

CFS FACT SHEET

PERSONAL SURVIVAL



Radiant Heat

Radiant heat is the major cause of death during bushfires. If you put your hand near an open flame, an electric heater or light bulb you can feel the radiant heat it generates. Draw your hand away and the amount of heat you feel on your skin decreases. Put something between your skin and the heat source and again your skin feels immediately cooler. That's all you need to remember about radiant heat from bushfires – distance and shielding protect you from dangerous exposure.

The danger is real. Radiant heat from the flame front of a bushfire scorches vegetation well in front of its path and kills animals and people caught in the open. Death is caused by heat stress, when the body's cooling system fails, leading to heat exhaustion and death.

To manage radiant heat:

- decrease fire intensity by reducing fine fuels around your home prior to the fire danger season.
- move away from the heat source
- establish a barrier between the heat source and yourself, for example:
 - a solid wall
 - another building
 - protective clothing
 - blankets
 - landscaped features such as embankments and terracing etc.

How People Die in Bushfires

Heat Stress:

The human body operates most efficiently between a narrow range of temperatures. Once it exceeds the uppermost limits, physiological failure begins and this can lead to collapse and death.

Heat stress can be managed by:

- Wearing sensible clothing: clothes of natural fibre that allow air flow and are not too hot.
- Drinking lots of water.
- Sheltering from radiant heat as much as possible, especially when the fire front arrives.
- Avoiding unnecessary exertion.
- Avoiding elevated water tanks. Once immersed in water, the body will quickly absorb heat from the water. If the ambient air temperature is in the high thirties and a bushfire raises the temperature of the water a further ten degrees, the water/body temperature will be unsurvivable.



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BUSHFIRE
READY

Dehydration

Very hot conditions plus excessive stress and exertion during bushfires will rapidly lead to loss of fluids and subsequent dehydration. In a bushfire a person could lose up to 2 litres/hour. Symptoms of dehydration, such as tiredness, irritability, irrational behaviour and loss of coordination may lead to collapse and in extreme cases death.

Dehydration can be managed by regularly drinking water, about 1 cup every 5 to 10 minutes. It is easier to manage where there is more than one person present so that one can look after the other.

Burn Injuries

Burn injuries occur through exposure to intense heat and can be managed by avoiding being in the wrong place at the wrong time. This requires understanding and planning.

Immediate first aid for burns

- If on fire:
 - ‘Stop, Drop, Cover and Roll’
 - Smother the flames with a blanket
 - Move away from the heat source.
- For all burns apply cold running water:
 - For at least 20 minutes
 - If running water is not available, wet 2 cloths and alternate them onto the burn every 2 minutes
 - Keep the rest of the body warm
 - Do NOT use ice, butter, creams, etc.
- Remove clothing and jewellery:
 - Clothing can hold heat on the burn
 - If swelling occurs jewellery can stop blood flow to the burn.
- Seek medical attention.

Physical Injuries

It is very common for accidents to occur during bushfires because of poor visibility, high stress and adrenalin levels which lead to confusion, poor decision making, loss of concentration and tunnel vision.

The risk of physical injuries can be managed by being extra careful. People should be aware of the likelihood of injury whilst firefighting. Good planning is also important in preventing physical injuries. Good planning leads to confidence, which reduces stress levels. Good planning also means less stressful decisions need to be made on the spot and is beneficial to controlled behaviour.

Lung Injuries

In a building fire the most common hazard to humans is from smoke and toxic gases. Death often results from reduced oxygen in the bloodstream, caused by the replacement of oxygen with carbon monoxide. While this is a major cause of death in house fires it is uncommon in bushfires. In bushfires smoke contributes indirectly to death by poor visibility, eye and lung problems and stress.

Lung injuries can be managed by protecting the lungs from the smoke and super - heated air. It is important to seek shelter when heat and smoke are most intense. Nose and mouth should be covered with a dust mask, wet towel or scarf etc. A special filter mask for people suffering respiratory conditions such as asthma should be included in your survival kit.

Further information can be obtained from: www.cfs.sa.gov.au or SA CFS, GPO Box 2468, Adelaide, SA 5001. 08 8463 4200.