

Lightning Center  
Minutes  
St. Anthony Hospital, Denver  
July 13, 2001

Quote of the month:

"A scientist will never show any kindness for a theory which he did not start himself."  
Mark Twain, 1880

1. Meeting started at 11:30 am and adjourned at 1:50 pm.
2. Members present: Bauling, Cherington, Collier, Foley, Gray, Larson, Lines, McDonough, Moler, Paton, Staelin, Swanson, Wachtel, Wallace, Yarnell, Zajac.
3. I brought the following articles from the literature (abstracted in part here):
  - a. Pipe JG. Basics of Magnetic Resonance Imaging. BNI Quarterly 2000;16:4-16.

"The production of electricity by a rotating magnet, a physical principle called Faraday's law of induction, describes how an MR image signal is produced. Essentially, an MR scanner is an electrical generator with a computer that interprets the induced electrical current to produce an image of in vivo magnetism...Organisms have magnetic sources in their bodies, located in the nuclei of atoms that compose water and organic molecules. These nuclear magnets, also referred to as spins, act similar to simple bar magnets...When a patient is inserted into the tube of an MR imaging magnet...about 10 of every million spins are detectable (parallel)...the remaining spins are split equally between parallel and antiparallel orientations."

Ron Larson asked:"What could happen to a patient having an MRI if the MRI equipment suddenly shut down? Ron, Howard Wachtel, and Bard Zajac discussed this very unlikely circumstance. The consensus was that the patient might suffer serious harm, including cardiac arrhythmias. We all agreed that the question would be best answered by a radiologist. We'll forward the question to a radiologist.

4. Leland Anderson sent the following article printed in the May 10, 2001 issue of the South China Morning post (abstracted in part here):

Clifford Lo. Jet hit three times by lightning. South China Morning Post. May 10, 2001

"a Cathay Pacific Boeing 747-400 with 223 passengers on board was struck three times by lightning, damaging a cockpit window, as it approached Chek Lap Kok yesterday. The plane, en routed from London, was above the mainland coast near the Hong Kong border when lightning hit...The window screen consists of three layers. The middle layer on the right side...was shattered and there was minor damage to the radar nose dome. But it had no effect on the plane's structure and operation...Three injured people were taken to Princess Margaret Hospital."

5. I brought the March 2001 issue of Energies Sante published by Gaz de France (Electricite de France) that was sent to us by Elisabeth Gourbiere.
6. Gene Lines brought an article from IEEE Spectrum (August 2000) on "Are mobile phones safe?"
7. Bard Zajac brought reprints of the following article:

Zajac BA, Rutledge SA. Cloud-to-ground lightning activity in the contiguous United States from 1995 to 1999. Monthly Weather Rev 2001;129:999-1019.

8. At last month's meeting, Bob Wallace reported that members of the Trauma Service suggested we change our name from LDC to Lightning Resource Center. That suggestion was unanimously accepted. However, Bob and I have since suggested that we reconsider that choice because there is a Colorado Lightning Resource Center at the Pueblo branch of the NWS. Therefore, we voted to change our name to Lightning Center of St. Anthony Hospital. Earlier this morning members of the Administrative Committee (Cherington, Foley, Yarnell, Wallace) met to discuss this name change and also plans to develop a Lightning Clinical Panel in association with St. Anthony Hospital's Trauma Service. Bob will meet with the Trauma Service members to proceed with these plans.

9. Our guest speaker today was Dr. Paulus C. Bauling, Director of the University of Colorado Hospital Burn Center. His topic: "Lightning Injuries - a clinical overview." His presentation was superb. The members present had many questions and comments and gave Dr. Bauling enthusiastic applause.

10. These minutes reflect the comments of members present and do not represent official positions of LDC.

11. Next meeting: Friday, August 10, 2001. Guest Speaker: Jeffrey Sellon. Jeff will speak on new technologies in lightning protection.

Respectfully Submitted,

Michael Cherington, MD  
Chair, Scientific Committee, LC