Furthermore, longitudinal expandability supports the basic rules that facilitate the unidirectional flow of casualties from dirty to clean areas.

Conclusions: A LES is an answer to the requisites of disaster medicine standards and guidelines. It provides an effective and efficient area for sanitary aid in response to disasters or emergencies.

Keywords: disaster health; disaster health structure; medical shelter; medical unit

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(S105) Water Supply: Damage to Hospitals during Two Earthquakes in Japan, 2007

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Introduction: Lifeline functions are vital to maintain the function of medical treatment facilities. Patient survivability during disasters is dependent on the viability of lifelines functions, especially on a water supply system. This report deals with the water supply damage of hospitals after the Noto Peninsula and Niigataken Chuetsu-oki Earthquakes of 2007 in Japan.

Methods: The water supply management of three hospitals impacted by the two earthquakes was investigated using a field survey and interviews administered to hospital personnel. The assessment included water supply systems during normal operations and after the damage.

Results: Hospital A was damaged seriously. The water supply was disrupted completely for three days. Water was stored for only one day. This hospital depended completely on water wagons for the exceeded demand. Hemodialysis patients had to be sent to other hospitals for treatment.

Hospital B suffered little damage to its water tank.

Hospital C suffered serious damage. The water supply was disrupted completely for two weeks. The hospital held four days worth of a water supply, including a rainwater pool. The rest of its water demand was fulfilled by water wagons from the Self Defense Force.

Conclusions: Since hemodialysis consumes significant quantities of water, these patients were transferred for dialysis. Many were elderly and resisted evacuation. Keeping enough water in hospitals is vital to prevent hospital disruption due to a water shortage during disasters. Even nonpotable sources like rainwater can be used.

Keywords: earthquakes; hospitals; Japan; water supply;water systems

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(S106) Evacuation Exercise of an Intensive Care Unit

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Introduction: A 14-bed intensive care unit (ICU) was moved to a new part of the hospital, allowing for the unique opportunity to perform an evacuation drill of an ICU. Patients in the ICU are not only endangered by their disease, but also by their dependence on mechanical life support. Because a collapse of that lifesaving infrastructure is seldom, this scenario often is not considered and therefore, is underestimated.

Methods: For the drill, ten volunteers were dressed as ICU patients. Four of the ten patients were placed in a hot zone so that they could not be reached by the hospital staff and only could be rescued by the firefighters working with self-contained breathing protection. The danger in the hot zone was simulated using a smoke generator.

Results: The personnel worked together efficiently. The hospital staff benefited from the experience. The patients were evacuated from the ICU in 17 ±9 minutes, the hot zone was cleared in 21 ±10 minutes, and the patients were transferred to another ICU or to emergency medical services within 52 ±21 minutes. Many team members made suggestions on how to modify and improve the response to such an incident.

Conclusions: Organizing and performing an evacuation drill was difficult, but also a beneficial experience for all those involved. It is difficult to compare these data with other institutions, however there was much to learn for everybody involved in the drill.

Keywords: drill; evacuation; exercise; intensive care unit; safe hospital

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Oral Presentations—Civil-Military Collaboration

Potential Roles of Military-Specific Response to Natural Disasters—Analysis of the Rapid Deployment of a Mobile Surgical Team to the 2007 Peruvian Earthquake

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The August 2007 earthquake in Peru resulted in the loss of critical health infrastructure and resource capacity. A regionally located United States Military Mobile Surgical Team was deployed and operational within 48 hours. However, a