

**LIGHTNING DATA CENTER
MEETING MINUTES
JANUARY 14, 2005**

In attendance were: Gil McDonough, MD; Karen Wells; Ernie Nitka, MD; Gunnar Blanke; Gary Flanders; Robert Gift; Richard Keen; Al Nibbe, MD; Dana Miller; Philip Yarnell, MD; Steve Clark; Al Hislop; Ron Larson; Lanny Grant; Bill Hodgden; Howard Wachtel, Ph.D.; Greg Stewart; Ken Langford

“Trauma is hell on earth: Trauma resolved is a gift from the gods,” credited to Peter Levine by Panorama Orthopedic brochure.

The meeting began with Dr. Nibbe bringing to notice a discussion by Dr. Bernard Lown from his book “The Lost Art of Healing,” where he noted that the vulnerable period in the cardiac cycle is extremely short, lasting anywhere from 0.02 to 0.04 seconds and that when an electrical impulse occurs during the vulnerable period it triggers a potential fatal arrhythmia. This was in followup to the discussion the previous month where it was felt that the susceptibility period in the cardiac cycle was speculated to be in the realm of 10% of the cycle and possibly that this may account why there is a 10% fatality in lightning strikes.

The meeting began with one of our members, Greg Stewart, (a writer and “Lightning Enthusiast”), bringing in a video which looked initially like a home video of a patient who at his injury site had been presented at the meeting whose tongue metal ornament had been blown out by the lightning strike. The issue was raised whether jewelry acts as a “lightning rod”. In an experiment using capacitor discharge to a model head, it was **not** found that the direct current discharge preferentially strike the metal stud placed in the model tongue or when it was placed in the cheek or nasal area. When a big metal doorknob piece was placed, however, this was struck. The video was credited to the Discovery Channel. From the experiments, it did not seem that the jewelry was particularly attractive to the high-voltage discharge.

Ken Langford brought up the issue of the jewelry becoming heated during a lightning discharge, and we have seen the local burns from metal necklaces, etc. Greg is a writer in “Lightning Enthusiast,” and the video had information from the Discovery Channel.

Bill Hogdon, a paramedic and firefighter and a deputy coroner for Garfield County and Lannie Grant, a member and past president of the Garfield County Sheriff’s Search and Rescue and deputy coroner for Garfield County were kind enough to come and present the case of the dual fatality that occurred on July 31, 2003, at 452 p.m., (By NOAH calculation), occurring 10 miles southeast of Rifle near Middleman Creek. The fatality involved a couple that had gone for a horseback ride on the ranch and had taken along a mule and their dog. They apparently went a few miles out, and the next morning a saddled horse and the dog were found standing in the corral. The family recognized this as an atypical event, and the couple were found with interlocking arms sitting at the base of a large spruce with their hats a few feet from them, with their lower bodies covered with rain gear and evidence of a lightning strike having struck the spruce tree, going down to the area of their heads. The woman had a large gash in her head where her head was presumably leaning against the tree. The gentleman had abrasions and some dried blood on his right cheek which was the side towards the area of bark denudation of the tree.

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Their arms were interlocked. There was a presumed entrance wound on the shoulder and an exit wound on the female. There was a question on the photos whether or not there might have been an entrance wound on the back of the male. It was presumed that this was a splash-over event from the tree to the female and the male. It was queried if the male may have been affected by an induced current discharge vs. splash or direct path to ground. There was ferning seen on both victims, and this was approximately 16 to 18 hours post event, according to the NOAH data (Prepared by Mr. Hodnash). The male was 50 years of age, the woman 48 years of age. They were approximately at an altitude of 8,000 feet. It was noted that bark chips from the tree were scattered as far as 250 feet away. One horse was still tethered 100 feet away from the site of the strike.

An interesting point was made that even though there is no visible fire on the outside of the tree the inside of the tree may still be smoldering in a lightning strike as a source of why fires restart after apparently being put out in lightning.

A vigorous discussion, give and take, again was made regarding the risks of safety in the midst of a storm in a wooded area. The victims were found seated and positioned as if they were going to just wait out the storm. It was pointed out that even in very heavy rainfall the arc of the tree may provide a relatively dry area as a reason why these people were seated against the tree, apparently to wait out the storm.

Unfortunately, a post-mortem examination was not accomplished on these patients. The female had, besides ferning, signs of a significant head injury with the occipital scalp being vertically split open. The gentleman, also with ferning, had abrasions on his right cheek, as noted.

The next meeting will be held on Friday, February 11, 2005. Dr. Howard Wachtel will be speaking. The title of his talk is "Sub-Luminous Lightning Currents Can Be Lethal".

Philip R. Yarnell, M.D.
PRY/sah