

LIGHTNING DATA CENTER
MINUTES
August 13, 2004
St. Anthony Hospital, Denver, CO
www.Stanthonyldc.org

QUOTE OF THE MONTH:

Whenever there is a Friday the 13th there will be a Lightning Data Center meeting (second Friday of the month). Observation by Rich Keen.

Members present: Brown, Clark, Flanders, Gartling, Gift, Grant, Hodgden, Keen, Kithil, McDonough, Mullan, Olson, Paton, Richardson, Sanders, Wachtel, Wagner, Wells, Yarnell.

Our resident historian, Dr. Bruce Paton, Professor of Surgery – author of “Lewis & Clark: Doctors in the Wilderness”, brought a review from the Medical News of 1855 of the French Academy Sciences regarding the effects of lightning strikes on human beings.

The following facts were of interest:

1. The number of lightning fatalities in France between 1835 and 1852 was 1,308.
2. The ratio of strike survivors to fatalities was 3:1.
3. Ratio of men to women was 3 to 1.
4. Lightning was most fatal in the central plateau of France which was mountainous or elevated.
5. The coldest months of the year were associated with the lowest lightning fatalities.
6. One-fourth of the strike people may “trace their misfortune to their own imprudence in taking shelter under trees which attract the lightning fluid”.
7. The greatest number of people killed by a single flash lightning does not exceed 8 or 9. However, animals are much more exposed to the of lightning than men, a single flash has destroyed an entire flock of sheep – some numbers more than 2,000 in Ethiopia.
8. “Dead men struck by lightning had been found in exactly the upright position they held when killed, and some bodies bore upon them faint impressions of outward object, somewhat resembling photographic shadows”.
9. Before the application of lightning conductors, English ships experienced large annual monetary losses from the “electric fluid”; but since their application such losses are no longer heard of, although some pretend to the efficacy of the lightning rod”.

(In some ways the more times change, the more things may remain the same.)

Lightning Data Center took note of the passing of one of our active participant's, Gene Lines. Gene was also one of the founders of the Jefferson County Alpine Search and Rescue Team. He will be missed. Memorials in memory of Gene Lines may be sent to: Mt. Evans Hospice of Evergreen, CO and/or to Alpine Rescue Team.

We discussed the fatality of the middle female of three women walking side by side, north of Breckenridge 8/1/04. She was the largest of the three. All were knocked down, the two survivors without any protective response, One had an arm fracture, one 9 weeks pregnant (still intact at present). The victim had burns, ferning, a shoe blown off and a small face laceration from the fall. It was estimated that the two survivors were confused and unconscious for at least 20 minutes and had to hike out. The Summit County Coroner, Joanne Richardson discussed the case. Our resident flight nurse, Sheryl Olson was able to supply some details and follow up of the two survivors. It was believed this was a positive strike.

A 16 year old patient of mine who suffered a cardiac arrest from a lightning strike at a golf driving range came with his mother to discuss his symptoms. Both he and his father suffered cardiac arrest, but unfortunately his father could not be resuscitated. The lightning was a "bolt out of the blue". A lightning alert came after the strike. The boy had burns including his soles, ferning, and a ruptured tympanic membrane. The other 15 golfers were all knocked to the ground. At two months he has noted decreased attention, concentration, progressive muscle pain and aching on exercise. In football practice, he has decreased endurance and speed. He has pain in one foot with abnormal sensitivity (he had burns on both soles). Initially he had a 30 lb. weight loss. Dr. Howard Wachtel wondered if the delayed muscle symptoms could be related to Dr. Raphael Lee's electroporation theory and suggested serial muscle enzyme testings. Dr. Payton mentioned the use of quinine for muscle pains.

Dr. Randi Wagner of Kremmling came to discuss her efforts of resuscitation on Saturday, June 19th Kremmling Day, lightning strike where 22 people were brought and into the Kremmling E.D. Two required CPR, with one resuscitated at the scene while the second victim, hit in the head, needed to be transported off the bluff, shocked at the base and then again at the E.R. Four of the patients were transferred to St. Anthony's all with ferning. Inflating a BP cuff above did not obliterate the ferning. A discussion ensued regarding use of a non-depolarizing blocking agent for intubation of lightning arrest patients. The common issue of fatigue on return to activity and muscle pains were discussed.

Discussion also was held as to what determines who will have cardiac arrest in a group struck by lightning. The stage of the cardiac cycle and the geometry of the group as to intensity and duration of shock were suggested to be the main factors by Dr. Wachtel.

I mentioned the case of a boy involved in a lightning strike on Mt. Princeton without damaged clothing or wetness or burns but with ferning beneath his tee shirt and on his neck most likely a splash event.

These minutes do not represent official positions of LDC or its members.

They simply reflect the comments made at the meeting.

Next meeting: Friday, September 10 2004 at 11:30 am in the Main Auditorium of St. Anthony Central Hospital.

Respectfully submitted,

Philip Yarnell, MD