

## Session 5: Credentialling

Chairs: Geert Seynaeve; P. Patka

### Creating a Medical Student Elective in Disaster Medicine

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Traditional elective opportunities for American medical students include international medicine, service to underserved populations, and wilderness medicine. In recent years, interest in disaster medicine has increased among medical students. The University of New Mexico Department of Emergency Medicine has a robust history of involvement in all of these areas. One year ago, a four-week curriculum was developed to introduce senior medical students to both the theory and practice of medicine under austere conditions, with an emphasis on disaster medicine.

Faculty members with experience in disaster, international, prehospital, and wilderness medicine participated. Lectures covered basic topics in their areas of expertise, and a supplementary reading list included seminal chapters and primary research articles addressing more detailed and specific information. Drills were created to give students training in airway management, patient evacuation and splinting, confined space medicine, canine search-and-rescue, and high-angle rescue. Students completed Advanced Cardiac Life Support, Advanced Disaster Life Support, and Incident Command System courses.

Providing an elective in disaster medicine creates a unique forum for exposing medical students to disaster medicine, and increases their interest, which may extend into their post-graduate careers. Students are introduced to current literature and research, gain experience through drills, and investigate areas that usually are not covered in standard medical school curricula. This type of course can be a powerful recruiting tool for Emergency Medicine programs and departments with a Disaster Medicine Fellowship.

**Keywords:** curricula; disaster medicine; education; medical students; university

*Prehosp Disast Med* 2007;22(2):s11

### Preparing Nurses for Radiation Emergencies: An Evidence-Based Curriculum for Global Clinical and Health Systems Readiness

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The potential for a major radiation emergency, either accidental or the result of a terrorist attack is real and may occur at any time in any country. Historically, nurses have been asked to deal with patients who are contaminated with radioactivity or who have been exposed to damaging levels of radiation and may be again. The possibility of treating patients exposed to radiation creates significant fear and anxiety for most nurses, many of whom have insufficient knowledge about the true effects of radiation, how to recognize radiation injury, or what the appropriate clinical response should be for patients involved in radiological incidents.

A surge of patients presenting to accident and emergency departments as the result of a major radiation event is a terrifying prospect for any hospital or community. Yet we must be prepared for the occurrence of this scenario. Nurses must possess the knowledge and skill-sets required to respond to a radiation emergency in a timely and appropriate manner, and with confidence in their clinical competence and perception of personal safety.

This presentation reports data from an empirical study conducted regarding hospital-based nurses' knowledge and attitudes towards responding to radiation emergencies. It explores the concepts of baseline knowledge, clinical competence, perception of personal safety and willingness to respond. Finally, it provides an evidence-based framework for a comprehensive curriculum for nurses to manage the clinical and health systems' response to a major radiation disaster.

**Keywords:** curriculum; emergency; nurses; preparedness; radiation

*Prehosp Disast Med* 2007;22(2):s11

### 2006 Kocatepe Inferences on Triage and Trauma Suggested by Ankara Triage and Trauma Working Group

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The Ankara Triage Trauma Working Group (ATTTCG) was established by a group of general surgeons following The First National Congress of Disaster Medicine with international participation which convened in 2004 in Antalya, Turkey. Surgeons work in trauma, triage, and evacuation systems especially in the prehospital field. The ATTTCG questioned the practicability of the Congress' suggested theoretical approaches for medical care in the field and developed these suggestions for personnel serving this area particularly regarding the approach to the patient(s) with trauma. The group questioned the utility of some of the underlying medical concepts the Congress suggested, particularly under the circumstances existing in Turkey. In this presentation, the authors want to share their recommendations about a new kind of triage approach to the trauma patient. The authors named these recommendations as the "2006 Kocatepe Inferences".

**Keywords:** evacuation; inferences; trauma; triage; Turkey

*Prehosp Disast Med* 2007;22(2):s11

## Session 6: Emergency Medical Services Education and Training

Chairs: Geert Seynaeve; G. Patka

### TAS-Courses—Interdisciplinary Training for the Community-Based Prehospital Team

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The Norwegian Air Ambulance Foundation (NLA) was established in 1978, has 800,000 members, and is responsible for establishing modern HEMS-operations in Norway.

Since 1988 the government of Norway has financed the HEMS-operations. The aim of the Foundation is to improve emergency medicine in Norway.

**Interdisciplinary Emergency Medical Cooperation**—TAS seminars in emergency medicine are designed to promote cooperation between municipality resources. From 1999 to 2003, a general, interdisciplinary course was provided and completed by all 190 applicants (municipalities).

Uncontrolled bleeding and hypoxia are main causes of morbidity and mortality in traffic crashes. Entrapment delays the transport to definitive care. In 1998-1999, two firefighters and one paramedic in Oslo developed a new extrication technique based on the idea of reversing the forces of the original crash: (1) By 2002-2003, a new concept was developed in cooperation with these professionals. By May 2007, a new, revised TAS course was created and has been completed by 170 municipalities. Refresher courses and new concepts regarding heavy vehicles and kinematics currently are being designed.

Participants of the TAS courses have demonstrated their satisfaction with the course, with 90% giving a score of 4 or 5 on a scale from 1-5 (1 being "none and 5 being "very large" benefit).

**Conclusion:** Local resources handle the method adequately and are often able to extricate the victims within 10 minutes. Experiences from actual crashes indicate that the method is saving time on scene.

**Keywords:** courses; crashes; effects; extrication; training;

*Prehosp Disast Med 2007;22(2):s11-s12*

### Criteria for the Organization of a Mass-Casualty Exercise

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**Introduction:** Among all the possible educational paths for teaching disaster medicine, a real-sized exercise covers a primary and irreplaceable role. The possibility to structure functional, real-sized exercises that more and more applicable to real situations enables the operators to test both the adequacy of the available technical and logistical resources, and the emotional and operative action needed to cope with the condition.

#### Methods:

**Scenario**—Directly related to the simulation objective. Its complexity is not necessarily proportional to the exercise effectiveness. Very simple scenarios may have a strong educational impact.

**Actors**—Depending on the background and formative requirement of the protagonists of the exercise, it is necessary to shape the structure of the "drill."

**Simulators**—These persons have a fundamental role in the search for the adherence of the simulation to the reality.

**Data Collection**—The purpose of every functional exercise should be to supply data that can be assessed and used to draw precise indication to improve the protocols in use. To collect a series of useful key points to set up a real-size exercise can modify the educational impact of this kind of didactic pathway.

**Conclusions:** To make uniform the management issues in the phases of scenario, feedback can promote a standardization process aimed at providing invaluable and comparable exercises. This process is intended to search for a model applicable to any reality involved in this field, to standardize the development of assessment strategies for exercises in disaster medicine.

**Keywords:** development; disaster; effectiveness; exercises; simulations

*Prehosp Disast Med 2007;22(2):s12*

### Power Exercise Creator and Evaluator (ECE): A New Tool for Planning, Organizing, and Evaluating a Virtual Disaster Simulation

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**Introduction:** Functional, full-scale exercises, although expensive, are mandatory to test a hospital's emergency department (ED) response to a disaster. Power Exercise Creator and Evaluator (ECE) is software capable of integrating all the information needed to simulate the ED response to a mass-casualty incident (MCI) (patient data, bed occupancy, laboratory and imaging facilities, and manpower availability) without stopping routine hospital activities. **Methods:** This platform software is composed of a database containing casualty 'storyboards' (clinical findings according to timings and treatments performed) based on the expected injuries for any kind of event; virtual laboratory and radiology departments with pre-planned exam data sheets. Power ECE includes a multiple windows view that allows the caregiver to perform treatments on victims, request certain tests and exams, and admit or discharge patients. The software is fully equipped with a statistical tool, capable of analyzing the virtual drill according to pre-selected performance indicators and to perform evaluations at once.

**Results:** This platform was tested during a drill simulating a road traffic accident in a tunnel involving sham-victims. Fifty victims arrived at the ED where on-duty physicians used Power ECE for simulating technical lab and imaging procedures, and to dispatch and manage patient movements inside the simulated hospital. Notwithstanding the scenario complexity, there have been no technical problems running the simulation. Quantitative evaluation of the performance was provided by the participants at the end of the exercise.

**Conclusions:** This software is an inexpensive and user-friendly tool to organize and evaluate hospital ED disaster drills.

**Keywords:** drills; emergency department (ED); mass-casualty incident (MCI); Power Exercise Creator and Evaluator (ECE); simulation

*Prehosp Disast Med 2007;22(2):s12*