

Wildfire Smoke Health Effects

Wildfire smoke contains pollutants including fine particulates (PM), carbon monoxide, nitrogen oxides and volatile organic compounds that travel deep into your lungs when you inhale. These particles can cause adverse health effects until the air quality improves.

Symptoms

Most symptoms from smoke exposure can be managed without medical attention including:

- Sore throat
- Eye irritation
- Runny nose
- Mild cough
- Phlegm production
- Wheezy breathing
- Headaches

More serious symptoms can also occur in some people due to exposure to wildfire smoke. **Call HealthLink BC (8-1-1), talk to your primary care physician or visit a walk-in clinic if you experience:**

- Shortness of breath
- Severe cough
- Dizziness
- Chest pain
- Heart palpitations

Vulnerable populations

Some people are at higher risk of experiencing negative health effects of wildfire smoke than others, including:

- People with lung and heart conditions, including asthma and chronic obstructive pulmonary disease (COPD)
- People with chronic conditions such as diabetes
- Pregnant people
- Infants and young children
- Elderly
- People who have been diagnosed with a respiratory infection such as COVID-19

In British Columbia, the Air Quality Health Index (AQHI) is calculated based on measurements of fine particulate matter (PM2.5), ground-level ozone (O3) and nitrogen dioxide (NO2) reported across BC. Please learn more about how the index is calculated from this BCCDC Wildfire Smoke and the Air Quality Health Index Fact Sheet. The AQHI can be monitored to check the outdoor air quality before heading off to work.

If an AQHI reading is not available at your location, PM2.5 is a major component of wildfire smoke and is reported across monitoring stations in B.C. If you have a PM2.5 monitor in your community, you can check the PM2.5 readings to give you an idea of how smoky it is.

How to protect yourself from wildfire smoke

Outdoors

- Use the Air Quality Health Index (AQHI) or PM5 concentrations to evaluate local and regional air quality conditions.
- Know where to find other reliable information on wildfire smoke and air quality.
- Relocate work to less smoky areas or reschedule outdoor work until smoke is cleared.
- Reduce the amount of time spent outdoors. Stay indoors with the windows closed.
- Reduce outdoor physical activity or exertion.
- Be aware of safety issues due to wildfire smoke such as reduced visibility.
- Be aware of health issues related to heat stress and heat exhaustion. Ensure workers stay hydrated by drinking lots of water.
- Use a properly fit-tested, certified N95 half-face respirator to reduce exposure to smoke.
- In vehicles, keep the vents and windows closed and operate air conditioning in recirculation mode. Open windows in areas with good air quality to prevent build up of carbon dioxide.

Indoors

- Inspect the HVAC system to make sure it is functional.
- Check the HVAC system's air filters to ensure they are well maintained.
- Temporarily reduce the intake of outdoor air. This should only be done in consultation with a qualified HVAC technician or ventilation engineer.
- Reduce indoor particle levels in small areas by using individual portable air cleaners equipped with high-efficiency particulate air (HEPA) filters or electrostatic precipitators.

Additional References

BCCDC Wildfire Smoke and Air Quality Health Index Fact Sheet | http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/BCCDC_WildFire_FactSheet_SmokeAndTheAQHI.pdf

Air Quality Data Map — Air Quality Health Index | <https://www.env.gov.bc.ca/epd/bcairquality/readings/find-stations-map.html>