

Quote of the Month:

“The ominous gray form of an approaching thunderstorm had been looming to the west from the moment we sat down on the restaurant patio...Seconds later, the first sharp crack of lightning made it difficult for me think. A second brilliant flash preceded a roaring clap of thunder by only seconds...The rest of the patio patrons had already scurried inside..I said ‘Are you sure you don’t want to go inside? We can watch the storm from there.’ ‘People say these things pass in minutes most of the time in Colorado... How many people actually get struck by lightning anyway?...most people had the good sense to go indoors when lightning was illuminating their faces...I figured that of the remaining few--those who insisted on remaining outside during thunderstorms--a reasonably high percentage was actually struck by lightning.”

Stephen White in *Manner of Death*, 1999

1. Meeting began at 11:30 am and adjourned at 1:45 pm.
2. Members present: Cherington, Collier, Glancy, Kamin, Lines, Sellen, Stoltz, Swanson, Yarnell.
3. Here we are meeting on Friday the thirteenth. As Rich Keen has reminded us on past occasions, when there is a Friday the thirteenth, the LDC is most likely to be in session. This particular Friday the 13th is the last one of this century.
4. I brought the following articles (abstracted in part here):

This first article is from Essex and Plymouth England.

a.) Fahmy FS, Brinsden MD, Smith J, Frame JD. Lightning: the multisystem group injuries. *J Trauma* 1999;46:937-40.

“On September 2, 1995, a group of children were playing football when it started raining heavily and severe thunderstorms were heard. The children...gathered with their parents under trees... A single lightning bolt hit 17 people. Six of the 17 patients recovered and were discharged from the..emergency department, and 11 were admitted for further treatment...Ten of the 11 patients sustained burns...Four of the 11 patients suffered cardiopulmonary arrest. These patients were successfully resuscitated...Keraunoparalysis occurred in the lower extremities of six patients..Six patients experienced loss of consciousness for periods of up to 1 hour...One patient suffered a ruptured tympanic membrane.”

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b.) Milzman DP, Moskowitz L, Hardel M. Lightning strikes at mass gathering. *South Med J* 1999;92:708-10.

“A 25 year old woman attending a sold-out concert (>60,000 people) at Robert F. Kennedy Stadium..was struck by lightning while in her seat talking on a cellular telephone...Less than 60 seconds later, a bystander initiated CPR when he found her to be in cardiopulmonary arrest...It was approximately 10 minutes from the time of the lightning strike to the time the victim arrived at the emergency department...After a short period of chest compressions, the victim resumed a pulse on her own, exemplifying that defibrillation or anti-arrhythmic therapy is rarely necessary after intubation...An important point to remember..is not to attempt cardioversion on a soaking wet patient..The victim should be rushed to a secure dry area and have wet clothing removed so that defibrillation can proceed quickly under safe conditions.”

This article sparked a discussion among the group about what can happen if the defibrillator is used on a soaking wet patient. Will the current travel on the surface of the skin? Can it cause a burn? Can the person providing the help receive a shock? As in the past, we invite comments from all members who read these minutes.

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This next article is an exceptional one that I believe will be of interest to many of us.

c.) Witelson SF, Kigar DS, Harvey T. The exceptional brain of Albert Einstein. *Lancet* 1999;353:2149-53.

“Albert Einstein is one of the intellectual giants of recorded history, and the preservation of his brain provides the possibility of an important case study. Since Einstein’s death, there has been no report of the gross anatomy of his brain. Here we present the first such study...Direct caliper measurements were made both from Einstein’s brain and from the control brains...A unique morphological feature is visible in the lateral surface of each hemisphere..namely, the posterior ascending branch of the Sylvian fissure is confluent with the postcentral sulcus..There is no parietal operculum (the anterior part of the supramarginal gyrus)..This morphology found in each of Einstein’s hemispheres was not seen in any hemisphere of the 35 control male brains or of the 56 female brains...The compactness of Einstein’s supramarginal gyrus..may reflect an extraordinarily large expanse of highly integrated cortex within a functional network...This notion could be consistent with Cajal’s speculation that variation in axonal connectivity may be a neuronal correlate of intelligence...Increased expansion of the inferior parietal region was also noted in other physicists and mathematicians...Gauss and..Siljeström..{had} extensive development of the inferior parietal regions, including the supramarginal gyri.”

5. Carl Swanson reported that so far this year, there have been 7 fatalities and 17 injuries attributed to lightning strikes this year in Colorado. Bob Glancy reminded us that the annual average fatality number is 3. Carl suggested that the increase in these tragedies may reflect that growing population in our state.
6. Phil Yarnell reported having seen a patient who was probably struck by lightning. She reported seeing a bright light and hearing a loud noise just prior to the event. Phil asked if an exploding transformer could produce these same conditions: e.g. bright light and exploding noise. Jeff Sellen stated that an exploding transformer could do that. He indicated that GAI data might be helpful in proving that lightning was the real culprit.
7. Rich Collier reported that he has been working the Nuclear Safety Board as a result of earlier communications via LDC.
8. Bob Glancy recently returned from Iowa. He told us that the National Scientific Balloon Facility, funded by NASA, is conducting experiments on sprites from altitudes of about 140,000 feet.
9. Gene Lines and Jeff Sellen provided a brief but excellent presentation on: Lightning Protection, Detection, and Surge Protection for the average homeowner.
10. Gene provided us with information on Ball Lightning that he obtained from an internet search. He pointed out that Ball Lightning is a plasma charge and it differs from St. Elmo's fire (SEF). SEF is a charge from a fixed object.
11. These minutes reflect the comments of the members present and do not represent official positions of the LDC.
12. Next meeting: Friday September 10, 1999 at 11:30 am in the Main Auditorium of St. Anthony Central Hospital.

Respectfully submitted,

Michael Cherington, MD
Chair, LDC Scientific Committee