



SURF LIFE SAVING AUSTRALIA POLICY STATEMENT LIGHTNING

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INTRODUCTION

In statistical terms, lightning poses a greater threat to individuals than almost any other natural hazard in Australia, accounting for five to ten lives and well over 100 injuries annually. These figures are likely to increase in line with the growing proportion of people who are engaging in outdoor recreational activities.

Of the many lightning strike injuries each year, about 80 are due to people using normal telephones during thunderstorms when the phone system may suddenly become part of a highly charged electrical circuit. Related injuries may include hearing damage, burns and electrocution.

WHAT IS LIGHTNING?

Lightning is the discharge produced when differences between ground and atmospheric electrical charge are large enough (several hundred million volts) to overcome the insulating effects of air.

Lightning strikes can occur within the cloud, between clouds or between clouds and the ground. An average thunderstorm can release several hundred megawatts of electrical power.

Thunder is the sound produced by the explosive action of air heated by the lightning strike to temperatures as high as 20,000 degrees Celsius.

PROTECTION AGAINST LIGHTNING STRIKES

Outdoor Protection

The 30/30 Rule

The 30/30 Rule is recommended for lightning safety in the Australian Standard on Lightning Protection. The rule is designed to provide guidance on the suspension and resumption of activities in an outdoor environment.

It sets out the following principles:

- Close Beach - Where the flash to bang count is 30 seconds, indicating that the lightning is 10km away. This is associated with significant risk that the strike could be at the patrol arena.
- Open Beach - Where 30 minutes has passed since the last sighting of Lightning. A typical storm travels at about 40 km/h. Waiting 30 minutes allows the thunderstorm to be approximately 20km away.

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- i. With an approaching thunderstorm, and where the 30/30 Rule applies, all persons should be advised to leave the water and clear the beach immediately. The Patrol Captain should remove the patrol flags, close the beach and then the patrol should retire to the shelter of the clubhouse, maintaining a surveillance lookout from there.
 - ii. Seek shelter in a 'hard top' vehicle or building - avoid small structures, patrol shelters, fabric tents and isolated or small groups of trees.
 - iii. If in the open, away from shelter, crouch down (singly), preferably in a hollow, with feet together and remove metal objects from head and body. Do not lie down but avoid being the highest object in the vicinity.
 - iv. If swimming, surfing or in a boat leave the water immediately and seek shelter.
 - v. In the event of a surf carnival or special event, all effort should be made to ensure the safety of all personnel. All effort should be made by the carnival referee and/or organisers to delay the event until the danger has passed or cancel/postpone events completely.
 - vi. Avoid the use of portable radios and mobile telephones during a thunderstorm. If emergency calls are required keep them brief.

Indoor Protection

- i. Avoid the use of telephones, radios, fax machines, computers and other electrical equipment. If emergency calls are required keep them brief.
- ii. Before the storm arrives disconnect external aerials and power leads to radios and other appliances.

FIRST AID

The normal emergency care procedures apply to any patients effected by lightning strikes. Ensure that the rescuer is in no danger of being struck by lightning. If the patient is not breathing commence resuscitation immediately.

DEFINITIONS:

Lightning, 'means the discharge produced when differences between ground and atmospheric electrical charge are large enough (several hundred million volts) to overcome the insulating effects of air.'

Thunder, 'means the sound produced by the explosive action of air heated by the lightning strike to temperatures as high as 20,000 degrees Celsius.'

REFERENCES:

Lightning Web Sites: www.noaa.gov/lightning and www.lightningsafety.noaa.gov/
Makdissi M., Brukner, P, "Recommendations for lightning protection in sport", MJA 2002 177 (1): pp35-37
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