

Bushfire Smoke and Your Health

Bushfire smoke can reduce the quality of the air you breathe. This fact sheet provides some useful information on bushfire smoke and what you can do to avoid or reduce the impact of smoke on your health.

Bushfire Smoke – What Is It?

Smoke from bushfires is made up of a range of particles and gases including; carbon monoxide, carbon dioxide, nitrogen oxides, volatile organic compounds and water vapour.

The biggest health risk comes from microscopic particles that are invisible to the human eye. In smoke, these particles are often very small – 1/30th the diameter of an average human hair.

The size of particles is important, as it has a bearing on how far they can be breathed into the lung. Generally, the smaller or finer the particle the deeper into the lung they reach. The further they reach into the lung the greater the potential they have of doing harm.

How Can Bushfire Smoke Affect My Health?

Microscopic particles can get into eyes, nose and respiratory system, where they can cause inflammation leading to a number of health effects. The symptoms of smoke inhalation can include; burning eyes, runny nose, chest tightness, shortness of breath, wheezing, coughing, chest pain, dizziness or light-headedness. Bronchitis may also result along with worsening of pre-existing illnesses such as chronic obstructive pulmonary disease (COPD), asthma and heart disease. In some cases, smoke has been linked to premature death, usually in people with one or more of the conditions mentioned above.

Who Is Affected?

Children are more susceptible to smoke for several reasons. Their lungs are still developing and their airways are narrower than adults. They also may spend more time outdoors than adults and breathe in more particles per body weight than adults.

The elderly may also be more affected by smoke, because they are more likely to have a pre-existing illness that is aggravated by smoke.

Individuals with pre-existing diseases may suffer health effects from smoke inhalation. These include:

- People with asthma and other chronic respiratory diseases.
- People who suffer from chronic diseases such as high blood pressure, or heart diseases including coronary artery disease, congestive heart failure or angina.

If you inhale large quantities of smoke, symptoms may take up to five days to occur. Therefore you need to be vigilant in maintaining any medication or other treatment your doctor has prescribed after being exposed to bushfire smoke.

Not everyone who is exposed to bushfire smoke will develop health problems. There are many factors that determine this such as your own health, how much and for how long you were exposed to the smoke and how old you are. Healthy adults generally find that any symptoms they may develop during a bushfire clear up after the smoke disappears.



Health Precautions – What Can I Do?

If you have decided to remain at home, stay indoors with windows and doors closed to reduce the amount of smoke you breathe in.

Some air-conditioners will improve the quality of the air you breathe, however, you need to make sure the intake is switched to recirculate.

Avoid vigorous exercise that makes you breathe more rapidly especially young children and elderly people or if you have a medical condition such as asthma, chronic obstructive pulmonary disease, heart disease or diabetes.

If you are an asthmatic or have a respiratory or heart condition and you develop symptoms such as shortness of breath, cough, wheezing, or chest pain, you should rest and follow your prescribed treatment plan.

If symptoms do not settle, you should seek medical advice.

If your health declines rapidly or you suffer chest pain or a severe asthma attack, seek medical attention immediately.

People on home oxygen treatment should continue the treatment as prescribed, but if breathlessness worsens, contact your doctor.

People who cannot avoid being outdoors in smoke should consider wearing a proper particle mask that covers the nose and mouth. The best mask is one designed to filter fine particles (this is a "P2" or "P3" mask designed to Australian Standard – AS1716). Ensure that the mask is well-fitted with an airtight seal over your face. Masks are usually available from hardware stores. Other masks such as surgical masks or wet handkerchiefs are not effective.

In the event of large amounts of smoke the local or state health authority or emergency services may advise postponing outdoor events, such as sports.

If you are experiencing a protracted bushfire smoke event (ie. over a period of several weeks) you can do a number of other things to reduce the chance of health effects.

Take advantage of any break in the smoky conditions to air your home by opening doors and windows. Indoor air quality can be improved in this way, but remember if conditions deteriorate again close up the house.

Reduce all other sources of indoor air pollution such as cooking with gas, burning candles or vacuum-cleaning. Don't smoke indoors. Always run the range-top hood extractor/exhaust fan when cooking, if fitted.

Reducing the amount of physical activity, especially outdoors can help.

Be aware of signs of heat stress, especially in the very young, elderly or those who are unwell. The signs include nausea, faintness and dizziness, loss of appetite, weakness, headaches, vomiting, sweating and reduced urine output. People showing these signs should seek urgent medical attention.

If you are particularly susceptible to the effects of bushfire smoke or your home gets too hot, you may consider evacuating your home temporarily and moving to a smoke free environment such as a friend's or relative's house. You may also seek a short reprieve by visiting public air conditioned buildings such as public libraries or shopping centres.

For more information
Scientific Services Branch
Public Health
1st floor
Citi Centre Building
11 Hindmarsh Square
Adelaide SA 5000
PO Box 6, Rundle Mall
Adelaide SA 5000
DX 243

Tel 08 8226 7100
Fax 08 8226 7102
ABN 97 643 356 590
www.health.sa.gov.au

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