

Lightning Data Center
Minutes
September 9, 2005
St. Anthony Hospital, Denver, CO
www.stanthonyldc.org

Quote of the Month:

“If everything has to be double-blinded, randomized, and evidence-based, where does that leave new ideas?”

John Wu Lancet 2005;366:122

1. Meeting began at 11:30 am and adjourned at 1:25 pm.
2. Members present: Arendt, Cherington, Collier, Flanders, R Gift, Y Gift, Glancy, Keen, Langford, McDonough, Mendez, Nibbe, Olsen, Poulton, Wachtel, Wermuth, Yarnell.
3. I brought the following articles (abstracted in part here):
 - a. McNeil DG. MRIs strong magnets cited in accidents. New York Times. Aug. 19, 2005

“As the number of magnetic resonance imaging scanners in the country has soared to about 10,000 today, and as magnets have quadrupled in power, careless accidents have become more frequent. Some have caused serious injuries and even death. Most accidents are caused by human error, not scanner malfunction. Although the Food and Drug Administration approves the scanners as medical devices, it does not regulate how their operator behave properly done MRI scans are perfectly safe. The most notorious accident was the death of a 6 year old...He was sedated in a scanner after a brain operation when his oxygen supply failed. An anesthesiologist ran for an oxygen tank and failed to notice that the one he found was made of steel. The tank shot out of his hands hitting {the patient} in the head. Most modern surgical staples, artificial joints, cardiac stents, pacemakers are made of titanium, stainless steel or other nonferromagnetic metals.”

The following article was published nearly 130 years ago. It is apparent that writing style and editorial directives have changed in the intervening years.

- b. Jefferiss WRS. Three cases of lightning stroke. BMJ 1876;1:102

“The scanty information which we obtain from works on this subject induces me to offer the following observations, on three cases which came under my care during the past summer. Two very severe thunderstorms visited this locality on June 17th, and again on July 2nd, striking down people on both instances, and also killing several of the lower animals. On June 17th, a severe thunderstorm. overtook a number of farm-labourers. I, being close at hand, was called in to see them the young woman said she had never heard any thunder or seen any lightning. She complained of severe headache and felt very nervous and shaky. She also perceived a peculiar sulphurous smell. The boy seemed very much frightened and very cold on one leg an exact resemblance to part of a Scotch fir. The impression was distinct for nearly two days; but after that it gradually faded...The third case a post-runner was struck and complained of headache and confusion of intellect. At the same time, two lambs which were grazing were struck down and killed.”

4. Howard Wachtel told us about two lightning happenings that he witnessed.
 - a. He attended a volleyball event near Boulder, Colorado. At the same time, people were swimming in nearby lake. Thunder could be heard in the distance. Lifeguards, using a 20 second rule, told people to leave the lake. Officials at the volley ball game told people to return to their cars. Howard believes that the parking lot was about ¼ mile away. No one was injured but Howard wondered about the contingency planning. He also asked about the feasibility of taking shelter under metal bleachers. Ken Langford stated that would be dangerous. Howard asked could the bleachers be converted into a Faraday cage. Rich Collier suggested that if chicken wire were used to enclose the bleachers, that might turn the space under the bleachers into a Faraday cage. Ken Langford suggested that Howard contact the officials about their lightning contingency plans.
 - b. Howard and his wife were driving in their car in Lafayette, Colorado during a thunderstorm. Lightning struck the car. Both of them experience a tingling sensation in their arms that lasted for 30 minutes. Rich Collier stated that if the car were a perfect Faraday cage, it is unlikely induced current would play a role inside the car.
5. Tamara Arendt reported that she witnessed ball lightning at her mother's house. During a lightning storm, she saw a red ball about 2 feet in diameter on the porch. The red ball seemed to emanate from a shovel. Electrical appliances inside the house were damaged.

Bob Glancy reported that appliances in his home were also damaged in a similar ball lightning event. Bob pointed out that in both cases, the homes' electricity was supplied by buried wires. He concluded that underground wires did not provide protection.

6. I discussed neurological complications of lightning strikes. In the past decade and more, LDC has been a referral center for patients with neurological sequelae. It became apparent, that the conventional classifications of neurologic complications of lightning strikes were lacking. We have developed an updated classification that fills the void (references NeuroRehabilitation 2005;Vol 20 pp.3-8; Cherington & Yarnell ICOLSE conference 2005). Brain and spinal cord lesions give rise to neurologic conditions that often fit in the realm of neurologist. These conditions are listed in Category 2 of our classification, and often fall into the realm of the neurologist. The conditions include: post-hypoxic encephalopathy; intracranial hemorrhages, basal ganglia hemorrhages, cerebellar syndromes and spinal cord injury.
7. Greg Stewart brought a news report from Florida where a lightning struck a car at about 3 pm. A mother and daughter inside the car were not injured. The lightning strike "pierced" a hole through the rear window.
8. These minutes do not represent official positions of LDC or its members. The minutes reflect the comments of those present.
9. Next month's meeting: October 14, Friday at 11:30 am in the Main Auditorium St. Anthony Central Hospital. Speaker: Mike Foley

Respectfully submitted,

Michael Cherington, MD