

Sept. 11, 1998 Minutes **Lightning Data Center Centura Health-St. Anthony Hospital**

Quote of the Month:

Clouds are the environment of lightning. A precursor of an active thundercloud is the *cumulus congestus*. It typically evolves into a *cumulonimbus*, the upper part of which often develops into the shape of an anvil.... Some thunderclouds form along an extensive system called a "squall line," over or ahead of a cold front which wedges itself under a mass of warm, moist air. This condition gives rise to a whole string of thunderstorms -- often severe storms -- which can extend across land and sea for over 100 kilometers. Such storm systems frequently develop in the central part of the United States during spring and summer and are typically accompanied by devastating tornadoes and crushing hail as well as lightning."

Leon E. Salanave, 1980 in Lightning and its Spectrum

1. Meeting began at 11:30 am and adjourned at 1:15 pm.
2. Members present: Blanke, Cherington, Clark, Foley, Glancy, Hasty, Kamin, Langford, Smith, Swanson, Toler, Yarnell.
3. I brought copies of the following articles to the meeting (Parts of these articles are abstracted):

a. Lightning injury causing prolongation of the Q-T interval. by ABD Palmer *Postgrad Med J* 1987;63:891-4.

"While playing football a 39 year old man was struck by lightning...there was a burn down the left side of his neck, and exit burns on the right palm and sole of his right foot. The left eardrum was perforated...Electrocardiogram on admission revealed... the Q-T interval was slightly prolonged ($Q_{tc} = 0.46$ s)...Two days later...there was a markedly prolonged Q-T interval ($Q_{tc} = 0.68$ s)... One month later...T-wave changes had returned to normal ($Q_{tc} = 0.41$ s)."

"It is well recognized that prolongation of the Q-T interval is associated with an increased risk of re-entry tachycardia, ventricular fibrillation and sudden death. We would therefore recommend ...continuous ECG monitoring until such Q-T prolongation has normalized."

b. Changes in the Number of Lightning Deaths in the United States during the Twentieth Century. by RE Lopez and RL Holle. *J Climate* 1998;11:2070-7.

"Lopez and Holle (1996) have examined the long-term fluctuations in the numbers of lightning deaths and injuries from 1959 to 1990 for the contiguous United States...They found an overall trend amounting to a 30% reduction in casualties...The data...covered only one-third of the century. The authors used information obtained only from *Storm Data*... It would be more desirable to use a longer and more reliable record of lightning casualties...to study long-term trends and fluctuations...The existence of such a record has recently come to our attention. It provides reliable lightning deaths statistics for 92 years...Annual death statistics have been compiled and published by the federal government since 1900 with lightning as one of the causes of death. The Bureau of the Census established a national registration area for deaths...The downward trend in deaths resulted to a

large extent from a migration of people from rural to urban areas."

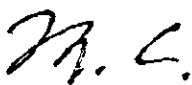
4. Two of our Lightning Photographers provided us with recently captured photos and videos of lightning phenomena. Carl Swanson brought a videotape that shows the propagation of a stepped leader before it connected with an upward streamer. He estimates that each frame on this video had a duration of 1/60 second. Gunnar Blanke reminded us that stepped leaders are also seen on the Discovery Channel program, "Raging Planet."

Ken Langford then showed us slides of lightning strikes taken in Oklahoma. His photograph revealed 4 distinct ribbon like channels a different places along the lightning strike.

5. Phil Yarnell and Rick Smith discussed the importance of obtaining second medical opinions for patients who continue to have signs and symptoms following lightning injuries. They stressed that some of these patients may have unrelated conditions that might be responsible for the signs and symptoms. Ken Langford and Steve Clark commented that much of information is based on anecdotal and empirical evidence that is often insufficient to prove a hypothesis. All agreed that second opinions and support groups can be beneficial to many patients.
6. Mike Foley brought a mystery book entitled - "Obstruction of Justice" by Perri O'Shaunassey. The novel deals with triggered lightning. It was published in 1997 by Dell Publishers.
7. Cheryl Toler reminded us that next month our meeting will be held on the first Friday instead of our usual second Friday time. The meeting will be held on October 2, 1998. She will attach a reminder with these minutes.
8. Barry Kamin reported that our Web Site should be online soon. It will be linked to other related sites with an appropriate disclaimer.
9. Carl Swanson commented that he is often asked: what is the best lightning detector? This lead to a discussion by members of the group with no one product identified as "the best." Ken Langford suggested that the combination of watching the skies and listening to static on an AM radio works for him. Gunnar Blanke said that the "Little League" football organization that he is associated with uses a detector that monitors EMFs.
10. Ken Langford, Barry Kamin, Mike Foley, Phil Yarnell, and Rick Smith will review our patient questionnaire form and make any need changes. This form will be available to readers of our Web Site.
11. These minutes reflect the comments of the members present and do not represent positions of LDC.
12. Because our meeting site will not be available at our usual time next month, we must **change** our customary schedule so that we will meet on the **FIRST Friday** of October **instead** of the second Friday.

Next meeting: Friday, **OCTOBER 2** at 11:30 am in the Main Auditorium of St. Anthony Central Hospital.

Respectfully submitted,



Michael Cherington, MD
Chair, LDC Scientific Committee

LDC

NOTICE FOR CHANGE OF DATE
FOR OCTOBER MEETING ONLY:

FRIDAY
OCTOBER 2, 1998
11:30
Auditorium