Major Incident Preparedness—A Hospital Review of a Chemical, Biological, or Radiological Exercise: Lessons Learned!

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Monash Medical Centre is situated on the outskirts of Melbourne, is a tertiary referral hospital, and boasts a new emergency department. The opportunity for the emergency department to test its new decontamination facilities and the hospital to test its ability to respond to a major incidents existed. Exercise November involved a collaborative and multidisciplinary approach to planning and involved internal and external stakeholders. The Emergency Department Major Incident Planning Group (ED MIPG) established regular meetings to discuss processes and timelines in order to optimize learning opportunities. Volunteers were sought from internal and external sources. The exercise involved 30 contaminated adults and children with minor to major injuries. The Hospital Incident Command Center was opened and the Incident Command System (ICS) was activated with participation from all areas of Southern Health. Following the exercise a debriefing session was conducted and feedback was obtained from all participants. All of the information was compiled, evaluated, and validated by the ED MIPG and the hospital Major Incident Planning Committee. Clarity of purpose, planning analysis, planning, implementation, evaluation and validation of data are essential processes for the success of such an exercise.

Keywords: analysis; excuse; hospital; major incident; preparedness
Prehosp Disast Med 2009;24(2):s115

Medical Responses of Designated Radiological Emergency Medical Hospitals during a Mass-Casualty Nuclear Accident: Experiences from a Case-Scenario Simulation

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Introduction: The Japanese Radiological Emergency Medical System (REMS) depends on coordinated approaches provided by nuclear power plant facilities, prefectural governments, fire departments, Self Defense Forces (SDFs), prefectural medical associations, prefectural Red Cross offices, and designated Radiological Emergency Medical Hospitals (REMHs). Among these, the exact roles of REMHs have not yet been examined in cases of multi-casualty accidents involving radiologically contaminated victims.
Methods: The medical responses of REMHs were tested using a case-scenario simulation of a radiological accident at a nuclear power plant. The study was performed in two prefectures with nuclear power plant facilities (Ishikawa and Kagoshima). Participants included 122 personnel from all organizations constituting the seven local REMHs (six REMHs in Ishikawa and one REMH in Kagoshima). Case scenarios used in this study included isolated accidents involving 10 victims with or without, radiological contamination.
Results: The dispatch centers at fire departments played major roles in triage and hospital selection. The REMHs were unable to admit more than a few contaminated victims simultaneously, mainly because of their limited decontamination capacity. No effective interventions were put into place by local governments or other organizations, and the SDFs required a significant amount of time to be deployed.
Conclusions: The surge capacity of the REMHs during radiological accidents relies primarily on decontamination capacity. Due to the limited number of REMHs and the radiological aspects of nuclear power plant accidents, diverting patients to other regions or simplified decontamination procedures might be required in cases of multi-casualty incidents with contaminated victims

Keywords: hospital; Japan; medical response; nuclear; radiological; radiological emergency medical system
Prehosp Disast Med 2009;24(2):s115

Simulation Training in Surge Capacity Management Using the disastermed.ca Emergency Department Simulator

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Introduction: Surge capacity has become an increasingly important issue in emergency and disaster medicine, however, standardized methods of teaching surge capacity have not yet been developed. The use of the disastermed.ca emergency department simulator may be an effective tool for teaching the management of surge capacity.
Methods: Students of the eighth edition of the European Master in Disaster Medicine were assigned randomly into two equal-sized groups. Each of the two groups performed the simulation simultaneously, with two identical hospital layouts from the disastermed.ca simulator. Students were encouraged to look for innovative solutions to surge capacity.
Results: Twenty-eight participants participated in the exercise. Both groups developed similar approaches to increasing surge capacity including activating the hospital's disaster plan, developing an Incident Command System organizational structure, requesting additional staff, and requesting additional inpatient beds. There was a significant difference in mean time from patient arrival to triage between the two groups (p <0.01), however, accuracy of triage was similar. All of the respondents felt the simulation was a valuable learning experience. All respondents stated that they would prefer a simulation-based curriculum to a purely lecture-based curriculum. The median rating when asked to rate the exercise overall was 8/10 (range = 5–10). When asked to rate how effectively the exercise simulated the emergency department and emergency response activities, median rating was 7/10 (range = 4–10). When asked to rate how well the scenario adequately tested the readiness and capability to implement the disaster plan, mean rating was 7/10 (range = 4–10).
Conclusions: Participant satisfaction following computerized simulation in surge capacity training was high. All respondents felt that the exercise was a valuable learning experience, and all stated that they preferred the combination of simulation and lecture to a purely lecture-based curriculum.

Keywords: capacity building; disastermed.ca; preparedness; simulator; students; surge
Prehosp Disast Med 2009;24(2):s115