

negative. All blood type groups were documented with coded identification cards so this information could be retrieved easily when needed.

Such pre-crash data had positive effects on trauma and other systemic emergency care requiring blood transfusions. The time lag in obtaining blood was significantly reduced, thus enhancing survival of victims.

In conclusion, blood type data from all stakeholders should be well documented to facilitate blood transfusion during major crises or disasters.

Keywords: auto-bike; blood types; Nigeria; traffic crashes; transfusion
Prehosp Disast Med 2007;22(2):s149-s150

(243) Reporting Blindly in Randomized Controlled Trials in Prehospital Emergency Medicine Literature

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Introduction: Double blind is a term that frequently is used by researchers and accepted by readers as a key marker of the validity of a randomized controlled trial (RCT). Double-blind trials tend to report smaller effects than similar trials that are not double blind. In most clinical trials the success of the blinding procedures is assumed, but not tested. Sub-optimal reporting of blinding in full text publications and secondary journals has hindered readers. Trials in prehospital medicine are difficult to conduct due to numerous reasons, both logistic and ethical. However, it would be prudent to strive to achieve methodological standards in designing and reporting RCTs. The objective of this study is to assess how often the success of blinding is tested in RCTs in prehospital medicine, to describe the methods used, and to assess the frequency of trials with successful blinding

Methods: Prehospital randomized controlled trials using the Cochrane prehospital search filter were identified using MEDLINE, EMBASE, CINAHL, and The Cochrane Library. Full paper versions of randomized controlled trials will be retrieved, hand and electronically searched, and assessed for reports of blinding with the test for success of blinding. Two reviewers will abstract data and analyze results. Statistical analysis will be conducted using Microsoft Excel.

Results: The work is in progress and will be presented at WCDEM 2007.

Conclusions: It is difficult to conduct double-blind randomized controlled trials in prehospital emergency medicine due to logistic and ethical reasons. If double blind RCTs are conducted, those conducting the trials should describe the methods of blinding and matching characteristics in detail.

Keywords: double-blinding; literature; prehospital; randomized controlled trial (RCT); success

Prehosp Disast Med 2007;22(2):s150

(244) Mobilizing a Rapid Assessment of Population Health and Social Service Needs Subsequent to a Large-Scale Disaster

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Hurricane Katrina led to the largest population movement in contemporary American history, and engendered substantial population needs among evacuees and displaced populations. Using housing data supplied by the US Federal Emergency Management Agency, a research team developed a multi-stage cluster sampling plan, assembled a collaborative fieldwork operation involving five university science centers. A total of 1,245 face-to-face household surveys were conducted in Louisiana and Mississippi to assess the population's health and social service needs. The cooperation rate among contacted respondents was 83%. The logistics of mounting such an assessment effort in a developed country will be presented, and include: (1) the establishment of administrative, field, and data protocols; (2) the assembly and training of a survey research team; (3) the management of material and transportation logistics; and (4) the maintenance of high-quality data and research integrity in the face of field challenges.

The Louisiana field work was completed in nine days; the Mississippi field work was completed in 18 days. The research team abided by four principles: (1) using survey measures comparable to a national data set in order to approximate "pre-" and "post-" disaster conditions; (2) using standardized mental health and physical health scales, to allow for cross-study comparisons; (3) adopting and maintaining a rigorous sampling protocol, in order to maximize the level of representation of the sample; and (4) streamlining the implementation and reporting cycles so as to provide policy-makers and providers with timely data. The presentation will elaborate upon the planning considerations involved in mounting such research operations in post-disaster environments.

Keywords: Hurricane Katrina; population; public health; assessment; survey

Prehosp Disast Med 2007;22(2):s150

(246) Disaster and Risk Assessment of Chemical in the Workplace

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Objectives: The objective of this study is to look into disaster and risk management in occupational settings where workers are exposed to organic chemicals.

Methods: The study was conducted among 500 workers in various manufacturing industries. There was 100% use of chemicals in the industries, either as raw material or as solvent for processing. The industries generated dust and vapours, as well as acids and caustics. The blood lead result of the 285 subjects revealed that 40.7% of subjects had within the 21–30 ug/dL, which the Department of Health considers to be inimical to health of workers. When hazards and illness were correlated with alpha set at 0.05, radiation expo-

sure was associated with bone pain, and dust exposure with eye strain and viral exposure. Based on these results, a proposed chemical exposure rating was performed. For example, an exposure rating estimate of zero means no exposure either through dermal contact or inhalation. Moderate exposure is given an estimate of 2 which means that the subject is exposed for <50% of the total 8-hour workday. Very high exposure is above the TLV, which varies per chemical, and the exposure time >8 hours.

Conclusion: This is a significant study that looked into the actual amount of worker exposure to chemical, which may result in a chemical disaster.

Keywords: chemicals; exposure; hazards; health; occupational setting
Prehosp Disast Med 2007;22(2):s150–s151

(247) Multidisciplinary Approach in Environmental Assessment of Chemical Spill Due to Mining in the Philippines

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Objective: The purpose of this study was to determine the health epidemiology associated with chemical spills in mining industries.

Methods: This was a preliminary study to establish a framework on how to investigate and manage chemical spills in the metallic mining industry in The Philippines. Consultations with experts from other disciplines such as sociology, epidemiology, occupational and environmental health, engineering, applied chemistry, and social work were obtained.

Chemical spills from mining industries are not uncommon in The Philippines. When such events arise, there is a need for a standard procedure for the proper investigation, gathering of data, and overall management of the situation. The basic elements of this process should include investigations of the workplace, of the immediate environment, and the community health in order to establish parameters of emergency management. Investigation of the workplace involves a detailed account of the industrial accident, the causes of leaks or spillage into the river system, and the breakdown of the work process, machines, and other facilities. Samples of water and soil are taken on a spatial basis in order to establish distance of affectation. Air sampling during chemical exposures provides data on concentrations.

Conclusions: This is a significant study that developed a standard management procedure on how to investigate chemical spills and contaminations from mining industries.

Keywords: chemical spills; consultation; management procedure; mining industries; The Philippines

Prehosp Disast Med 2007;22(2):s151

Oral Presentations—Theme 16: Types of Disasters

Session 1: Chemical, Biological, Radiological, and Nuclear 1

Chairs: Victor Koscheyev; M. Ruijten

Standardization of Mobile Analytical Equipment for Chemical, Biological, Radiological, and Nuclear Agents in a European Country

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Background: Tactical hazardous materials (HAZMAT) response, medical treatment, and logistics are highly dependent on early identification of the chemical, biological, radiological, and nuclear (CBRN) agents involved.

Discussion: In 1998, the German federal government modernized its fleet of CBRN detection vehicles. By 2001, 371 vehicles were delivered to local fire stations. These “CBRN explorers” have been placed in strategic, geographically important locations in the country in order to assure shorter response times by rapid deployment of high-tech analytic capabilities. These vehicles are equipped with comprehensive CBRN analysis and measurement technology, telecommunication, geopositioning, meteorological, and personal protective equipment. The German government distributed these uniformly equipped CBRN explorers to assure more timely and consistent analytic capabilities in all geographic areas during HAZMAT disasters. In the United States, the fire departments’ HAZMAT teams and other agencies own a variety of non-standardized analytical CBRN tools. The national standardization of analytical CBRN equipment for all US HAZMAT teams should be considered seriously.

Conclusions: The rapid and precise chemical and physical identification of HAZMAT is essential in order to adjust and optimize tactical, medical, and public safety responses. The German federal government has delivered standardized, high-tech analytic CBRN equipment throughout the county. This model of equipment standardization and widespread distribution of mobile CBRN units could serve as an international model.

Keywords: chemical, biological, radiological, and nuclear; Germany; hazardous materials; standardization; vehicles

Prehosp Disast Med 2007;22(2):s151

Dirty Bomb or Radiological Dispersion Device: Preparedness and Management Priorities

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Background: The detonation of a radiological dispersion device (RDD) has become a realistic scenario. The presence of radionuclides at an explosion site, along with triage, medical management, and logistics, will be made more difficult and complex by the unfamiliarity of rescue and medical personnel with how to prioritize exposed bomb victims.