Results: Preparations included training radiation monitoring personnel, decontamination station's staff and training of ED, and ED reinforcement medical and ancillary staff. The main sites that were prepared and later drilled included: The decontamination site in which patients with possible radiologic contamination were decontaminated and received emergency care, The staff radiation clearance stations, The designated ED areas for care of potentially contaminated patients, The uncontaminated ED areas including areas for acute stress reaction victims, The ED imaging facilities and a designated OR for care of contaminated patients requiring surgical decontamination, or other urgent surgeries, in patients of whom routine external decontamination was insufficient. A total of 220 hospital employees participated in formal training sessions, preparatory internal drills and the final full scale drill.
Conclusion: The "dirty-bomb" scenario for a receiving hospital is challenging. It requires identification of radiological contamination in terror related bomb explosion victims, safely decontaminating the victims while minimizing staff exposure, and allowing prompt care of both conventional and radiation related injuries. A successful response also requires designated radiation detection and monitoring equipment, and vigorous training of a large proportion of the hospital's staff.

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A Cost-effective Prescription for Radiological Emergency Preparedness in Community Hospital Emergency Departments

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Study/Objective: To present a cost-effective approach for community hospital emergency department (CH-ED) personnel, trained at the first receiver operations level, to deploy a radiation screening, detection, and decontamination capability.
Background: Few CH-ED are prepared to treat victims with external radiation contamination who might be seen after a terrorist attack using a radiological dispersal device. Furthermore, hospital staff or facilities may become secondarily contaminated if such victims are not identified and decontaminated immediately upon arrival. Demonstration of five actionable objectives defines CH-ED hazmat/WMD preparedness: recognition/identification, notification, isolation, protection, and decontamination.
Methods: An operational system description which includes education, technical training, technology acquisition, and hazard-specific strategy and tactics is presented.
Results: Recognition (detection) requires a radiation area monitor ($6,000) to alert CH-ED staff that external contamination exists, prior to patients entering the treatment area. Staff then activate the emergency operations plan, notify the authority handling jurisdiction emergency services, and initiate the hospital incident command system. Hospital emergency response team members protect themselves by donning appropriate PPE (universal precautions) commonly used in CH-ED. Contaminated patients are isolated in the decontamination room or placed into a decontamination corridor and individually scanned for the exact location, type, and severity (current dose rate) of radiological contamination; using a hand-held pancake-type survey meter ($600 each x 2) by mid-level providers (MLPs) who have completed the Advanced Hazmat Life Support course ($500 each x 5). Decontamination is performed by nurses who have received in-house training using basic equipment and supplies which already exist in the decontamination room. Sustainment costs focus on educational needs and drills.
Conclusion: CH-ED capability to screen, detect, and decontaminate patients externally contaminated by radiation can be implemented for as little as 10 thousand US dollars and can be sustained for a fraction of the start-up cost.

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Comprehensive Disaster Medical System to Threat of Nuclear Emergency and Disaster

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Study/Objective: To develop a new comprehensive disaster medical system.
Background: The Government has developed the National Radiation EMS.
Methods: EMS for nuclear disasters were reviewed and re-organized.
Results: The primary emergency medical system around the nuclear plants was considered to be good, but there are problems during nights or holidays, for severe injury, and for many injured victims. The systems for decontamination in receiving facilities were not prepared enough. Personal protection devices for medical teams are less equipped. So, the new system is based on the assumption of nuclear disaster anywhere, any situation. It includes scenario of urban radiological material leakage, nuclear contamination from neighboring region, and mass panic state after perception of nuclear threat. National Radiation EMS developed a survey, an evaluation index of infrastructure, a prediction program for medical demand according to radiation disaster scenarios, and development plans. Evaluation indicators were composed of the seven domains: on-site response, ER, psychiatric support, radiation burn, bone marrow transplantation, internal contamination, and acute radiation syndrome. Each domain was measured by six grade levels. If 1,000 patients occur in the situation of combined disasters, according to the simulation analysis, the medical demand exceeds the capacity of the national radiation emergency medical response system. If 250 patients occur in case of a radioactivity leakage accident, it is expected to have some difficulty within the capacity of the regional response system, but it would be possible to respond within the national level.
Conclusion: The current level can be evaluated by comprehensive indicators and it is possible to plan the further development. For the adequate response to newly emerging threat of