

LIGHTNING AND BUSHWALKING

Acknowledgement: This summary is based on extracts from an article by Professor Matt Darveniza, revised January 2008.

Before the Walk

Consult the weather forecast for the region, and if a thunderstorm is expected, select a walk that can be completed before the onset of the storm.

During the Walk

Whenever possible, keep a lookout for the development of thunderstorm clouds in the region. Once thunder can be heard, keep estimating the distance to the lightning activity by counting the time interval between seeing the lightning flash and hearing the thunder.

The time-to-thunder provides an estimate of the distance to the lightning activity, e.g.:

- 3 seconds - 1 km
- 15 seconds - 5 km
- 30 seconds - 10 km

If there is a good line of sight to the thunderstorm, reasonable estimates of distance can be made up to 10 km.

When to Leave Exposed Locations and Seek Safer Shelter

Data from lightning location systems show that the distance between successive lightning strikes from a single thunderstorm cell rarely exceeds about 10 km (time to-thunder 30 seconds). This suggests that you should get away from exposed situations whenever the time-to thunder is less than 15 seconds. According to Standards (such as AS/NZS 1768:2007 "Lightning Protection"), you should avoid exposed situations in accordance with the "30/30" safety guideline. For an approaching storm, move to a safe place whenever the time-to thunder is less than 30 seconds; when the storm is receding, stay in the safe place until 30 minutes have elapsed after the last thunder is heard.

What are Safe Locations?

Safe places during thunderstorms are:

- inside a metal-skinned car or vehicle (preferably stationary - keep completely inside)
- inside a substantial building, but keep away from outside windows - do not handle appliances connected to outside electrical conductors, i.e. do not use a land-line telephone, a modem connected computer, a hand-operated electrical appliance or touch a TV or radio set particularly if connected to an outside aerial.

If the above locations are not readily accessible find a hollow or a low-level location away from tall trees, and crouch low, keeping your shoes on and your feet together. If in a group, don't crowd together.

What to do If the Thunderstorm is above you and Lightning Strikes are nearby

(That is, the Time-To-Thunder is Less than 5 Seconds)

This might happen if you were not able to take the action suggested above, and this is quite possible if you are out on a walk involving distances of over 15 km. Now, all you can do is to minimize the risk of being struck by lightning. You should try to get away from the high ground if possible:

- Leave the top of a mountain range or ridge if you are on a range or ridge.
- Get away from the top edges of a cliff or an escarpment - lookouts are usually at such locations, so get away from lookouts.
- Keep away from large trees; particularly those located near a cliff edge or an escarpment.
- If you are in a forest, and so cannot avoid being near to trees:
- Choose to be near small trees rather than tall trees.
- Try and stay a distance of more than your height from the nearest tree trunk.
- If you are with a group of walkers, you should keep at least 5 metres apart.
- Do not walk in pairs or in closely packed groups when lightning strikes are all around you.
- If you have found a somewhat safer location (as above), it is better to stop walking, to stand in a crouched position keeping your feet together or sit with your feet tucked in close to your body. Wait until the thunderstorm cell has passed from your location (it should be safe to move again when the time-to thunder exceeds 10 seconds).

What to do if one of your party is Struck by Lightning

It is most unlikely that a second lightning strike will occur immediately to the same spot. The total lightning discharge for a single strike only lasts a maximum of 1 to 2 seconds. So it is safe to touch an injured person immediately after the strike. You should begin first aid immediately.

- If there is no heartbeat and no breathing, give mouth-to-mouth resuscitation to the victim and apply cardiac massage.
- If there is a heartbeat but no breathing, mouth-to-mouth resuscitation only.
- Be prepared to continue the cardio-pulmonary resuscitation for a long time. Even if it is apparently unsuccessful, keep the CPR going until medical help arrives.
- Seek help as soon as possible, but only when it is safe to do so. It is obviously not wise to send some-one for help if that person has to move into or through a very exposed location.