

LIGHTNING DATA CENTER
Minutes
November 11, 2005
St. Anthony Hospital, Denver, CO
www.Stanthonyldc.org

Quote of the Month:

“The nation could never be electrified if a generator had to be installed every three miles from coast to coast. Steinmetz – along with a handful of engineers such as George Westinghouse, Nikola Tesla, and Elihu Thomsom (whose Thomson-Houston Company had become part of General Electric) – was convinced that alternating current would solve the problem.”

Floyd Miller 1966, *The Man Who Tamed Lightning* – Charles Proteus Steinmetz

1. Meeting began at 11:30 am and adjourned at 1:15 pm.
2. Members present: Burrows, Cherington, Davis, Glancy, Gift R, Gift Y, Keen, Langford, McDonough, Mendez, Nibbe, Paton, Stewart, Studebaker, Wachtel, Wells, Yarnell.
3. Ron Holle sent the following article (abstracted in part here):
 - a. Holle RL, Lopez RE, Navarro BC. Deaths, injuries, and damages from lightning in the United States in the 1890s in comparison with the 1990s. J Appl Meteorol 2005;44:1563-73.

“In the case of lightning, the large reduction in both the death rate and absolute number of fatalities over the last century in the United States has been documented the causes for such a large decrease in lightning deaths are primarily due to factors other than improved forecasts or warning-response efforts. A major shift from rural to urban deaths. A large reduction in the number of agricultural and indoors incidents took place from the 1890s to 1990s. Many more cases involve outdoor recreation and sports in the 1990s. Many of the outdoor recreation activities and locations involved fishing, boating and proximity to the beach or water in the 1990s.”

4. Rich Kithil alerted us an article in the Denver (abstracted in part here):
 - a.) Brouillette A. Town baffled by deaths of 22 horses. October 25, 2005.

“Authorities are considering everything from poisonous weeds to a lightning strike to explain two incidents this month that have killed 22 horses and have

resident in the ranching town of Calhan on edge. Investigators said the horses had been dead at least three days and that there was no sign of trauma. A veterinarian called to the scene speculated that because of their proximity to one another and a barbed-wire fence, the animals might have been killed by lightning.”

Al Nibbe stated that toxicology tests are being done and results should be back in two weeks.

5. Don Davis brought a picture he had taken of a tree that had been struck by lightning. The location was the western slope of Colorado near Glenwood Springs. The tree was marked by two longitudinal streaks where the bark had been destroyed. Between these two linear lesions, the bark was not damaged. Don asked the question: “Why?” Rich Keen suggested that electrical currents caused an explosion along the damage areas and there was an implosion at the center. Greg Stewart suggested that 2 channels of sap burned and were responsible for the findings. Don has provided a picture of the tree and it is included with these minutes.

Greg reported that he recently spoke with a representative of a lightning rod protection company who stated that NFPA 780 codes provided evidence that lightning rods were valuable. Phil Yarnell reminded us that, in the past, we have discussed the controversies about lightning rod safety issues. Ken Langford said that lightning rods increase the likelihood that a house would be struck, but a properly installed rod provides a safe path to ground. Tim Studebaker warned that houses with metal roofs should have proper grounding. We plan to invited experts on the subject of lightning rods to speak to us in the future.

Dick Burrows provided some historical insights. He recounted that after the installation of Ben Franklin’s rods in churches, fewer church bell ringers were killed or injured by lightning. I conveyed information from Philip Dray’s book, *Stealing God’s Thunder*. Dray reports that Franklin was involved in a controversy soon after his lightning rods were installed. Some blamed earthquakes on lightning rods.

6. Greg Stewart was our principal speaker. His presentation was outstanding. He spoke on many topics relating to lightning. He brought a videotape about wire triggered lightning, “runaway breakdown,” avalanche of electrons, and cosmic rays in the triggering and evolution of lightning. These new developments are based largely on the research of Joseph Dwyer and Martin Uman in Florida.

Greg, Dick Burrows and their committee have been working on Comprehensive Safety Guidelines (CSG) for outdoor/hiking and camping. Greg provided a detailed outline for LDC members to consider. Bruce Paton suggested that these important guidelines might be submitted to an Outdoors or Wilderness Medicine type publication after they have been reviewed and written in a final form.

Bruce will work with Greg and his committee and bring their report to the meeting in January.

7. These minutes do not represent official positions of LDC or its members. They simply reflect comments made at the meeting.
8. Next meeting: 11:30 am on December 9, 2005 in the Main Auditorium of St. Anthony Central Hospital

Scheduled speaker: James Barron, MD

Topic: TASERS

Respectfully submitted,

Michael Cherington, MD