

Lightning Strikes in the Polish Tatras

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Introduction: Between 1993 and 2008, 26 persons (eight women (31%), 18 men (69%)) were struck by lightning in the Polish Tatras. Eighteen of the strikes occurred on the mountain ridges, six on descent, and two in the valleys.

Methods: The authors analyzed the strike mechanism (direct strike, splash, ground strike) and correlated it with the occurrence of circulatory arrest, thermal trauma, and avulsion fracture. Further analysis included secondary trauma caused by falls.

Results: Seven (27%) of the strike victims suffered from circulatory arrest, although spontaneous circulation was restored in two patients. One died in the hospital, the other was released in good condition without any neurological damage. Twenty-one persons transported to the hospital suffered from heart arrhythmia, burns with Lichtenberg figures, and/or fractures of extremities.

All five persons (19%) struck directly died immediately.

Two subject-to-ground strike also suffered from circulatory arrest, 22 (84%) experienced serious burns, and Lichtenberg figures, and 10 (38%) had fractured bones.

Twenty-two persons (84%) were rescued by a helicopter, thus, greatly reducing the duration of the rescue mission (32 minutes).

Conclusions: During the summer in the mountains, lightning is most likely to strike one on the ridges. The fatality rate in the examined group amounted to 23%. Thermal trauma caused by lightning strike was suffered by 85% of the injured.

Keywords: emergency medical services; Lichtenberg figures; lightning strikes; Polish Tatras; thermal trauma

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Patient Opinion is Equal to Clinical Examination Regarding Fracture Prediction

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Introduction: Clinical examination is notoriously inaccurate for fracture prediction. In most cases, clinical findings are supplemented by radiographic imaging in order to rule out a fracture. The aim of this study is to define the accuracy of clinical examination performed by a junior doctor and compare this to the accuracy of patient opinion regarding the presence of a fracture.

Methods: A total of 103 male and 59 female patients with an average age of 27 years (range, 2–85) were recruited prospectively into the study. All patients self-presented with minor limb trauma to the emergency department between August and December 2008. All patients were assessed prospectively by the author. After clinical examination, patient and author opinion regarding the presence or absence of a fracture was documented and analyzed after radiography. Radiographs were interpreted by the author and independent radiographer for the presence of a fracture.

Results: Fifty of 162 patients had identifiable fractures (31%). Patient judgment as to the presence of a fracture demonstrated a sensitivity of 67% and specificity of 72%. Clinical history and examination by the author demonstrated a sensitivity of 76% and specificity of 71% regarding diagnostic accuracy for fracture prediction. These differences failed to reach statistical significance using Fisher's exact test.

Conclusions: Using clinical examination to rule out a fracture in cases of minor trauma is no better than a patient's "best guess". This study supports the current trend toward blanket radiography to effectively rule out fractures in patients with minor trauma due to the inaccuracy of clinical history and examination.

Keywords: assessment; clinical examination; fracture; patient opinion; prediction

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Fear, Familiarity, and the Perception of Risk: A Quantitative Analysis of Disaster-Specific Concerns of Paramedics

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Introduction: Paramedics play an integral role in the response to and management of disasters and public health emergencies. Providing a core component of "frontline" response, paramedics potentially risk exposure to a variety of health and safety risks, including physical injury, death, communicable disease, and psychological effects. The health and safety risks to emergency service personnel have been highlighted by the death of firefighters, paramedics, and police during the 11 September 2001 terrorist attacks, and the infection, illness, and death of paramedics and emergency healthcare staff during the severe acute respiratory syndrome (SARS) outbreak in 2003. Given that a willing and able prehospital workforce will be a vital component of any successful response to a disaster or public health emergency, this study provides a unique and innovative exploration of paramedic's perception of risk and willingness to work, with a specific focus on indentifying which type of events paramedics associate with greater levels of fear and unfamiliarity.

Methods: Guided by the psychometric approach to risk perception, a survey tool was designed to investigate which disasters paramedics were most concerned about responding to by conducting a factor analysis of the concepts "fear" and "familiarity".

Results: A total of 175 paramedics completed the survey, 70% (123) were male, the average age of respondents was 32 years (range: 21–59), and the average length of service was nine years (range: 1–16). Paramedics ranked nuclear and radiological events, and outbreaks of new and highly infectious diseases highest for fear and unfamiliarity. The top three disasters that paramedics were most concerned about responding to were nuclear events, whether caused by terrorism, war, or accidental mechanisms. The only non-chemical, biological, radiological, or nuclear event that ranked among the highest for fear and unfamiliarity was a building explosion due to terrorism.