

**LIGHTNING DATA CENTER
MINUTES
JUNE 12, 2009
ST. ANTHONY CENTRAL HOSPITAL, DENVER, CO
www.stanthonyldc.org**

Monthly Quote: "Neither snow, nor rain, nor heat, nor gloom of night stays these courageous couriers from the swift completion of their appointed rounds." This phrase was originally spoken about 2500 years ago by the Greek historian, Herodotus. He said this adage during the war between the Greeks and Persians about 500 B.C. in reference to the Persian mounted postal couriers whom he observed and held in high esteem. On the web at: http://www.phrases.org.uk/bulletin_board/50/messages/261.html

1. Meeting began at 11:50 AM and adjourned at 1:10 PM.
2. Members present: Yarnell, Wells, Burrows, Stewart, Swanson, Gift, Cui-Gift, Elder, Clark, Langford. Stewart moderated the meeting.
3. Greg Stewart presented the following items to the group:

Sue Wiggins is recovering from hip replacement surgery and is doing fine.

Greg addressed an e-mail discussion focused on lightning and hail formation. In general, lightning can form in storms that do not produce hail; but it is highly unlikely for a hail-producing storm to NOT have lightning. Because hailstorms have tremendous updrafts which carry the hail and ice upwards into the cloud, these conditions are believed to contribute to cloud electrification. Recent lightning storms in Colorado, California, Oregon, and Ohio all coincided with hail formation.

During summer months lightning hazard spikes. Higher flash rates and more folks outside lead to more incidents. On June 11, the day before our meeting, an Indiana boy was struck and killed while walking toward a car with his father.

The National Weather Service (NWS) has this year's Lightning Awareness Week starting on Sunday, June 21 through Saturday, June 27. The NWS Lightning Safety webpage, as of the start of this month's meeting, noted that 12 people have been killed by lightning so far in 2009. Twenty eight people died due to lightning strikes in 2008. It is thought this number of fatalities is relatively low.

Greg also presented Michael Utley's (struckbylightning.org) Incident Data page to the group as a guide for incident reports. Karen Wells mentioned the possibility of using this information to construct a larger, more comprehensive lightning strike database, which would include more extensive medical and lightning data.

4. The question has been raised: Why should the LDC implement a safety poster for hiking trails? In a Science Daily article entitled “Lightning Strikes Deadliest in Summer”, Dr. Mary Ann Cooper (professor of emergency medicine and director of the lightning injury research program, University of Illinois) emphasizes the hazard and the clear need for public education. Most people seriously underestimate the risk of being struck by lightning and do not know when or where to take shelter. Dr. Cooper: “Decisions about lightning safety must be made by the individual, but **education can help people reduce their chances of being struck by lightning.**” (Link to the article: <http://www.sciencedaily.com/releases/2007/06/070627135401>)
Greg commented that some people may not know to look for information from the Weather Service or NLSI, but a clear and concise reminder at the trailhead could be just enough to heighten public awareness in the field.
5. Phil Yarnell mentioned a rather bizarre lightning survivor story from a book entitled: Musicophila: Tales of Music and the Brain, written by a neurologist named Oliver Sacks. A 42-year old man was on a pay phone when he was hit by lightning through the phone. He fell backwards, then forwards, or so he thought. He saw a bluish-white light and was in a zone of pure thought – even ecstasy – then WHAM! He was back in his physical body and knew it because of the pain. It appears he had a near-death and/or out-of-body experience. After the strike, he was physically sluggish and had memory problems. Tests using EEG and MRI found nothing wrong. Two weeks later, the memory issues cleared up. In 2006, he developed an insatiable desire to listen to piano music, especially Chopin. He started hearing music in his head and ultimately taught himself the piano. Playing the piano became a total obsession. Prior to the strike, this fellow listened to mostly rock music and was not religiously observant. Following the strike, he became very spiritual and thinks his life was spared for one purpose – to play music. He went on to build a library, which contains, among other things, materials about Nikola Tesla. Later on, he went through a divorce and was in a motorcycle accident. These setbacks did not deter him from his music. More info on the web at: www.oliversacks.com/musicophila.htm
6. Karen Wells mentioned a book entitled: Bolt From the Blue: A History of Lightning: Science, Superstition, and Amazing Stories of Survival, written by John S. Friedman. It contains stories of lightning survivors, and gives mention of Drs. Cherington, Yarnell, Wachtel, and Mary Ann Cooper; as well as the LDC, in a chapter entitled “Medical Detectives”.
7. Dick burrows brought in an article entitled “When Lightning Roars, Go Indoors” from the Summer 2009 edition of Trails and Timberline magazine, a publication of the Colorado Mountain Club. The article notes that lightning can strike up to 5 miles away and also refers to the 30/30 rule. This led to a discussion of lightning safety while hiking. Most agreed that the 5-mile limit is too close and that the 30/30 rule is outdated, but no one was willing to propose a new time limit for resuming outdoor activities. Perhaps our satellite members would like to offer any new opinions on the most effective safety policy. The Science Daily article stated roughly: 1. Know that there is a risk, 2. Know the nature of the risk, and 3. Know when and where to take shelter. It also refers to a 30-minute wait before returning to outdoor activity. Dick reminded us we can’t always see approaching dark clouds in the mountains. Ken suggested using an AM radio tuned to static

as an early detection device. Based on generalized timing of summer storms, Greg suggested that hikers might reduce risk by heeding the advice: start early to finish early. The CMC article can be found on pdf page 11 via the following URL: <http://www.cmc.org/Upload/ArticlesDirectory/20.pdf>

8. Carl Swanson discussed the controversy between two groups – Electric shock patients vs. Lightning strike patients. There appears to be a split developing between the two groups within the ranks of the Lightning Strike and Electric Shock Survivors International group. Apparently some believe that these two groups are so different in their physical sequale that it makes no sense to study their physical impacts together. Phil Yarnell said that the neuropsychological symptoms are often very similar. Ken Langford suggested that for the latter reason it was still of value for the two groups to associate. Since each class is so small and specialized to begin with, there is still value to combining their interests for healthcare advocacy, for instance. Also, there seems to be almost a class distinction between the two groups. It was suggested that maybe the lightning strike patients had an element of glamour associated with their injury, since very few are struck by lightning, but many more have felt an electric shock. Our guest, a lightning strike patient, said that electric shock patients were always amazed and appreciative that he is willing to listen to their stories, because others are often dismissive.
9. Our featured guest this month was a former postal carrier back in August 2002 and is now a lightning strike survivor. After personally witnessing three lightning sparked fires *that day*, he was struck while finishing his first route of the day near a block of 36 mailboxes. Amazingly, he finished his route, and was given another one! He was soon relieved of his duties when he was observed to be performing inefficiently.

He describes the strike as “within 15” of my heel, after which it propagated upwards.” His memory of the incident is spotty, but he told us he remembers being on his hands and knees after the strike, before then continuing his route (which he does not remember). When he returned to the office, coworkers observed his appearance to be “weird,” with hair and skin abnormalities. After he was pulled off his second route, it was discovered that the tops of his shoes were still on his feet, but the rubber bottoms were fully melted off.

When he saw his wife later, she told him that at the moment he was being struck, their young daughter (who was approximately 4 miles away and out of sight) said: “Daddy just got hit by lightning.” The wife and daughter noted that he smelled like he was burning when they saw him that afternoon.

Amazingly, he did not seek medical treatment until the next day, when his boss told him that if he wanted his care to be covered by workman’s comp, he needed to see a doctor right away. He said: “Something is not right – go see a doctor.” EEG and MRI tests did not reveal any abnormality. The strike had been on a Monday. On Thursday, he passed out and was taken to the emergency room.

Consequences:

Was accused of feigning disability.
Was fired from his job while on disability. Reports this to be a blessing.

Immediate Symptoms:

Burned skin smell.

Metallic taste.

Tinnitus: "Both ears sounded like a bowl of Rice Krispies for a few weeks."

Persisting Symptoms:

Headaches 24 hours a day (still, after 7 years), and no treatments have fully worked.

Sometimes unable to function for whole days.

Amnesia from around the time of the incident.

Seizures, but these have been successfully treated. Recently began driving again.

Reduced motivation.

Shaking.

Temperature fluctuations.

Goose bumps.

Sleep apnea – never feels rested.

Does not achieve REM sleep, according to two sleep studies.

He reported no numbness, then or now. He is not anxious around thunder and lightning, but takes lightning safety very seriously.

Our guest came to us via Dick Burrows, whose wife is associated with an English Handbell Ringers group. Part of our patient's therapy has been to play the guitar at church, and he reports occasional trance-like episodes where his playing appears to be beyond his normal capabilities. More than one of us thought this sounded like a case for Oliver Sachs. This case and Phil's presentation hint that there may be other cases of lightning-inspired musical talent.

Our patient was asked if he was aware of any safety policy for letter carriers. He said the policy is "finish the route." This is despite the existence of letter carrier unions. A review of available USPS publications on the web reveals no policy concerning lightning safety and employee outdoor activity.

He also suggested that if we were serious about lightning safety, we should "teach it in elementary schools." This sentiment is also echoed by Mary Ann Cooper in the article referenced above.

10. These minutes do not represent official positions of LDC or its members. They simply reflect the comments made at the meeting.

11. Next meeting: Friday, July 10, 2009 at 11:45 AM in the Main Auditorium of St. Anthony Central Hospital. Subject/Speaker: Speaker, TBA.

Respectfully Submitted,

Steven E. Clark, Consulting Meteorologist

P.S. – Thanks to Greg and Ken for their assistance with these minutes! S.C.