

MEMO SECURITY

June 12, 2023 – Lightning Safety



Did you know?

Introduction

Each year on average in Canada, there are between two and three lightning-related deaths and 180 lightning-related injuries. Most lightning-related fatalities and injuries in Canada occur in four provinces: Ontario, Quebec, Alberta, and Saskatchewan¹.

In the United States, more than 20 people are killed by lightning each year. In addition, hundreds are injured. From 2006 to 2019, the U.S. National Lightning Safety Council reported 418 lightning deaths.

	Number of deaths	Proportion of deaths
Outdoor activities (fishing, swimming, hiking)	257	62%
Work	77	18%
Daily activities (walking, gardening)	68	16%
Unknowns	16	4%

Table 1 : Lightning-related deaths by type of activity (2006 to 2019)²

About 10% of lightning victims die, but survivors often have permanent disabilities. Most deaths and injuries occur when people are in open areas or sheltering under trees.

Thunderstorms always bring lightning, even if you haven't seen any. Lightning can strike up to 16 km (10 miles) from the heavy rain zone, either before or after the rain arrives.

Recommendations

- Be aware of weather warnings and forecasts.
- Be prepared to cancel or postpone activities such as work on roofs or activities requiring lifting rigs like cranes.
- When thunder and lightning occur in your vicinity, go inside immediately. A house is best, but a vehicle is also acceptable. Don't wait outside hoping that conditions will improve.
- Wait at least 30 minutes after the storm is over before going back outside.

Lightning can travel through wiring or plumbing to the ground, therefore, do not touch electrical conductors, shower, or do dishes during a thunderstorm.

Tents and awnings will protect you from rain and hail, but they do not offer protection against lightning.

If you are caught outside, avoid open areas:

- Stay away from large, isolated objects (trees, cranes, ladders, or scaffolding).
- Get out and stay out of water bodies (ponds, lakes, rivers, swimming pools and hot tubs).
- If you are with a group of people, spread out to reduce the risk of multiple injuries.
- If you caught in an open field, crouch low to the ground but do not lie down³.

First Aid for Lightning Strikes^{4 5}

- Immediately call 911 (Canada / United States) or 112 (European Union).
- Victims of lightning strikes do not carry electrical charges. You can safely rescue them.
- Lightning is known to strike the same twice. Assess the risk, and if possible, move the victim to a safe place.
- If the person does not react and is not breathing, perform CPR or use an AED (Automatic External Defibrillator) if possible.
- Locate both entry and exit points and treat the wounds as per the first aid protocols.
- Advise all casualties to seek medical help immediately to ensure a full evaluation of any injuries.



Figure 1: Courtesy of iStock

¹ Government of Canada. (Jan 14, 2021). Lightning fatalities and injury statistics in Canada. Retrieved from <https://www.canada.ca/en/environment-climate-change/services/lightning/safety/fatalities-injury-statistics.html>

² Jensenius, John S. Jr. A detailed analysis of lightning deaths in the United States from 2006 to 2019. (2020, February) <https://www.weather.gov/media/safety/Analysis06-19.pdf>

³ Canadian Red Cross. (June 25, 2020). Thunderstruck – lightning and thunderstorm safety. Retrieved from <https://www.redcross.ca/blog/2020/6/thunderstruck-%E2%80%93-lightning-and-thunderstorm->

[safety#:~:text=Avoid%20sheltering%20under%20trees%20or%20shelter%20option%20is%20a%20vehicle](https://www.redcross.ca/blog/2020/6/thunderstruck-%E2%80%93-lightning-and-thunderstorm-)

⁴ St. John Ambulance. (Jan 2019). First aid reference guide. Retrieved from https://www.sja.ca/sites/default/files/2021-05/First%20aid%20reference%20guide_V4.1_Public.pdf

⁵ Canadian Red Cross. (No Date). Thunderstorms: before, during & after. Retrieved from <https://www.redcross.ca/how-we-help/emergencies-and-disasters-in-canada/types-of-emergencies/thunderstorms>

