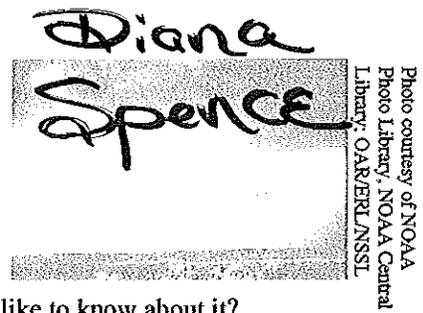


Lightning – The Underrated Killer

Source: National Weather Service Lightning Safety Program



Pre-reading

Questions: What do you know about lightning? What more would you like to know about it?

Definitions: Underrated – rated too low

Phenomena – unusual or marvelous occurrences

Confirm – to show something to be true

Vulnerable – easily able to be hurt or injured

Reading

16 Summer is the peak season for one of the nation's deadliest weather phenomena – lightning. In the
35 United States, an average of 66 people is killed each year by lightning. In 2004, there were 32 deaths
53 attributed to lightning, down from 44 thanks in part to increased education and safety. In 2005, there were
71 43 confirmed deaths and 172 confirmed injuries. The injury number is likely far lower than it actually is
because many people do not seek help or doctors do not report it as a lightning injury.

88 Lightning is a serious danger. In the United States, there are an estimated 25 million cloud-to-
105 ground lightning flashes each year. Lightning can be fascinating to watch, but it is also extremely
121 dangerous. Few people really understand the dangers of lightning.

130 Although some victims are struck directly by the main lightning strike, many victims are struck as
146 the current moves in and along the ground. While almost all people take some protective actions during the
164 most dangerous part of thunderstorms, many leave themselves vulnerable to being struck by lightning as
179 thunderstorms approach, depart, or are nearby.

185 Lightning can strike as far as 10 miles away from the rain area in a thunderstorm. That's about the
204 distance you can hear thunder. When a storm is 10 miles away, it may even be difficult to tell a storm is
226 coming. If you can hear thunder, you are within striking distance. Seek safe shelter immediately! The first
243 strike of lightning is just as deadly as the last.

253 Use the 30-30 rule where visibility is good and there is nothing obstructing your view of the
270 thunderstorm. When you see lightning, count the time until you hear thunder. If that time is 30 seconds or
289 less, the thunderstorm is within 6 miles of you and is dangerous. Seek shelter immediately.

304 The threat of lightning continues for a much longer period than most people think. Wait at least 30
322 minutes after the last clap of thunder before leaving shelter. Don't be fooled by sunshine or blue sky!

340 Most lightning deaths and injuries in the United States occur during the summer months when the
356 combinations of lightning and outdoor summertime activities reach a peak. People who are outdoors need
371 to take action in a timely manner when thunderstorms approach.

381 Inside homes, people must also be aware of ways to reduce their risk of lightning strikes. They
398 should stay away from windows and doors and avoid contact with anything that conducts electricity.

413 Lightning is a dangerous threat to people in the United States, particularly those outside in the
429 summer. By using common sense, the number of lightning deaths can be greatly reduced.

443

Level 7.5

Understanding

1. Why is summer the peak season for lightning deaths and injuries? _____

2. What does the word **conduct** mean in this reading? _____

3. What is the 30-30 rule? And, when can it be used? _____

4. Is the number of victims of lightning strikes accurate? Why? _____

5. How can people be struck by lightning? (List two ways.) _____

6. When is it safe to leave shelter after a thunderstorm? _____

7. What does the sentence, "**Seek shelter immediately**" mean? _____

8. Why is lightning so dangerous? _____

Writing

Option A: Summarize the reading in your own words.

Option B: Write about someone you know who has been struck by lightning.

Option C: What new things did you learn about lightning? How will what you've learned affect your behavior when storms are present?

Mathematics Problems

1. Valerie hears thunder 5 seconds after she sees lightning.
Is it safe to continue weeding her flowerbed?
 - (a) Yes, clearly the storm is 50 miles away.
 - (b) No, the storm is within a mile of her and she should take cover.
 - (c) Yes, she only has to be concerned when it starts to rain.
 - (d) Two of the above.

2. How far away is a storm if you see lightning and hear thunder 10 seconds later?
 - (a) About 2 miles.
 - (b) 10 miles.
 - (c) 20 miles.
 - (d) 40 miles.

Essay Concerning Lightning

According to weather forecasts for the coming week, electrical storms accompanied by heavy rain and wind will be occurring daily.

Write an essay to be published in the local newspaper about lightning.

Vocabulary

1. Conducts – transmits electricity.
2. Confirm-to show something to be true.
3. Electricity-the class of physical phenomena arising from the existence and interactions of electric charge.
4. Plasma-an electrically neutral, highly ionized gas made up of ions, electrons, and neutral particles.
5. Underrated-rated too low.
6. Vulnerable-easily able to be hurt or injured.
7. _____ -
8. _____ -

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What happens if a person gets struck by lightning? 70

By Cassandra Senior

In the United States, each year, 80 people are killed by lightning strikes. The odds are 1 in 28,000 that any one person will be struck. That average goes down if you are doing something reckless, such as...golfing in a thunder store for example. Here is what happens if you do get struck.

Your body will be under direct influence of the strike for approximately 3 milliseconds.

1/3 of people will die from cardiac arrest, myocardial infraction, inhibition of their brainstem's respiratory centers or just from a catastrophic, multisystem failure.

The majority of people will:

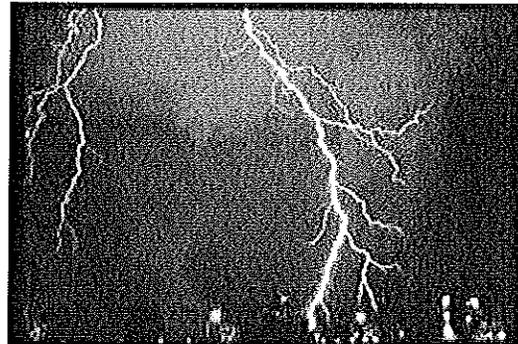
- Suffer the burst of at least one eardrums.
- Fall unconsciousness.
- Have 3rd degree burns from metal they were in contact with at the time of the strike such as jewelry. There will also be very small, but deep burns at the entry and exit wound sites.
- Experience complete (but temporary) paralysis.
- Experience bursting capillaries under the skin.

Short

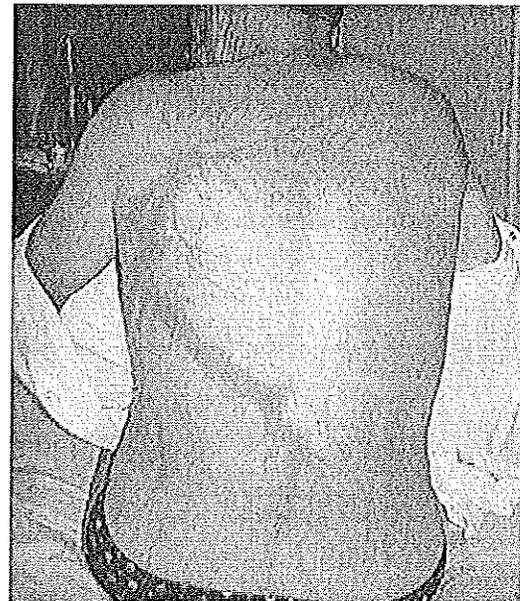
In addition:

- Clothing may become shredded, torn off or singed.
- Early on, survivors will complain of intense headaches, ringing in the ears, dizziness, nausea, vomiting and other post-concussion types of symptoms.

Long-term effects that 70% of report:



Lightning strikes 1 in 280,000 people a year. It kills 80.



Lightning strike marks.

A Symptoms