

Outdoor Smoke – Health Impacts

Smoke from fires (including building fires, woodfire heaters, bushfires and hazard reduction burns) is made up of small particles and may include carbon monoxide, carbon dioxide, nitrogen oxides and volatile organic compounds.

Smoke can be harmful to your health and especially harmful to people who already have breathing-related difficulties.

What are the health effects of inhaling smoke?

Common reactions that you may experience when there are high levels of smoke in the air include:

- Itchy or burning eyes
- Throat irritation
- Runny nose
- Coughing

These irritations can occur for several days after exposure. Prolonged exposure to smoke particles can aggravate existing lung conditions, such as **chronic bronchitis**, **emphysema** and **asthma**. Prolonged exposure to smoke can also aggravate chronic **heart** conditions. If you have a heart or lung condition, follow your treatment plan prescribed by your doctor.

Who can be affected by inhaling smoke?

Anyone can experience irritations from inhaling smoke. People who are especially sensitive to the effects of smoke include:

- People with heart or lung conditions (including asthma)
- Children aged less than 14 years
- Pregnant women
- People over 65 years of age

How will I know if smoke concentrations are dangerous?

Usually smoke can be seen as a visible haze and can be detected by its distinctive smell. The more visible the smoke haze, and the stronger the odour, the more likely the smoke contains concentrations of gases and/or particles that can be hazardous to your health if you don't take precautions to reduce your exposure.

What health precautions can I take?

The following precautions can help you minimise health effects from exposure:

- Stay indoors, with windows and doors closed
- Stay in air-conditioned premises and switch the air-conditioner to 'recycle' or 'recirculate' to reduce the amount of smoke entering the building
- Only use an evaporative cooler if the system is filtered.

Note: some domestic evaporative coolers are less likely to filter fine particles such as smoke and may introduce smoke inside. If you have any questions about your evaporative cooler, please speak to the manufacturer or place of purchase as models may vary.

- Visit a local air-conditioned building such as a library, community centre or shopping centre
- Avoid vigorous exercise, especially if you have asthma or other chronic respiratory and/or chronic cardiac disease
- If you have asthma, continue taking your medication, follow your asthma plan, and consult with your general practitioner if required
- If it is safe to do so, check on elderly neighbours or other people who you think might need extra help
- Leave the area for a cleaner environment, if this is possible.

Anyone with concerns about their health should seek medical advice from their doctor. **If you experience chest tightness, wheezing, or difficulty breathing, seek urgent medical assistance. In an emergency, call triple zero (000).**

Can I wear a mask to protect me from smoke?

The best way to minimise your exposure to smoke is to avoid being outdoors if at all possible when there are high levels of smoke in the air. P2 / N95 rated masks can be worn to filter fine particles, however it is important to be aware that these masks have been designed for use in occupational settings where short periods of exposure (i.e. 2 to 8 hours) to fine particles cannot be avoided. These masks are not designed to be worn for long periods of time.

If you choose to be outdoors for a short time when smoke is present, you can consider wearing a P2 / N95 mask to reduce your exposure. These masks are available from chemists/pharmacies, hardware retailers and other safety equipment suppliers. P2 / N95 masks sold in Australia are usually only available in adult sizes and will not fit most children aged less than 12 years.

People with lung conditions, such as chronic obstructive airways disease, asthma or emphysema, and people with chronic heart conditions, should seek advice from their medical practitioner prior to using these masks, as they can cause some obstruction to air-flow that could potentially exacerbate their condition.

If you choose to wear a P2 / N95 mask, to offer the best protection, it must be fitted properly. When purchasing P2 / N95 masks it is important to take time to correctly identify which size and style of mask is suitable for you.

The following steps should be followed to ensure a P2/N95 mask is correctly fitted:

1. Remove glasses and hats. Tie back long hair so it does not become tangled in the straps of the mask
2. Put the mask on your face, ensuring the nose piece is at the top of the mask
3. Place the top strap or tie high on the back of your head
4. Move the bottom strap over your head and position it below your ears
5. Compress the mask against the face to ensure a seal across the bridge of the nose
6. Compress the mask to ensure a seal across the cheeks and the face
7. Gently exhale and check air does not escape around the seal. Adjust if necessary.
8. Gently inhale and check the mask is drawn in towards the face and there are no air leaks around the face seal. Adjust if necessary.
9. If there are air leaks that can't be rectified by adjusting the mask, check the mask for defects or try another style of P2 / N95 mask.

Additional notes on P2 / N95 masks:

- If you have a chronic lung or heart condition, seek advice from your medical practitioner before using a mask
- People with facial hair (including a 1-2 day beard growth) may not be able to achieve an adequate seal between the mask and the wearer's face
- Refer to the manufacturer's instructions for specific advice on checking the fit of the individual brands of masks

- To remain effective masks must be changed regularly, in line with the manufacturer's instructions.
- Masks should be replaced when they become moist.

Can I use an air-purifier to reduce indoor smoke at home?

If smoke is coming into rooms in your house, even with the doors and windows closed, you can consider using a portable air-purifier unit fitted with a high-efficiency particulate air (HEPA) filter. These are available from home electrical stores. For an indoor air purifier to work well, the purifier must be matched to the size of the room it is in and the room must be well sealed. If you are using an air-purifier, it is important to be aware of the manufacturer's specifications to ensure it is appropriate for the size of the room you intend to use it in.

Where can I find more information about smoke?

ACT Health Directorate monitors air quality at several sites across Canberra.

If the air quality in the ACT becomes a public health hazard, the Chief Health Officer will issue a public health alert. You can also access further information on air quality on our website <https://www.health.act.gov.au/about-our-health-system/population-health/environmental-monitoring/monitoring-and-regulating-air>

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