Poster Presentations—Theme 16: Types of Disasters

(247) The Antwerp Bromine Incident

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A tanker truck rolled over in the port of Antwerp, Belgium, spilling bromine that was highly toxic and corrosive (UN no. 1744). The driver was admitted to the hospital with signs of a concussion, but without toxicological symptoms. A 500-meter safety perimeter was installed around the spill site, and neighboring plants were evacuated.

Soon, some of the evacuees experienced respiratory and eye irritation, and 44 patients were treated in a nearby Red Cross polyclinic ambulance post. Twenty-nine of these evacuees were transferred to nearby hospitals, mostly due to other associated diseases.

Due the spread of the spill through the sewer system, another one km2 area that included two nursing homes had to be evacuated and forcefully closed. A total of 800 people were distributed to three shelters for the night of the event. One of these centers eventually was evacuated to an adjacent one, as the safety perimeter was enlarged to six km^2, causing approximately 3,000 additional residents to evacuate. Many evacuees stayed with family or friends outside the risk area, and 310 persons were bussed to military camps and youth hostels. One hundred forty evacuees stayed overnight in one of the shelters. The area was cleared around noon the next day.

As a result of this incident, a total of 135 patients were seen in Antwerp hospitals. Only two were admitted. The practical organization and problems of this incident will be discussed (mainly communication and logistics).

Keywords: Belgium; Bromine; chemical spills; evacuation; evacuation centers
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(248) Comparison of Different Simulation Models of an Earthquake in Vrancea

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Objective: The objective of this study was to continue the previous evaluations of morbidity and specific mortality due to an earthquake measuring 7.2 on the Richter Scale, with a main seismic wave duration of 10–15 seconds.

Methods: A simulation of an earthquake in the Vrancea area, with an magnitude of 8.0 on the Richter Scale lasting 15 seconds, was simulated using the following seismic risks maps: (1) author's own simulation; (2) Munich Re model; (3) Swiss Re model; and (4) Cresta Proposed model.

Results: The computer program Epi Info 6.04D was used and a unique calculation algorithm was developed to obtain the results. The main results of the simulation were: (1) 22,147 total expected casualties; (2) 3,336 total diseased; and (3) 4,034 total trapped casualties. Other categories are presented in the rest of the work.

Conclusions: It was noted that an evaluation of urban vulnerability, an estimation of the expected number of casualties, and an evaluation of the hospital and prehospital systems' capacity and structures are needed. Also, an accurate prehospital intervention system and a medical emergency system for disaster situations must be developed as the infrastructure for the medical intervention system. Proper endowment and preparedness of the entire medical intervention system is needed, and a firm leadership in the medical intervention system and communication system must be provided.

Keywords: disaster; earthquake; simulation; preparedness; intervention system
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(249) Lessons Learned from Two Explosions with Multiple Casualties in the Town of Mulhouse

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Mulhouse, France

The town of Mulhouse, France has experienced two explosions, both of which caused multiple casualties. One occurred on 26 December 2004 and the other occurred on 24 March 2006. The first was a gas explosion in a condominium that later collapsed. The second explosion occurred in the chemical laboratory of the University Chemical School. This presentation will describe these two events, and the responding local management.

The coordination between different agencies, such as fire and rescue, police, and medical agencies, will be analyzed to explore the important psychological aspect for the inhabitants of Mulhouse, as well as how the explosions were covered in the media.

Keywords: coordination; explosions; France; local management; multiple casualties
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(250) Expedition Medicine: Mt. Everest

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Adventurous emergency physicians and other healthcare professionals have the opportunity to provide medical support for expeditions to some of the worlds most challenging environments. In 2006, Dr. Catlett served as the team physician for one of the largest expeditions on Mt. Everest. This presentation will describe important considerations for an expedition physician, such as client health screening, specialized medical kits, and the harrows of medical care in the "Death Zone." The presenter will explain three complicated case studies requiring evacuation from the mountain and take the participants on an amazing pictorial journey to the summit of the highest mountain in the world.

Keywords: health care; Mount Everest; physicians
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