

Quote of the Month:

"I find the great thing in this world is not so much where we stand, as in what direction we are moving."

Oliver Wendell Holmes

1. Meeting began at 11:30 am and adjourned at 1:45 pm.
 2. Members present: D. Breggin, Cherington, Collier, Enloe, Gustafson, Hodge, Keen, Kithil, Wachter, Yarnell.
 3. New member, Bonnie Enloe, of SAC Continuing Medical Education Department was introduced to the group.
 4. We welcomed Dave Breggin back to our deliberations after an absence of several months. Dave is now employed by AT & T at the Bell Labs. He is a software developer who writes and tests computer programs. Dave reported that his employer was supportive of his involvement with LDC. He suggested that we write a summary of our activities for the AT&T Newsletter. We agreed that Dave, Rich Kithil, and I prepare an article prior to our next meeting. Dave's work phone number is 538-3204. His fax number is 538-5951.
 5. Rich Kithil distributed a news article about a 32 year old woman who was struck by lightning while rappelling on Castle Rock in Moab, Utah. Rich raised several topics for discussion.
 - a. He brought a booklet on the Standards of the NFPA (National Fire Protection Association). The NFPA meets 4 times per year and has asked that we send representatives. Rich indicated that we should study their position papers before we join them. We asked Dave Breggin and George Hodge to study this matter and report to us at the next meeting.
 - b. Rich distributed a pamphlet describing the activities of NLSI (National Lightning Safety Institute). He pointed out the NLSI is a non-profit organization involved in lightning safety awareness and certification programs.
 - c. He reported on the International Aerospace and Ground Conference on Lightning and Static Electricity in Williamsburg, VA. He stated that nearly 10% of the presentations were given by members of the LDC (counting our out of state associates). Those presenting papers included: Rich Collier, Rich Kithil, Ron Holle and Raul Lopez (Norman, OK), and Mary Ann Cooper (Chicago, IL). Rich pointed out that this conference now features presentations on medical and safety matters as well as engineering topics.
 6. Howard Wachtel reported on a meeting where the subject of low frequency EMF and possible link to Alzheimer's Disease and ALS ("Lou Gehrig's disease") were discussed. The people studied were utility workers. Although Howard leans toward the sceptical side of these kinds of studies, he does believe that neurons are more likely to be vulnerable to electrical trauma and glial cells of the brain and central nervous system. I pointed out that in the current issue of Seminars in Neurology there is an article by Sid Deutsch which looks at the controversy of EMF and tumors. I asked Howard about a study which reported an increase in breast cancer in men who work on utility lines. Howard is very familiar with that study and pointed out the people studied were telephone switch operators. The number of cases of breast cancer was very small.
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Howard made the observation that at meetings where these controversies are discussed the participants can often be divided into "believers and non-believers." Dave Breggin mentioned that he would favor cellular phones with antennae exterior to the phone. On the subject of cellular phones, Richard Keen stated that in Australia, it is illegal to drive your car and simultaneously use a cellular phone. Our colleague in Australia, Chris Andrews, who has written on telephone related lightning strikes might tell us more about the Australian laws and cell phones.

- 7. Richard Keen reported that there have been 91 thunderstorm days recorded from the Coal Creek Canyon Station. The yearly average = 87 days. Reporting thunderstorm days has the advantage being able to compare with old historic records. Another way to measure lightning is lightning density = number of strikes per square Km. Richard mentioned that in 1975 he was sitting in a truck that whose antenna was struck by lightning. He was not injured but reports he had a feeling of elation. Several members of the group stated that the glass windows in cars provide little or no protection from electrical current. Nevertheless, we agreed that prudent advice would be to keep the windows closed during storms.

Richard announced that the next meeting of the American Meteorological Society (Boulder chapter) will be at 7 pm on Thursday Nov 2, 1995 at NCAR Mesa Lab in the main auditorium. The subject will be: Storm chasing. People are invited to bring videos, slides, stories of weather related events.

- 8. I reported on two mountain lightning victims. One was written up in a Boulder newspaper. It told of a 29 year old woman, triathlete, who was killed while climbing Mt. Princeton near Buena Vista. The time was near 3:30 pm on a Saturday afternoon. The second victim was a 33 year old man who was killed on August 25 while walking on the Mountain Trail from St. Mary's Glacier at 5:10 pm. His brother and others applied CPR but his cardiac rhythm remained an "asystole". He had burns of the right hip and foot. The Flight for Life team responded to the 911 call but the patient was pronounced dead at 6:30 pm in spite of attempts to resuscitate him.

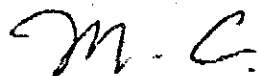
I reported that I received a telephone call from a physician in another state who told me he had a lightning victim patient whose family history includes 6 other members who were struck a different times and at different places. This history sparked a discussion of "cluster reporting" which can be found in other medical conditions.

I asked the members about the hazards of garments made with aluminum shields. Dave Breggin said that these 'space' garments are made with aluminum for two reasons. They function as: a. heat reflectors and b. vapor barrier. Dave said the aluminum is so thin in these garments that its current carrying capacity is low. Finally, I brought a copy of the current issue of Seminars in Neurology on Lightning and Electrical Injuries. Mary Ann Cooper and I are guest editors of this issue.

- 9. Phil Yarnell gave an account of the death of a Boulder professor while fishing on the Big Thompson River according to a newspaper article. Phil stressed that some unexplained deaths in may be the result of a lightning strike. Phil mentioned that he and I will be giving a poster presentation on lightning strikes to the head later this month at the American Neurological Association.

- 10. Rich Collier brought a draft of his manuscript that he and his associates are preparing for publication. The topic is -- Device Assembly Facility Lightning Threat and Immunity Estimates for Nuclear Explosives. Rich also brought the program of the Williamsburg meeting where he presented a paper on Lightning Effects on the Space Shuttle Launch Pad.
- 11. George Hodge reported that he has been working with the Park Rangers at the Chatfield Lake and Park. Several witnesses reported seeing green-blue orbs floating in the vicinity of lightning strikes. They reported seeing a glowing form lasting 2 or 3 minutes after the lightning strike. George brought in for "show and tell" attic insulation material that was "fulgurized" by lightning.
- 12. Next meeting: Friday, November 10, 1995 at St. Anthony Central Hospital in Conference Room C. **Note the new room location: Conference Room C.** This is near our old home room B.

Respectfully submitted,



Michael Cherington, MD
Chairman, LDC