

Minutes April 10, 1998 **Lightning Data Center** Centura Health-St. Anthony Central

Quote of the Month:

"With a perfect shriek of delight he {Sherlock Holmes}rushed to the box, cut the other pill in two, dissolved it, added milk, and presented it to the terrier. The unfortunate creature's tongue seemed hardly to have been moistened in it before it gave a convulsive shiver in every limb, and lay as rigid and lifeless as if it had been struck by lightning."

Arthur Conan Doyle in *A Study in Scarlet*

1. Meeting began at 11:30 am and adjourned at 2:15 pm.
2. Members present: Breed, Cherington, Clark, Foley, Harty, Hodge, Kamin, Keen, Kithil, Kummerfeldt, London, Myers, Nez, Simmons, Swanson, Smith, Toler, H Wachtel, T Wachtel, Yarnell.
3. I distributed the following articles:
 - a. Chapman S. Emergency use of cellular (mobile) telephones. *Lancet* 1998; 351:650.

"Mobile (cellular) telephones and towers have been accused of causing cancer and increasing car crashes. But might they also save lives by reducing the time it takes for help to arrive in cardiac arrest and serious trauma?... Australia now has 5.1 million mobile telephone users in a population of 18 million... While mobiles may be invaluable in summoning help, in some instances they may also be responsible for placing people in danger."
 - b. Ruaridh P. Struck by lightning. *Reader's Digest* 1998 Mar:150-163.

"We were caught in a storm at 11,000 feet in the French Alps...The area is notorious for electrical storms...Mont Blanc wore an ominous cap of cloud... There was an earsplitting crack, and the air filled with screams...a lightning strike!"
 - c. Sweeney P with reply from Cherington M, Krider EP, Yarnell PR, Breed DW. Bolt from the Blue; lightning Strike to the head. *Correspondence in Neurology* 1998;50:830. This correspondence deals with the origin of the term, "bolt from the blue."
 - d. Holle R, Lopez R, Cobb S. NSSL promotes improvements in lightning education. *NSSL Briefings* 1998;2:1-2. This is an excellent update on matters pertaining to recent developments in lightning research and education.
4. I told the group that I spoke on the phone today with Ms. Kimbra Cutlip of Weatherwise Magazine. She has been in contact with Mary Ann Cooper and Ron Holle about a future issue that has devoted space to lightning matters. All members present today indicated that they would provide input on their areas of expertise if contacted by Weatherwise.
5. Phil Yarnell reported that recently there was a fatal lightning strike to a school girl on a soccer field in Kansas City. The patient is still unconscious several days after the lightning strike. Phil's wife ran across an anecdotal veterinary report in a book

on Farm Animals on the effect of lightning on Holstein cows. The report is included with this mailing.

6. Rich Kithil reported on his research on the annual costs of lightning damage. Rich points out that exact figures are elusive, but he believes the cost exceeds 5 billion dollars per year in the United States. That figure includes: 1 billion in homeowners insurance; 1 billion in damage to power and electrical company equipment; 1 billion in the aircraft industry.

Rich introduced two new members who are affiliated with the Air Force Academy in Colorado Springs: Peter Kummerfeldt who is retired from the U.S. Air Force; and John C. Myers.

Peter gives seminars on Outdoor Safety. He is an instructor in survival techniques. He reported that an Air Force Academy cadet was killed by lightning several years ago. He was found in the vicinity of a single tree.

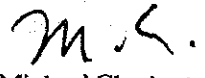
John teaches Air Force Cadets and others how to survive after airplanes are forced to make emergency landings. Because of the danger of lightning, the Air Force began purchasing lightning detection equipment in 1993, in the hope of preventing or reducing the numbers of lightning-related accidents.

7. George Hodge reports that he attended a meeting where it was suggested that 1/3 of damage claims due to lightning are 'fraudulent.' Several members (George, Rich Kithil, Mike Foley) discussed the fact that NLDN may not detect all lightning strikes. They point out that if 20% of lightning strikes are not detected, one cannot conclude that lightning was not a related cause of some damage claims.
8. Howard Wachtel stated that, hypothetically, electric shocks with small amperage (e.g. 1 amp) can be as deadly as exposure to 20 amps. He said that whereas strong lightning strikes can cause cardiac arrest, smaller strikes may result in ventricular fibrillation that can have an even more serious prognosis. Howard points out that there are several factors involved: e.g. the point in the cardiac cycle when the shock is received. Howard said that 1 amp current may have deleterious effects in situations where there is inductive coupling from external magnetic fields.
9. Warren Simmons introduced George Nez. George has been working on building a safe shelter for golf courses. He suggests that acrylic concrete with a fiberglass core might be a useful material. Rich Kithil suggests that overhead shield wires would provide additional protection. On the other hand, he believes there are in existence today several sheds on golf course with 'lightning rods' in place that may not be very safe.
10. Rich Keen has done multiple regression analysis of the data from his Coal Creek Canyon Observation site. He believes there are various factors effecting the number of Thunderstorm days per years. The 3 top factors are: 1) sunspot cycles with a 2 year lags; 2) El Nino; 3) Random - biggest factor. Rich will include these observations in a book that he is writing, Colorado Weather.
11. Tom Wachtel reported that he recently attended the annual meeting of the American Burn Association. The program chair is considering a Plenary Session on lightning. The next ABA meeting will be in Orlando, Fl in the spring of 1999. Several members expressed interest in participating in such a seminar. Rich Kithil

inquired about the availability of travel funds and the possibility of video conferencing. Tom will report back next month about these matters.

- 12. We received a letter from Niolas Floret of France supporting the recently adopted changes in our Mission Statement, and thanking us for sending the minutes each month. He mentioned that Phil Krider wrote a paper about thunderstorms and ski chair lifts. The paper was presented at the 1994 Chamonix meeting on Lightning and Mountains. We had discussed this last month. The consensus at today's meeting was that there were greater hazards getting off the lift than being on it during a lightning storm.
- 13. These minutes reflect the wide ranging and often lively comments of the members present at our monthly meeting. They do not represent stated positions taken by LDC.
- 14. The next meeting will be held at 11:30 am on Friday, May 8, 1998 at the Main Auditorium of Centura Health, St. Anthony Hospital Central.

Respectfully submitted,



Michael Cherington, MD
Chair, LDC Scientific Committee