

**LIGHTNING DATA CENTER MINUTES**  
**November 9, 2012**  
**ST. ANTHONY HOSPITAL WEST, LAKEWOOD, CO**  
**On the Web at: [www.stanthonyhosp.org/ldc](http://www.stanthonyhosp.org/ldc)**

Monthly Quote: “It was amazing how far diagonally it stretched,’...’You expect it to go straight down and not meander so far”. Daniel Thralow of Duluth, MN, commenting on a time-lapse video of the lightning, looking towards the area where a boy was killed. Duluth News-Tribune, August 20, 2012.

1. The meeting began at 11:50 AM and adjourned at 1:15 PM. Members present: Clark, Elder, Claus, Wells, Langford, Cushing, Davis, Condon, Kithil, Stewart, Gift, Cui-Gift, Cherington, Yarnell, Wachtel, and Hibshman. Clark moderated the meeting.
  
2. Phil Yarnell came in with the lightning stricken patient, whose case was presented last month. As noted previously, the man was near his vehicle when he was struck by lightning. He was standing on a gravel surface that was wet. Furthermore, it was raining hard and his clothes were wet. The patient showed us the burn marks on his chest and on his right leg. Burn marks suggest a path starting at his left shoulder, down the front of his chest and continuing down through his right leg. Burns covered about 15% of his body, of which, most were 2<sup>nd</sup> degree burns. Skin grafts were done, but only over about 2% of the burn area. Patient said there were holes in his shoes, which were leather-topped with black soles. His greatest complaint is his left leg and difficulty walking. Sometimes the leg hurts or goes numb. Patient sometimes cannot tell where his feet are and has to concentrate when he walks. Presently, he walks with a wide-based, ataxic gait. Occasionally, there is a sensation of nails in the foot. Phil said rubbing the bottoms of patient's feet causes great discomfort. Patient says he sleeps okay, but adjusts his position to make his leg more comfortable. Patient has little to no recall of the 2-hour period prior to the strike, or of what happened for approximately two days following. He did have some recall of being in the ER room, with bright lights above him and people standing around him, but that's about he could remember immediately after the strike. Patient can close his eyes while standing and keep his balance for only about two minutes or so before he loses his balance. Patient also has numbness in his arm and left hand. Patient reported his brain feels unaffected.
  
3. Dr. Chris Davis and Dr. Tracy gave us a talk on the paper they collaborated on titled “Wilderness Medical Society Practice Guidelines for the Prevention and Treatment of Lightning Injuries”. The Pubmed database was searched for articles about lightning injury and fatality case studies. Lightning safety guidelines and treatment modalities from these articles were evaluated for their relative effectiveness and assigned rating numbers, using the ratings from the American College of Chest Physicians (ACCP). The ACCP ratings were used for two reasons. First, they tend to be somewhat more intuitive than other medical rating

methods, and second, this rating methodology was previously used by the Wilderness Medical Society (WMS) to adopt guidelines for frostbite and high-altitude sickness. Fifteen months of work went into this paper, culminating when the group met at Snowmass resort in Colorado to finalize the ratings.

In this talk, Dr. Davis solicited attendees' opinions on several items, three of which are discussed below.

First, Chris and Tracy wanted to know if Table 2 in their paper, "High-risk indicators in lightning strike victims" should be added to or subtracted from. While no changes were suggested, Ken Langford wondered if loss of motor functions should be included. According to Chris and Tracy, motor function fall under the heading of "Focal neurologic complaint", which is already in the table.

Second, a slide was shown from Rich Kithil's National Lightning Safety Institute, which rates the effectiveness of lightning detection equipment, and in particular, hand-held devices that can be taken in the field. Dr. Davis wanted to know how effective these devices would be in the field. Rich stated generally that he would not rely upon the manufacturers' claims, as he has found those claims to be highly biased. On the other hand, he did say these devices would be good as "yes/no" indicators of the presence or absence of lightning in a wilderness setting due to the relative lack of other sources of radio interference found in urbanized areas. He further noted he would not rely upon the distance estimates for lightning that these devices provide. Ken Langford suggested having an AM radio would be a viable lightning detector. Clark reminded everyone none of these technologies would be helpful for warning of a first flash.

Third, Dr. Davis sought the opinions of the attendees on the so-called "lightning safety position". The consensus was to keep moving towards a safer location, rather than stand in the pose. Dr. Davis did mention a NASA study, which indicated the likelihood of being struck while in the pose was approximately 53% that of someone standing. According to Bill Roeder's 2008 American Meteorological Society presentation, this only works if the person about to be struck is aware of one or more of the lightning-strike precursors, and is able to adopt the pose, which happens only about half of the time. Finally, although the "lightning safety position" does offer a reduced risk of being struck, Roeder, along with other lightning safety experts, does not advocate its usage.

4. The Wilderness Medical Society will be holding its 30<sup>th</sup> Anniversary and Wilderness Medical Conference on July 11-17, 2013 at Beaver Run Resort in Breckenridge, Colorado. Most likely, part of the conference will be devoted to lightning.
5. Next meeting: Friday, December 14, 2012 at 11:45 AM at St. Anthony Hospital West. Conference Room TBA. This will be a round table meeting.

Respectfully Submitted,

Steven E. Clark, Consulting Meteorologist

### **In Case You Missed It...Lightning Links**

**This is a monthly listing of news, articles, websites, and videos about lightning and allied areas as reported in the media. 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. Enjoy!**

#### **Lightning Blasts Vehicle in Russia (VIDEO)**

[http://www.washingtonpost.com/blogs/capital-weather-gang/post/lightning-blasts-vehicle-in-russia-video/2012/09/27/2a07aab4-08bf-11e2-a10c-fa5a255a9258\\_blog.html#pagebreak](http://www.washingtonpost.com/blogs/capital-weather-gang/post/lightning-blasts-vehicle-in-russia-video/2012/09/27/2a07aab4-08bf-11e2-a10c-fa5a255a9258_blog.html#pagebreak)

Bob Glancy brought this to the LDC's attention via e-mail back in late September. Steve Hodanish commented on the fact the lightning did not hit the nearby light pole, which was considerably taller than the vehicles. Steve wonders whether or not the "tallest nearby object" is *really* typically hit.

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Iron Mountain Boy Dies After Lightning Strikes Family Seeking Shelter with Sailboat

[http://www.duluthnewtribune.com/event/article/id/240571/publisher\\_ID/36/](http://www.duluthnewtribune.com/event/article/id/240571/publisher_ID/36/)

Thanks to Robert Gift for the initial citation of this incident via 9News in Denver. Also, a time-lapse video, cited above in the monthly quote, can be found here, too

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Roeder, W. "Analysis of Short Notice Lightning Risk Reduction and Why It Should Not Be Taught" Third Conference of Meteorological Applications of Lightning Data; 88<sup>th</sup> Annual Meeting of the American Meteorological Society, January 20-24, 2008. New Orleans, LA. On the web at: [ams.confex.com/ams/pdfpapers/135776.pdf](http://ams.confex.com/ams/pdfpapers/135776.pdf)

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