

June 9, 2000 Minutes  
Lightning Data Center  
Centura Health - St. Anthony Hospital

Quote of the Month:

"You can hear thunder a hundred miles away when you're three holes down with three to play."  
Henry Beard, Mulligan's Laws 1993

a. Meeting began at 11:30 am and adjourned at 1:15 pm.

b. Members present: Anderson, Barron, Bergschneider, Cherington, Collier, Fitch, Foley, Hawkes, Kamin, Larson, McDonough, Padorr, Rand, Sellon, Yarnell.

3. I brought the following articles from the literature (abstracted in part here):

a. Schmid RE. N. M. researches find flaw with Franklin's lightning rod. Denver Post Sunday May 21, 2000, p 6A.

"Among Benjamin Franklin's famous accomplishments was inventing the lightning rod. But a new study says his design was flawed and that the rods work better if they are blunt-tipped instead of being sharp..Rods with blunt, rounded ends worked best, the scientists report in the May 15 issue of Geophysical Research Letters."

b. Hallstrom A, Cobb L, Johnson E, Copass M. Cardiopulmonary resuscitation by chest compression alone or with mouth-to-mouth ventilation. NEJM 2000;342:1546-53.

"The outcome after CPR with chest compression alone is similar to that after chest compression with mouth-to-mouth ventilation, and chest compression alone may be the preferred approach for bystanders inexperienced in CPR."

c. Ewy GA. Cardiopulmonary resuscitation -- strengthening the links in the chain of survival. NEJM 2000;342:1599-1600.

"The use of automatic external defibrillators in locations where there are substantial numbers of people at risk and where paramedics' response times are inappropriately long will improve survival. Long response times are the rule when cardiac arrest occurs in airplanes, airports, ships, and some, if not most large cities, highrise office buildings or apartments, gated communities, golf courses, and gambling casinos."

{These articles on CPR are most interesting, but do not specifically deal with lightning casualties}

4. Russ Fitch provided a most interesting presentation regarding the December 8, 1963 Lightning-related Airplane crash over Elkton, Maryland.

I cannot provide a complete transcription of Russ' excellent talk here. I shall give a brief summary of some of the points he made.

The plane experienced much turbulence on a trip from Baltimore to Washington, DC. Eighty-one passengers were killed. Prior to the investigation into the crash, it was thought that either turbulence or lightning was responsible for the crash. There were more than 100 witnesses. At the time, Russ worked for the Atlantic Research Corporation. They were able to find a large portion of the left wing and that

was sent to FAA. Sings marks were found on the vents on the fuel tanks. As a result of these studies, the research group made recommendations to NASA, including: NASA not use 100% oxygen for life support on aircraft. Instead a mixture of gases are employed.

Mike Foley remarked that modern commercial aircraft are more likely, and perhaps better able, to avoid storms.

5. Phil Yarnell commented that many people involved in lightning events, including those in airplanes, have remarked that there was an odor of ozone. Leland Anderson stated that ozone can be associated with sustained electrical discharges. Rich Collier stated that coronal discharges seen in the fuselage of airplanes are the result of a plasma effect.

Jeff Sellon said that fuel tanks are designed so that there are no static charges inside.

Jim Barron spoke about ruptured tympanic membranes associated with thunderstorms. He likened the negative pressure differential to the sudden appearance of a vacuum near the ear. Jim also mentioned that he had purchased a lightning detector model called Strike Alert. This hand held unit has a visual display that warns of possible impending storm activity and the if the activity is approaching the unit or moving away.

6. Phil Yarnell presented a case of a truck driver whose 18 wheel truck was hit by lightning. The patient was hit by lightning that presumably entered the truck via CB radio antennae and cable route.

7. Barry Kamin reported that Centura Health was preparing a Banner of the LDC logo (includes symbols of lightning, medicine, meteorology, and engineering).

8. We were happy to have two guests from Fox 31 KDVR at our meeting today. They are journalists: Sari Padorr and Kevin Rand.

9. These minutes reflect the comments of members present and do not represent official positions of LDC.

10. Next meeting: Friday, July 14, 2000 at 11:30 am in the Main Auditorium of St. Anthony Central Hospital.

Happy Fourth of July!!

Respectfully submitted,

Michael Cherington, MD  
Chair, Scientific Committee, LDC