

Bushfire Smoke

WHAT IS IN BUSHFIRE SMOKE?

Bushfire smoke contains a combination of chemicals that cause adverse effects on human health

Bushfire smoke contains

- Particulate Matter
- Water Vapour
- Trace Minerals
- Carbon Dioxide
- Carbon Monoxide
- Nitrogen Oxides
- Aldehydes
- Volatile organic compounds



EXPOSURE TO BUSHFIRE SMOKE CAUSES:



Increased unplanned hospital admission



Increased medication use



Increased respiratory symptoms



Increased anxiety symptoms



Increased non respiratory symptoms



Decreased daily activities

POPULATIONS MOST AT RISK



People with lung disease



Pregnant women



Breastfeeding women



Children



The elderly



People with diabetes



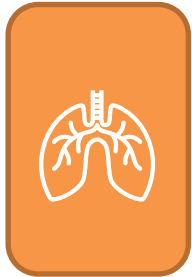
People with cardiovascular disease

Bushfires and Smoke

Information for people with asthma

Bushfire smoke leads to poor air quality

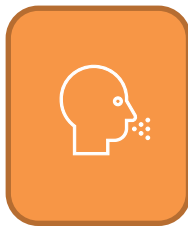
Exposure to bushfire smoke increases the risk of acute symptoms such as



Breathlessness



Wheeze



Cough



Throat irritation or Dry throat



- Hospitalisations
- Emergency department visits
- GP visits
- Oral Corticosteroid use



AND...

Increases ongoing



Breathlessness
Cough
Wheeze

Who is affected?

Anyone can be affected, even people without an asthma diagnosis

Populations most at risk



People with asthma or chronic respiratory conditions

The elderly and small children



What can you do?

TO REDUCE RISK

- Stay indoors to reduce exposure
- Avoid outdoor exercise when air quality is poor
- Use a fitted P2/N95 rated face mask when outdoors during times of poor air quality
- Access air quality data
- Have an up-to-date written asthma action plan

WHEN AIR QUALITY IS POOR



- Carry reliever inhaler during times of poor air quality
- Stay indoors with windows closed with air-conditioning on (if available)
- Consider evacuation

If you have symptoms, seek immediate medical care



Seek up-to-date advice on asthma management from reliable sources such as Asthma Australia, National Asthma Council Australia, Centre of Excellence in Severe Asthma and health professionals



ASTHMA AUSTRALIA

IMPACT OF BUSHFIRE SMOKE ON ASTHMA

The 2019/20 bushfire season in Australia was estimated to have caused more than 400 premature deaths, 33 direct fatalities, and exposed millions of people to serious levels of air pollution - as well as significant material and environmental loss

Bushfire Smoke

Bushfire smoke comprises a combination of chemicals that are sent into the atmosphere and transported by wind over long distance

Bushfires can generate extremely poor air quality that has adverse effects on human health

Exposure to bushfire smoke can impact anyone's health but some groups are more vulnerable than others

Impacts



Exposure to bushfire smoke increases respiratory symptoms



Common Symptoms

Breathlessness



Wheeze



Cough



Throat irritation/Dry throat



During Bushfire Seasons

Increased



Hospital admissions
Corticosteroid use
GP visits

Decreased



Participation in daily activities

Developed as part of the:



toolkit.severeasthma.org.au



Bushfire smoke leads to poor air quality and the potential for a sudden emergency evacuation

Bushfire Asthma Checklist

1

A Bushfire plan

- Ensure you know what to do in the event of a bushfire
- Visit: www.rfs.nsw.gov.au/resources/bush-fire-survival-plan to create a bushfire plan



2

An up-to-date written asthma action plan

- Contact your health care provider for an up-to-date written asthma action plan
- Ask if there should be any variations for heavy smoke exposure



3

A medication plan

- Ensure asthma medications are in date
- Have a 30 day supply in case of shortages or evacuations
- Know how to communicate your medication requirements to volunteers in the event of an evacuation



4

Keep your medications in a central place

- In case of an emergency evacuation keep your medications together and in a central place for easy access
- Using the same pharmacist can help with continuity in the event of lost medication prescriptions



5

Have an asthma companion

- A person who knows what medications you need, when you need them and provide a written plan for them
- Educate your companion to know when you need urgent medical care



6

Try to minimise stress during an evacuation

- Having a plan and easy access to your medications will assist to reduce the uncertainty of an emergency evacuation



RECOMMENDATIONS FOR PEOPLE WITH ASTHMA DURING PERIODS OF HEAVY SMOKE

People with asthma are susceptible to bushfire smoke, however there are strategies you can use to minimise smoke exposure

How?



Stay Indoors

- Avoid outdoor activity to reduce exposure to bushfire smoke
- Close all windows and doors and use the air-conditioner on recycled air - if available
- Avoid indoor sources of air pollution like candles, woodfire, incense sticks and cigarettes
- Work from home where able
- Use telehealth where available
- Partake indoor exercise during periods of heavy smoke

- P2/N95 rated face masks can help to filter out the particulates in bushfire smoke
- Masks must be fitted well and maintain a tight seal to be effective
- Cloth, surgical masks and bandanas do not filter out smoke particles
- People with asthma who are required to work outside or cannot avoid exposure to bushfire smoke should wear a face mask (P2/N95)
- Masks can make breathing more difficult and increase thermal discomfort- check with you healthcare professional before wearing a mask

Face Masks



Air Quality

- People with asthma should be encouraged to check local air quality information and public health messages
- Using apps, such as AirRater provides access real time air quality

Air Quality Index & Indicator		What does it mean?*
0-33	Very Good	Enjoy normal activities
34-66	Good	Enjoy normal activities
67-99	Fair	People unusually sensitive to air pollution should reduce or reschedule strenuous outdoor activities
100-149	Poor	Sensitive groups should reduce or reschedule outdoor activities
150-199	Very Poor	Sensitive groups should avoid strenuous outdoor activities
200+	Hazardous	Sensitive groups should avoid all outdoor activities

*Adapted from NSW Health

References: Carlsten et al. Personal strategies to minimise effects of air pollution on respiratory health: advice for providers, patients and the public. *Eur Respir J.* 2020;55(6); Cherrie et al. Effectiveness of face masks used to protect Beijing residents against particulate air pollution. *Occup. Environ Med.* 2018;75(6):446-52; Centers for Disease Control and Prevention. Non-occupational uses of respiratory protection – what public health organizations and users need to know. Shakya et al. Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure. *J Expo Sci Environ Epidemiol.* 2017;27(3):352-7; US Food and Drug Administration. N95 Respirators, Surgical Masks, and Face Masks. Vardoulakis et al. Bushfire smoke: urgent need for a national health protection strategy. *Med J Aust.* 2020;212(8):349-53.e1

Developed as part of the:



**ASTHMA
AUSTRALIA**

MENTAL HEALTH DURING THE BUSHFIRE SEASON

There are possible adverse mental health effects during the bushfire season for people with asthma



Exposure to bushfire smoke can cause symptoms of anxiety and depression

Psychological factors can trigger asthma symptoms and influence medication adherence



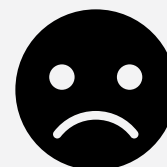
These mental health effects might be short-lived or persist for many years after the bushfire

For people with asthma breathing smoky air and reading or watching different media reports can create headline stress disorder



Health care providers should encourage access to mental health support if needed

It may be useful for health care providers to discuss plans with patients for controlling symptoms of their asthma when they are feeling anxious and depressed during the bushfire season



TIPS FOR MANAGING MENTAL HEALTH DURING THE BUSHFIRE SEASON

- Access reliable information from government and health authorities during the bushfire period
- Exercise caution around the volume of news and social media intake
- Have regular social contact and maintain routines at home
- Reach out to family and friends online or via the phone during prolonged bushfire smoke exposure
- Seek professional mental health support if required or contact support services such as Beyond Blue 1300 22 4636 or Lifeline 13 11 14
- Maintain exercise and a healthy diet where possible- including exercising indoors to avoid smoke exposure