Minutes Lightning Data Center, SAH July 9, 1993

Quote of the month: "Let lightning cleanse this garden of all evil". --- Lawrence Yep

1. Meeting began at 11:30 AM; adjourned 1:10 PM.

2. Members present: Boyson, Cherington, Kithil, Lammerste, Langford, Yarnell.

3. Ruth Smith, secretary of SAH Institutional Review Board spoke about the Board and asked if any of our members might be interested as serving on the Board. Ken Langford indicated that he might be interested.

4. Rich Kithil reported on information regarding types of soil and rocks that might be of interest to those who camp and set tents. He had spoken with a petroleum engineer. Rocks can be divided into 3 categories:
   Metamorphic, magmatic, and sedimentary.
   Metamorphic is highest in mineral content; sedimentary is lowest. All other things being equal one should avoid placing a tent on metamorphic rock.
   Another consideration is the number of sharp points on the rock that might add to the danger during a lightning storm.

   Phil Yarnell spoke to another petroleum engineer who stated that moisture content of the ground was an important factor.

   Ken Langford spokes to a Colorado School of Mines faculty member who stated that clay was more conductive that sand. Ken mentionned that placing a tent near scrub oaks might be safer than other vegetation because of the paucity of points on scrub oaks.

   All agreed that metal tent poles should be avoided. Rich stated that in the future, metal cleats will no longer be used in golf shoes.

   We decided to collect our information on Rocks, Soils, Tents, Camping, etc. and discuss it further at our next meeting. We might provide a service by publishing our thoughts and information. Rich and Ken will do some further research on this subject and report back at our next meeting.

5. Rich also spoke about the Stormaster lightning warning system. He will bring the equipment to the August meeting in order to demonstrate its performance.
   As I understand it, the device can detect the passing of a lightning discharge (530 KC). Ambient conditions = electric field of 150 to 400 V per meter. The device can also measure a possible pre-strike by increasing voltage to 7 KV (range 3 - 12 KV). The device can measure increasing electrical fields at 1KV increments. Cost is about $7000.

   I asked Rich about the various types of lightning detectors now available. Again, as I understand it, these devices measure:
      1. Changes in magnetic fields

2. Changes in light intensity in clouds.
3. Changes in radio frequency.

6. Michael Boyson reported on Data from CHA. For 1992 there were 23 patients hospitalized because of lightning injuries for a total of 38 days (average = 1.34 days) Average cost = $ 3150 which is about the usual cost for that length of time. At University Hospital, the average length of hospitalization was eleven days. This probably reflects more serious complications.

   Michael reported that a new system of coding, E codes = external cause of injury is now being instituted in the hospitals. This should be helpful in finding additional cases of lightning injury that until now are not being reflected in the database. This subject is being studied in the Accuracy Committee.

   I mentionned that the Medical Record Librarians will be able to provide us with much better outpatient data starting in 1994 after the improved coding system is adopted by most hospitals.

7. Ken Langford reported on information he learned after calling officials at Mile Hi Stadium. Apparently, since 1948, there has been only one known strike at that location. That strike hit the scoreboard.

8. Dan Breed sent me a note that he was going to be on vacation during this meeting. Dan did send a recent issue of Newsletter on Atmospheric Electricity which I brought to the meeting for all to read.

9. Next meeting: FRIDAY, the THIRTEENTH, August 13, 1993 at 11:30 am in Conference Room B, St. Anthony Hospital Central. We plan to then move outside with our sandwiches where Rich Kithil will demonstrate the Stormaster.

Respectfully submitted,

Michael Cherington, M.D.
Chairman, LDC