

WHEN SMOKE GETS IN YOUR EYES

The most common eye hazards people face in bushfire circumstances are smoke, noxious/poisonous gases, or thermal hazards such as embers from fires.

Smoke from vegetation is composed of hundreds of chemicals in gaseous, liquid and solid forms. These include noxious gases (e.g. carbon monoxide), aldehydes, benzene, water vapour and small particles of carbon and other materials (median aerodynamic equivalent diameter of 3.5µm).

Exposure to these substances (especially carbon monoxide and aldehydes) can lead to irritation of the eye upon contact.

Common symptoms following exposure to and contact with smoke include pain, discomfort, redness and watering of the eyes.

Other possible injuries resulting from exposure to fires and smoke include corneal abrasions, conjunctivitis (red eyes), and ember burns to the eyelids, eyeball and face.

WHAT TO DO:

1. If you get any smoke in your eye:

- Wash with sterile saline or cold tap water (or artificial tears)
- Seek medical aid if necessary

The blink reflex usually causes the eye to close in response to heat, hence thermal injuries tend to affect the eyelid rather than the eye itself.

2. If any embers fly into your eye OR if you had a direct fire/thermal burn to your eye:

- Do not rub the eye
- Open your eyelid gently and wash your eye with large amounts of cold flowing water for 20 minutes
- Place an eye pad or light clean dressing over injured eye only (if available)
- See a doctor if the specks cannot be washed out or redness continues
- See a doctor immediately if your vision has deteriorated after the burn or if pain and discomfort continues

If the burning material includes plastics or rubbers, the gases and particles are likely to be particularly irritating.

3. If you feel you have a foreign body in your eye:

- Do not rub the eye
- Do not try to remove the foreign object stuck in the eye
- Seek immediate medical attention

IMPORTANT: If you are administering first aid for ANY eye injury, DO NOT:

- Touch the eye or any contact lens
- Allow the patient to rub their eyes
- Try to remove any object which is penetrating the eye
- Apply pressure when bandaging the eye

RESOURCE MATERIALS AND REFERENCES :

[First Aid for Eye Injuries](#)

[Eye Safety: Emergency Response and Disaster Recovery](#)

[Worker Safety During Fire Cleanup](#)

https://healthywa.wa.gov.au/Articles/F_I/First-aid-for-eye-injuries

[First Aid for Eye Injuries](#)

[Irritating Effects on Man of Air Pollution Due to Cigarette Smoke](#)

[Exposure to Indoor Combustion and Adult Asthma Outcomes: Environmental Tobacco Smoke, Gas Stoves, and Woodsmoke](#)

[Eye and Respiratory Symptoms Among Women Exposed to Wood Smoke Emitted from Indoor Cooking: A Study from Southern Pakistan](#)

[Smoke Exposure Among Firefighters at Prescribed Burns in the Pacific Northwest](#)

[Smoke Exposure at Western Wildfires](#)

[Short-Term Effects of Wood Smoke Exposure on the Respiratory System Among Charcoal Production Workers](#)

[Experimental Exposure to Wood Smoke: Effects on Airway Inflammation and Oxidative Stress](#)

[Volatile and Semi-Volatile Organic Compounds in Smoke Exposure of Firefighters During Prescribed Burning in the Mediterranean Region](#)

[Baseline Measurements of Smoke Exposure Among Wildland Firefighters](#)

[Wildland Smoke Exposure Values and Exhaled Breath Indicators in Firefighters](#)

[Experimental Wood Smoke Exposure in Humans](#)

[Wood Smoke Exposure of Portuguese Wildland Firefighters: DNA and Oxidative Damage Evaluation](#)