



Public Health Fact Sheet

Bushfire Smoke

Introduction

Western Australia is subjected to regular bushfires, particularly through the summer months. In addition to the health hazards associated with extreme heat, and the potential physical injuries such as burns, fires result in large volumes of smoke. This bushfire smoke poses an additional health risk. The major killers from bushfires are the radiant heat, dehydration and asphyxiation.

Most of Australia's most devastating bushfires have happened where they have raged through dense eucalypt forests into the suburban fringes of major cities. Every few years exceptionally devastating fires occur. The most recent was in 1983 (Ash Wednesday), when fires raged through parts of Victoria and South Australia, leaving 76 people dead.

Risks

Large particulate matter, such as burning debris, irritates the eyes, nose, throat and lungs. The finer particles are able to penetrate deep in to the lung tissue and are more harmful. Smoke also contains toxic gases, such as carbon monoxide, carbon dioxide and nitrogen oxides.

Those at greatest risk of harm from bushfire smoke are:

- Those with respiratory disease, especially asthma
- Smokers
- Those with heart disease
- Children
- The elderly

Triggers

Air pollution is commonly measured as an index based on the levels of ozone, nitrogen dioxide and fine particles. The index is known as the RPI (Regional Pollution Index). The RPI is considered to be high when it is greater than 50 and hazardous when it reaches levels of 200 or more, as in the event of a bushfire. Health alerts will be broadcast for readings in the high range for specific risk groups (e.g. asthmatics). If the RPI is in the hazardous range, a general health alert will be issued.

Signs and Symptoms of Exposure

The gases and fine particles which are produced during a bushfire can exacerbate underlying respiratory disease, e.g. asthma, chronic bronchitis and allergic disease, causing:

- Difficulty breathing
- Cough
- Chest tightness



They may also exacerbate underlying heart disease causing:

- Chest pain
- Palpitations
- Difficulty breathing
- Fatigue

It is the particulate matter that is of greatest concern for those with heart disease.

When smoke levels are high, even healthy people may experience some of these symptoms.

Prevention

The most important consideration is to minimise exposure to smoke. To do this:

- Pay attention to media reports
- Minimise activity outside
- When inside, keep windows and doors closed
- Use an air conditioner, if you have one, switched to 'recirculate' (or take an air conditioned break in a public building)
- Minimise additional pollution by not smoking or using candles or wood fires. Do not vacuum or use unflued gas appliances
- If you suffer from heart or lung problems, make sure you always have at least 5 days' worth of medication with you.

When smoke conditions become 'hazardous', rest indoors. Outside sporting events should be postponed. Sensitive individuals should consider moving away from the area temporarily, if possible.

Dust masks do not provide adequate protection from bushfire smoke.

What to do in the event of illness

If you suffer from asthma, ensure that you have enough medication for 5 days and ensure that you have discussed an action plan with your doctor. If you experience worsening of your asthma that does not respond to usual measures, or you experience new breathing problems or chest pain, seek medical help.

Who to contact for further information

If you require further information on bushfire smoke, contact the Environmental Health Directorate on 08-9388 4999 or your Local Government Environmental Health Officer.

Acknowledgement: Information for the document was sourced from the Queensland Health 'Bushfire Smoke' Public Health Fact Sheet (June 2007).

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