Forest Fire Smoke and Your Health

Smoke from forest fires is a mixture of gases and fine particles from burning trees and other plant materials. Smoke can hurt eyes, irritate the respiratory system, and worsen chronic heart and lung diseases. Information for reducing your exposure to and the effects from forest fire smoke is given below:

• The most common and effective measure to minimize health impacts during a smoke episode is to stay indoors. Keep your house cool. Close windows and shutters. Move to the coolest room in the house. In the long term, ensure energy-efficient cooling and heating.

• Avoiding outdoor physical activity will lower the dose of inhaled air pollutants and reduce health risks during a forest fire smoke event.

• Keep the body cool and hydrated. Take cool showers or baths. Wear light, loose fitting clothes. If you go outside, wear a wide-brimmed hat or cap and sunglasses. Drink regularly and avoid drinks with sugar or alcohol.

• People who live in areas that are regularly affected by smoke from forest fires would be well advised to create a “clean room” in their homes. A good choice is an interior room, with as few windows and doors as possible, such as a bedroom.

• Individuals with asthma, heart and lung conditions are at greatest risk to the effects of forest fire smoke. These individuals should watch for any change in symptoms that may be due to smoke exposure. If any unusual symptoms are noted they should contact with their physician or the Province’s Health Line (1- 888-709-2929).

• People with severe symptoms from smoke exposure should present themselves to the nearest emergency department.

• The Air Quality Health Index (AQHI) provides an indicator of how dangerous the air is to breathe. Current air quality and the Air Quality Health Index (AQHI) can be accessed at Environment Canada’s website at [http://weather.gc.ca/airquality/healthmessage_e.html](http://weather.gc.ca/airquality/healthmessage_e.html)
Health Impacts

Not everyone who is exposed to smoke from forest fires will have health problems. Factors such as the level of smoke, duration of exposure, age, individual susceptibility, including the presence or absence of pre-existing lung or heart disease, and other factors play a role in determining whether someone will experience forest fire smoke related health problems.

The possible health effects of smoke are either short or long-term. The following symptoms may indicate that you are being affected by forest fire smoke.

- Coughing
- A scratchy throat
- Irritated sinuses
- Chest pain
- Headaches
- Stinging eyes
- Asthma
- A runny nose

If you have heart or lung disease, smoke might make the symptoms worse. People who have heart disease might experience:

- Chest pain
- Rapid heartbeat
- Shortness of breath
- 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
Vulnerable Populations
Most healthy adults and children will recover quickly from forest fire smoke exposure and will not suffer long-term consequences. However, certain sensitive populations may experience more severe short-term and long-term symptoms.

Individuals with Asthma and other Respiratory Diseases
Levels of pollutants that may not affect healthy people may cause breathing difficulties in people with asthma, chronic obstructive pulmonary disease, or other chronic pulmonary disease.

Individuals with Cardiovascular Disease
People with diseases of the circulatory system including high blood pressure, cardiovascular disease, cerebrovascular conditions, and people with multiple chronic diseases are at a higher risk.

Elderly People
Elderly people may be more affected than younger people because important respiratory defense mechanisms decline with age. Particulate matter in smoke may compromise the functions of cells involved in immune defense in the lungs, potentially increasing susceptibility to bacterial or viral respiratory infections, which may carry a worse prognosis in older adults.

Pregnant Women
Forest fire smoke contains many of the same compounds as cigarette smoke. Therefore, it would be prudent to consider pregnant women as a potentially susceptible population as well.

Children
Several factors lead to increased exposure in children compared with adults: they spend more time outdoors; they inhale more air per kilogram of body weight; they engage in more vigorous activity. As a result, they are more susceptible to the exposure.

Smokers
People who smoke, especially those who have smoked for many years, have compromised lung function, are also in the sensitive groups and may expect negative health consequences due to forest fire smoke exposure.