

Health Effects of Wildfire Smoke

- Health Effects of Wildfire Smoke (<http://www.vch.ca/Documents/health-effectswildfire-smoke.pdf>)
- Wildfire smoke is a complex mixture of different air pollutants, including fine particulate matter (PM_{2.5}), carbon monoxide, nitrogen oxides, volatile organic compounds, and trace amounts of heavy metals. The mixture can change depending on the fuels (types of trees, brush, grasses, or building materials) and the atmospheric conditions.
- Wildfire smoke causes episodes of the worst air quality that most people will ever experience in British Columbia.
- Wildfire smoke is different from air pollution caused by vehicle exhaust or industrial emissions, and it is also harmful to human health.
- Wildfire smoke can also irritate your lungs and cause an immune response, which may lead to inflammation that affects other parts of the body.
- Smoky air makes it harder for your lungs to get oxygen into your blood.
- Smoky air can also increase risk of some infections, especially pneumonia in older people and ear infections in children. Reducing exposure to wildfire smoke is the best way to protect your health.
- Different people respond differently to wildfire smoke, and some people are at higher risk of experiencing health effects under smoky conditions. It is especially important for these people to reduce their exposure. Be alert to your own symptoms and observe those around you.
- People who have chronic health conditions or who are experiencing an acute illness are at higher risk of experiencing health effects caused by wildfire smoke. Smoke makes daily activities harder, both physically and mentally.
- People with respiratory conditions such as asthma or chronic obstructive pulmonary disease (COPD) are at highest risk of experiencing health effects caused by wildfire smoke. People with conditions such as heart disease, diabetes, cancer, or mental illness are also at increased risk.
- Unborn children and infants may be particularly vulnerable to health effects from wildfire smoke. Pregnant women and people caring for infants should consider using portable air cleaners.
- When driving during smoky conditions, keep the windows up, the air conditioner on, and use the recirculate setting to limit intake of the outdoor air.
- High quality portable air cleaners that use HEPA filtration or electrostatic precipitation can effectively remove smoke particles from the indoor air. However, electrostatic precipitators produce trace amounts of ozone gas, which can be a lung irritant. People with respiratory conditions should consider purchasing HEPA filtration units.
- Children and adults need regular exercise to stay healthy. Consider moving activities into cleaner indoor environments when it is smoky outside.
- Young children have developing lungs and may need to decrease their activities during smoky periods, especially when outdoors.

- Not everybody will experience noticeable effects from wildfire smoke. Even if you are not affected by smoke, it is important to look out for others around you who may be affected. Most health effects of wildfire smoke are transient, meaning that they will disappear as the air quality improves. However, there is very little research on longer-lasting health effects associated with seasonal wildfire smoke. Caution is recommended in the absence of good scientific evidence.
- Infants, unborn children, and those with obstructive lung conditions such as asthma and COPD are most likely to experience long-term health effects from wildfire smoke exposure.
- Wildfires and smoke are becoming more extreme and intense as the climate changes, and some smoke episodes last for weeks or months rather than days. Such episodes may have longer lasting health effects that are not yet understood.

Wildfire Smoke – What You Need to Know

- How to Prepare for the Wildfire Season
(<http://www.vch.ca/Documents/preparewildfire-smoke-season.pdf>)
- People with chronic conditions such as asthma, heart disease, or diabetes, as well as pregnant women, infants, young children, and the elderly are particularly vulnerable to health impacts of wildfire smoke and should take extra care.
- If you have forced air heating and/or air conditioning, you can use special filters and different settings to minimize the amount of wildfire smoke that comes into your home. Talk to your service provider about what will work best for your system.
- Libraries, community centres, and shopping malls often have cooler, filtered air that can provide a break from outdoor smoke.
- Postpone planned major outdoor activities or events if needed depending on the air quality at the time.
- If you have forced air heating and/or air conditioning, talk to your service provider about what filters and settings to use during smoky conditions. There are readily available commercial air filters (HEPA or equivalent) that will remove smoke.
- High quality portable air cleaners that use HEPA filtration are effective in removing smoke from indoor air. Different units treat different volumes of air, so make sure it is suitable for your space. Some portable air cleaners also have activated carbon filters that can address other pollutants in wildfire smoke. Avoid air cleaners that produce ozone. More information on portable air cleaners can be found here (<http://www.vch.ca/Documents/portable-air-cleanerswildfire-smoke.pdf>)
- Check the Air Quality Health Index (AQHI) regularly. The AQHI and the health messages provide good general information for you to determine appropriate actions you can take under certain air quality conditions. You can get the Air Quality Health Index (AQHI) Canada app to get notifications when air quality changes.
- Remember that closing windows and doors can be dangerous on hot days, if you don't have air conditioning. When it is hot outside pay attention to the heat and only open windows as necessary.