance.

Some people are at a higher risk of health problems when exposed to wildfire smoke including:

- seniors
- pregnant people
- people who smoke
- infants and young children
- people who work outdoors
- people involved in strenuous outdoor exercise
- people with an existing illness or chronic health conditions, such as:
 - > cancer
 - > diabetes
 - > lung or heart conditions

It is important to listen to your body and reduce or stop activities if you are experiencing symptoms.





Reduce your exposure to wildfire smoke

The best way to protect your health is to reduce your exposure to wildfire smoke.

Pay attention to the **Air Quality Health Index (AQHI)**, special air quality statements or other indicators of smoke levels in your community. If necessary, limit outdoor activity and strenuous physical activities. If you have difficulty breathing, stop altogether.

Stay indoors and keep windows and doors closed. If it is too warm, turn on the air conditioning if possible. If you do not have air conditioning and it is too warm to stay inside with the windows closed, seek out local cooling or clean air space.

Use a clean, good quality air filter (for example, HEPA) in your ventilation system.

Use a portable air purifier to filter particles from wildfire smoke. For more information on selecting a portable air purifier that is appropriate for your needs, refer to the [“Using an air purifier to filter wildfire smoke”](#) factsheet.

If you must spend time outdoors, a well-fitted respirator type mask (such as a NIOSH certified N95 or equivalent respirator) that does not allow air to pass through small openings between the mask and face, can help reduce your exposure to the fine particles in smoke. These fine particles generally pose the greatest risk to health. However, respirators do not reduce exposure to the gases in wildfire smoke.

If you need to work outdoors, check with your provincial or territorial occupational health and safety organization or your local health authority. They can provide guidance on how to work safely outdoors during wildfire smoke events.

If you need additional support during a wildfire event, contact your local jurisdiction for information on local cooling or clean air spaces. Community centres, libraries, and shopping malls can also provide a break from the smoke.

Other recommendations to protect your health

Check in on others who are in your care or live nearby who may be more vulnerable to wildfire smoke. Frequently check in on neighbours, friends and older family members, especially those who are chronically ill.

Take [additional actions](#) to reduce sources of indoor air pollution.

When driving, keep vehicle windows closed and set the ventilation system to recirculate.

For more information on topics related to wildfire smoke and health, please visit [Wildfire smoke, air quality and your health](#).

If smoke is present for more than a few days:

- stay active when you can. Try finding a place with clean air to exercise indoors, for instance at the gym, the community centre or at home. Consult the AQHI to look for breaks in the smoke to find opportunities to go outdoors.
- don't forget to take care of your mental health. It's not unusual to feel anxious, stressed out, sad or isolated during a smoke event. Eating well, getting enough sleep, exercising and staying in contact with friends can help. Anyone who is having trouble coping with symptoms of stress, anxiety or depression should seek help from a health care provider.