

Quote of the Month:

On New England weather: "The lightning there is peculiar; it is so convincing, that when it strikes a thing it doesn't leave enough of that thing behind for you to tell whether--Well, you'd think it was something valuable, and a Congressman had been there. And the thunder. When the thunder begins to merely tune up and scrape and saw, and key up the instruments for the performance, strangers say 'Why, what awful thunder you have here!' But when the baton is raised and the real concert begins, you'll find that stranger down in the cellar with his head in the ash-barrel.' ....I could speak volumes about the inhuman perversity of the New England weather..."

Mark Twain

1. Meeting began at 11:30am and adjourned at 1:45 pm.
2. Members present: Breed, Bergschneider, Cherington, D Clark, S Clark, Hodge, Kithil, Langford, Rudolph, Simmons, Yarnell.
3. Introductions: Rich Kithil introduced:
  - a. David E. Storhaug, CPCU, ARM of The Travelers. Dave is the principle author of Charter Property Casualty Underwriters' study on lightning for the insurance industry. Dave is particularly interested in public education. Currently, he is preparing a pamphlet on lightning safety for children.
  - b. Marcel Manon, R&D Engineer with Electronique 2000. Marcel will be returning to Paris next week. His work includes developing Storm Detection Devices and triggered lightning experiments.
4. Rich Kithil discussed the "Warm Pool" part of the Pacific Ocean, east of Australia. Scientists have recently studied this region and believe it may have a large influence on the global climate and environment. He mentionned that one of the people studying this phenomenon is a Boulder investigator, David Carlson.

Rich also made some general comments that were well worth repeating and remembering .  
"There are very few absolutes in the way lightning behaves."  
Since lightning takes the path of least resistance, it is not surprising that the human body (70% water) is often a target of lightning.  
Rich avoids wearing metallic items, even the metal button on a baseball cap, because of "the path of least resistance."
5. Warren Simmons stated that Castle Pines Golf Course has had early streamer type terminals on buildings and trees. Kevin Bergschneider will call the Golf Club to ask if these terminals have been struck more often than "unprotected" trees.

6. George Hodge has been investigating claims, often fraudulent, when people declare that damage to equipment is due to lightning strikes. Fraudulent claims have been made for items such as satellite dishes, computers, VCRs, etc. George is often able to detect whether lightning was the cause of the problem by the path of damage. Sherlock Holmes would be proud.

Rich Kithil reminded us that Ron Holle reported to LDC last month that lightning damage is the most common type of property damage claim made to insurance companies.

George also brought in a granite rock with evidence of being struck by lightning. He found this rock under a tree in Conifer.

7. Rich Collier reported that lightning struck the launch pad at the NASA facility in Florida on June 25, 1994. There was no vehicle on the pad at the time. This strike happened in spite of "protective" cables. Rich will bring videos of the event to our next meeting.
8. Ken Langford reported that he recently spoke with Ron Holle about the hazards of small metal shed. Since they are not metal at the bottom they are an "imperfect" Faraday Cage. Rich Kithil's comment about there "are very few absolutes with regard to the behavior of lighting" applies here. Ken also visited Fort Collins where investigators have been studying "sprites" seen 75-85 Km above the ground. These upward travelling flashes are generated by lightning.
9. Richard Keen brought a newspaper report about a hiker who was killed in a metal hut on Mt. Whitney, California. His family was awarded \$700,000 from the government. Richard also reported on the observation that there is a direct relationship between sunspots and the frequency of lightning. Sunspot cycles are about every eleven years. Sunspot activity was at its recent maximum in 1989. According to Richard's data at the Coal Creek reporting station there have been 81 thunderstorm days so far in 1994.
10. Steve Clark announced that LDC picnic will take place on Saturday, Sept. 17, 1994 at 11:00 am at Memorial Park in Arvada. Memorial Park is the site of lightning strikes last year. It is in the vicinity of 64th and Ralston. Check you maps. Bring your family, friends, food, frisbees, volleyballs, etc. See you there!
11. Dan Breed reported that he has been vacationing in Wisconsin, where he witnessed many lightning shows as well as finding trees with evidence of past lightning strikes. Dan stated that the NCAR Sail plane will be used in the making an IMAX film, "Stormchaser." The film will be ready next year. The NCAR plane is used to study the electrification of clouds, charge separation in clouds, and precipitation.
12. Phil Yarnell reported that he has had no success in

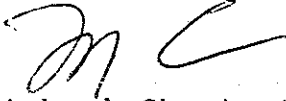
contacting the Boy Scout leader in New Mexico whose name and phone number were delivered at our last meeting by Dave Breggin. Dave thought it would be of interest to contact that leader who was in the vicinity of a lightning storm. Phil left at least 3 phone messages but he never received a return call. Phil and others have had similar experiences in the past when trying to contact lightning victims. Often they are not interested in following up with a physician in another city. On the other hand, Phil did make contact with the mother of a 15 year old boy who was struck by lightning at a construction site in Colorado Springs. The boy suffered a cardiac arrest and was almost immediately given CPR. He made a nearly full recovery. He did suffer a ruptured tympanic membrane. The mother reported that her son had a "fern-like" rash which she photographed. Phil will receive that photograph and may be able to see the patient in his office. The patient was wearing a baseball cap when he was struck in the head.

13. I was happy to report that we had received \$1000 Grant from the Provenant Health Foundation.  
I also reported on discussion which several of our members (Cherington, S Clark, Kithil, Langford, Larson, Rudolph) had in a Louisville restaurant on August 23. We considered our applying for a larger grant with the assistance of Mr. Ronald Miranda. Dr. Heinz W. Kasemir was also present at our lunch meeting. Since then I have continued these discussions with Ron Larson and Terry Rudolph. At this time our plan is to proceed with experiments on simulated lightning (eg in resevoirs, metal sheds, etc.) which Terry is able to do. After performing these preliminary studies, we shall write a grant proposal. This proposal will ask for funds, mostly, to support Terry in this project. Lesser funds will be needed for secretarial work, computer time, and medical input. I shall meet with Terry to proceed with these plans within the next month. Members of the LDC were very supportive of these early efforts.
14. Kevin Bergschneider reported that a 19 year old man was killed when struck by lightning outside his car. This was followed by a discussion of cars and lightning. I stated that when Carol Vervalin and I made an analysis of Storm Data covering a ten year period prior to writing our article on "who is at greatist risk?" we found, that although it was usually safe to be inside a closed car, it was not safe to be outside the car. Several people were struck while standing just outside their automobile. George and Ken remarked that now that new cars are made of less steel and more fiberglass they may not be as safe from lightning as your "old Buick or Ford".  
Kevin also asked that the golfers among our group keep a record of golf shelters on courses with "old, faulty" terminals.
15. Our meeting ended with a slide show provided by Ken Langford. He showed pictures of Los Angelos 9 days after the earthquake, which he took from an helicopter. He also showed remarkable photos of Green Flash taken at sunset in Hawaii. This phenomenon is presumably caused by refraction of blue

light. Finally, Ken showed pictures of Aurora borrealis which he took in Alaska.

16. The carrot cake at todays meeting was superb! Unanimous opinion.
17. Our next meeting will be held on Friday, October 14, 1994 at St. Anthony Hospital in Conference Room B. And don't forget the picnic before then.

Respectfully submitted,



Michael Cherington, MD  
Chairman, LDC