

## DANGERS OF LIGHTNING

While no-one can completely eliminate the risk of being struck by lightning, you can greatly reduce your risk of becoming a lightning casualty by following some basic rules:

Clouds shaped like cauliflower, upcoming winds, rolling thunder and sheet lightning are signs that a thunderstorm is approaching. It is important to note the time between a flash of lightning and the sound of the thunder, a period shorter than five seconds means serious danger. If the thunder immediately follows the flash, your life is in danger. It is approximately three seconds per kilometre, but if you can count to six, you are already in danger. When you are outside during a thunderstorm, there are two main dangers: when you are higher than the surrounding area – you are in danger of being struck directly. There is also an indirect risk – when something is struck near to you, the current is conducted into the ground and can injure you due to step and touch potentials between your feet.

### **Motor Car, Caravans and Trailers:**

The car, provided it is fully closed – windows closed and not a convertible, provides entire protection. It functions as a Faraday's cage. However you should remove the aerial. The Faraday cage is an electrical apparatus designed to prevent the passage of electromagnetic waves either containing them in or excluding them from its interior space. Michael Faraday, a physicist, stated that the charge on a charged conductor resided only on its exterior and had no influence on anything enclosed within it. The shielding effect is used to eliminate electric fields within a volume, e.g. to protect electronic equipment from lightning strikes and other electrostatic discharges.

### **Aircraft:**

An air craft also acts like a Faraday's cage. Normally nothing happens if it is struck, however the turbulences are much more dangerous and is why experienced pilots try to avoid thunderstorms.

### **Camping:**

Do not erect your tent directly next to single trees or at the edge of the forest or next to poles or pylons. It is fairly safe to erect it directly in the forest. Use an insulating mattress and do not touch the poles inside the tent during a thunderstorm.

### **Golf Course:**

The golf course is the most dangerous place during a thunderstorm. Avoid single trees and the edge of the forest, avoid touching metal especially clubs and avoid being in the open landscape. Shelter huts protect only when equipped with external lightning protection. If there is no reliable shelter hut and the next car or house is too far away, squat down, feet together and wrap your arms around your legs. Make sure that all parts containing metal like clubs and umbrellas are at least 5 meters away from you.

### **Sporting Activities:**

Adults and children participating in sporting activities, as well as the spectators are at extreme risk during a thunderstorm. It is very dangerous to stand next to poles or flagpoles – keep three meters away from them and put umbrellas away. Covered grandstands need external lightning protection to provide safety.

### **Surfing, windsurfing, ships, swimming and fishing:**

Surfing and windsurfing during a thunderstorm is particularly dangerous. There is absolutely no protection on a surfboard. Look out for changes in wind and clouds. The first sign of an impending thunderstorm, head for shore. If you are unable to reach shore, put down the mast and squat down on the board, feet close together, arms wrapped around your legs. If you are onboard a ship, during a thunderstorm keep off the deck and do not touch anything metal. In order to create an earthing device on your boat, lengthen the shrouds by using metal cables up to the surface.

Swimming or being near the water during a thunderstorm is dangerous. A strike into the water may be deadly to man up to 90 meters from the direct strike. If it does not kill you, it may paralyze you and cause drowning. If you are fishing, put your rod down and leave the water.

### **Hiking:**

A thunderstorm in the mountains is exceptionally dangerous. Before going on your hike, check weather reports and forecasts. If you encounter a thunderstorm, try to find a shelter hut. If you do not find a shelter hut, keep off the peak. The peak is the highest point and lightning will strike the peak. Do not touch moist rock or any metal objects. A cave may provide shelter. Squat down, feet close together, arms wrapped around your legs.

### **Electronic equipment:**

Electronic equipment such as computers, intercoms, gate motors, telephones, satellite dishes, cameras, PABX systems, alarms, electric fences, irrigation systems, modems, etc. need surge and lightning protection. Damage caused to this equipment can be economically devastating.

### Things to Avoid:

Carport, porches, garages, sheds, tents, trees, electrical poles, metal objects, poles or other tall objects. Do not use corded telephones, stay away from windows and exterior doors. Avoid contact with electrical equipment, plumbing and plumbing appliances.

Should your home be struck by direct lightning, call the fire department immediately. Have the electrical wiring in your home inspected by a qualified electrical contractor as soon as possible.

These protection measures seem obvious; however in the event of a thunderstorm they are often forgotten.

If a person is struck by lightning, immediate medical attention may be the difference between life and death.

Should you have any queries regarding lightning or lightning protection, please do not hesitate to contact Bertie on 083 635 6495 or Sarina on 082 479 7268.

Regards

Lee-Anne Chapman