

LIGHTNING DATA CENTER MINUTES
August 14, 2015
ST. ANTHONY HOSPITAL WEST, LAKEWOOD, CO

Monthly Quote: “Whenever the lightning came down, it got her, and she just tensed up, and she was like: ‘I can’t move,’ [SIC]. From the sister of a pregnant woman struck by lightning while water tubing in a river during a storm. “Pregnant Woman Okay After Lightning Shocks Tummy in River”. WRAL-TV, as cited in CBS 10 News Tampa. July 20, 2015. Link: <http://www.wtsp.com/story/weather/2015/07/20/pregnant-woman-okay-after-lightning-shocks-tummy-in-river/30403719/>

1. Meeting began at 11:55 AM and adjourned at 1:10 PM. Members Present: Clark, Yarnell, Claus, Johnson, Wells, Nibbe, Elder, Maronick, Cui-Gift, Gift, Swanson, Madayg and Stemple. Clark moderated.
2. Steve Clark received an e-mail about a lightning strike in the UK. A young couple was hit while holding hands. The strike attached onto or near the man’s head and emerged near the woman’s feet, apparently crossing through the hands. The medical person involved said they did not die because they were holding hands and thus spread the charge through the two of them, instead of just one. The group generally disagreed with the idea of holding hands reducing the intensity of the strike. Not enough is known about the extent of their injuries or about the nature of the strike, e.g. direct strike vs. side-flash. Carl Swanson recommended we discuss this with Professor Elsom. UPDATE: Since the meeting, Professor Elsom found the incident occurred in California and had been picked up by British media. He also John Jensenius had been interviewed about the case. A link to John's interview a given below.
3. Carl Swanson gave us a year-to-date update on lightning statistics from his data collection project in Colorado. So far, he reports 37 people have been struck and there has been one fatality. This is the most people struck in the last 35 years. Curran, et.al. (1997) reported for Colorado, 85 casualties during the 1960s and 60 casualties in the 1970s. Carl says the casualties this year could be the largest in the last 55 years, but since the data from the 60s and 70s were listed by the decade, he cannot say that with any certainty.
4. Phil Yarnell presented a patient struck by lightning while pruning trees on his property for fire mitigation. The man said the day did not look stormy. He had just finished his pruning, pruning the limbs to just above the height of his head. His dog, a black lab, was next to him. Lightning struck the tree and hit him, knocking him down to the ground, face up. The dog died and the man was unconscious and in cardiac and respiratory arrest for about 8 minutes, before his wife came to administer CPR. She saw his face was covered by dirt and tree debris and she performed compressions and breathing on him for about 10 minutes, then left to seek help from neighbors, who called 911. Shortly after returning to her husband, he began gasping for air and later began breathing more normally and was able to sit up. He had burn marks on his head, the back of his

arms and down his left side. No ferning was observed. He smelled burned. His hat and shirt were shredded. He had been wearing gardening gloves. The right glove was torn almost completely down one side of the glove along the seam. The left glove held together, but there were holes in each of the fingertips. He has largely recovered from the strike, but reports pain in his fingers and arms, especially the little fingers, in the evening before bedtime. He rates the pain at 6 to 8 on a scale of 10. He has had some loss of sleep since the strike, roughly 4.5 to 5 hours following the strike versus about 7 hours prior to the strike. His left eardrum was ruptured and he has trouble with his hearing in that ear.

Phil said the National Geographic Channel was interested in profiling this case for one of their documentaries. The family has agreed. It is unknown when the documentary will air.

The ER doctor who saw the patient at the hospital said if he had not been notified the patient was hit by lightning, the patient most likely would have been classified under some other medical issue such as sunburn and/or cardiac arrest and not as a lightning strike patient.

Finally, the family has explicitly asked me to publish their names and contact information, as follows: Jerry and Cora Jean Leenheer; P: 303-278-0377; E-mail: leenheerhere@gmail.com. The family wants LDC members to come forward with any information and questions they might have. To that end, Carl Swanson will visit the site to gather more details.

5. The lightning strike patient featured in the November 2014 and January 2015 minutes came to this meeting and provided some updated information. Her dog barks during storms, apparently wanting out of the house. When lightning is present, the patient feels jumpy and twitches. She is still dealing with cognitive, neurological, cardiovascular and circulatory issues from the strike and is taking a combination of traditional medication and dietary supplements to address these issues. She has not been back to the crystal shop she visited back in December 2014, which caused her to uncontrollably shake. When she went to the doctor three days after the strike, the treating doctor listed her ailment as altitude sickness, which she knew was wrong, as she has lived at altitude for 35 years.
6. Steve Clark said here in this meeting were two patients, one who was initially misdiagnosed as altitude sickness and the other who could have been misdiagnosed, had the ER doctor not been advised the patient was a lightning strike patient. Clark wondered if it might be feasible to have medical providers in Colorado refer lightning strike patients to the LDC, so physicians associated with the LDC can then guide the patient through a more appropriate treatment plan. The ER doctor agreed with the idea and will look into it.

7. Last month's meeting was profiled in *The Front Porch*, a community newspaper serving neighborhoods in east and northeast Denver. See the link below.
8. I had the good fortune of being interviewed by Allen Best, a reporter who writes for several newspapers in mountain communities throughout the Rocky Mountain West. For the most part, the interview went quite well. When asked about the relative paucity of lightning along the west coast, I provided a poor set of answers because I spoke before thinking through the question. So here, I will list some of the reasons why lightning is less frequent along the west coast and correct a second error.
 - The Alaskan Current, the ocean current, which runs north to south along the west coast, will tend to inhibit thunderstorms along the coast, as the water tends to be cooler than the air above and will reduce the buoyancy of that air.
 - Warm, moist air at low levels is not as abundant in parts of the Pacific Northwest due to mountainous terrain.
 - The relative lack of warm, moist air at low levels will tend to reduce the vertical instability of the atmosphere, and will therefore tend to reduce the frequency of lightning.
 - I cited a lightning fatality on a California beach, which happened "several years ago". The fatality actually happened in 2014.

The articles can be found below.

9. Questions, comments, notification of errors, and critiques of these minutes are welcome. Please forward those to Steve Clark at: sclarktoto@gmail.com. Please keep your communications professional and respectful. Communications will be forwarded to the appropriate author(s) of the minutes and addressed accordingly.
10. LDC Disclaimer: These minutes do not represent official positions of the LDC or its members. They simply reflect the comments made at the meeting. Furthermore, the LDC does not implicitly or explicitly recommend or endorse any product or service. Any product or service presented in these minutes is done so for purposes of discussion and analysis. The merit (or lack thereof) is open for the consideration and review by the entire membership.
11. Next meeting: Friday, September 11, 2015 at 11:45 AM at St. Anthony Hospital West. Conference Room TBA.

Respectfully Submitted,
Steven E. Clark, Consulting Meteorologist

Lightning Links

This is a monthly listing of periodicals, websites, and videos about lightning and allied areas from a variety of sources. A headline or description is listed, followed by the link. Please note that some of the links are perishable, which means you'll need to go to the source for the information.

Curran, E.B., R. Holle, and R. Lopez. 1997. *Lightning Fatalities, Injuries and Damages in the United States, 1959-1994*. NOAA Technical Memorandum NWS SR-193, National Severe Storms Laboratory, Norman, OK. October 1997. page 35.

2015. Lightning Strike Kills Hiker on Mt. Yale. *The Chaffee County Times*. July 18, 2015. Link: http://www.chaffeecountytimes.com/free_content/lightning-strike-kills-hiker-on-mount-yale/article_df775a0e-2d8b-11e5-bd13-4f6d376d9beb.html

Fay, S. 2015. Lightning Strike Reminds Family to Be Cautious. *The Chaffee County Times*. July 31, 2014. Link: http://www.chaffeecountytimes.com/free_content/lightning-strike-reminds-family-to-be-cautious/article_a1606518-18ff-11e4-adc1-001a4bcf6878.html

Nussbaum, M. 2015. Four Minors Injured in Lightning Strike at Del Mar Pool in Aurora. July 18, 2015. Link: http://www.denverpost.com/news/ci_28504888/four-minors-injured-in-lightning-strike-at-del-mar-pool-in-aurora

Contreras, O. 2015. Lightning Strikes in Aurora's Del Mar Park, 6 Patients with Minor Injuries. July 18, 2015. *thedenverchannel.com*. Link: <http://www.thedenverchannel.com/news/local-news/lightning-strikes-in-auroras-del-mar-park-6-patients-with-minor-injuries>

2015. Wife Saves Husband's Life After Lightning Strike. 'I Thought I was a Widow'. *CBS Denver*. July 17, 2015. Link: <http://denver.cbslocal.com/2015/07/17/wife-saves-husbands-life-after-lightning-strike-i-thought-i-was-a-widow/>

2015. Wife of Motorcyclist Who Survived Lightning Strike & Crash Says “It’s A Miracle”. *CBS Denver*. August 17, 2015. Link:

<http://denver.cbslocal.com/2015/08/17/wife-of-motorcyclist-who-survived-lightning-strike-says-its-a-miracle/>

Schroeder, M. 2015. Lightning: It’s No Laughing Matter. *Front Porch*.

August 1, 2015. Link: <http://frontporchstapleton.com/article/lightning-laughing-matter/>

Best, A. 2015. Anatomy of Lightning Strikes: When Lightning Strikes in Mountainous Places. *Mountain Town News*. July 23, 2015. Link:

<http://mountaintownnews.net/2015/07/23/anatomy-of-lightning-strikes/>

Best, A. 2015. When Lightning Strikes Above Treeline. *The Durango Telegraph*. July

23, 2015. Link: <http://www.durangotelegraph.com/index.cfm/archives/2015/july-23-2015/news/mountain-exchange/>

Best, A. 2015. Mountain News: When Lightning Strikes the Mountains. *Pique*. July

23, 2015. Link: <http://www.piquenewsmagazine.com/whistler/mountain-news-when-lightning-strikes-the-mountains/Content?oid=2665989>

Marcus, B. 2015. When Lightning Strikes: Did Holding Hands Save a Couple's Life?

Healthzette. Link: <http://www.lifezette.com/healthzette/when-lightning-strikes/>