Lightning Strikes Again...

Ask someone to name the top weather-related cause of death, and hurricane, tornado, or similar catastrophes are likely answers. While dramatic, these actually aren't at the top of the list. The annual fatalities caused by lightning (about one hundred in the U.S., and it is likely that many lightning deaths are unrecognized or unreported) are exceeded only by those from flash floods. Since lightning generally affects only one person at a time, it rarely makes the national news typical of other weather-related fatalities. Just a few weeks ago, I stood on the spot where famous Irish climber Ian McKeever was killed by a direct hit on Mt. Kilimanjaro earlier this year; lightning is no respecter of outdoor experience or fame.

The key to lightning injuries is prevention; backcountry "first aid" options are limited. Because lightning injuries rarely make the news, many hikers and campers fail to take approaching storms as seriously as they should. And because lightning injuries occur so randomly, it is difficult to validate "evidence-based" advice. Consequently, most of my comments represent expert consensus from outdoor educators.

The "30-30" rule

If there is one "take home" message on lightning safety, it is the "30-30" rule: *Begin taking lightning avoidance precautions when there is a 30-second-or-less interval between the lightning flash and the thunder clap; discontinue lightning avoidance 30 minutes after the last flash.*

What does "lightning avoidance" entail? If above treeline, on an open ridge, or in an open field, movement into a safer area is imperative. The ideal backcountry locale is within a stand of similarly sized trees. Tents, with their metal poles, are not safe locations despite the desire to be dry. Stay away from potential lightning rods such as fishing gear, trekking poles, and external frame backpacks.

What if a safe location is not available? The most frightening weather-related experience I have had occurred when I was leading a group of twelve students during a thunderstorm on a huge open tundra in Alaska's Denali Park. In such a circumstance, the usual recommendation is for the group to disperse widely, minimizing the chance of more than one person being struck. Again, stay away from potential lightning rods. It is frequently recommended that one sit on a nonconducting surface such as a pack or ground pad. While reasonable, an evidence basis for this recommendation is lacking.

The physical damage caused by lightning entails direct effects and secondary injury. The impact of lightning generates explosive forces, which have been known to throw a person a considerable distance. Obviously, this can cause a nearly limitless catalog of injuries requiring a thorough assessment and appropriate first aid treatment.

The strike itself, while lasting but a fraction of a second, causes a variety of problems related to electricity traversing the body. These include burns, sudden paralysis (including that of the respiratory muscles), and cardiac arrest. While the latter may be survivable in the front country with immediate access to advanced life support, options in the wilderness are limited. While CPR should certainly be initiated, the outcome is not likely to be successful.

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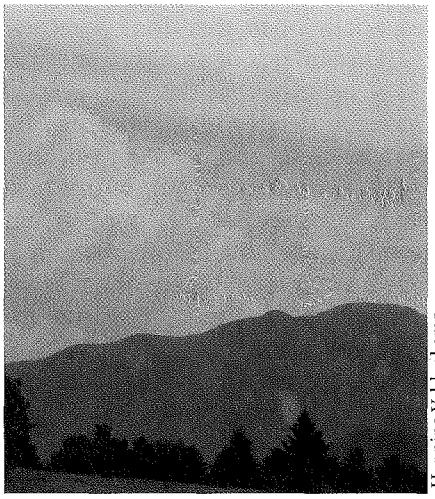

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There is a lot of detailed, very useful additional information on the National Weather Service website, www.lightningsafety.noaa.gov.

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