

Disaster Prevention and Relief in Shanghai

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Urban disaster causes great damage to lives and property. So it is important to prevent it from taking place and to rescue casualties if it occurs. The authors describe urban disasters of Shanghai:

I. Main types and status of urban disasters

1. Typhoon
2. Rainstorm
3. Tornado
4. Heavy fog
5. High temperature
6. Geology
7. Traffic accident
8. Fire accident
9. Occupational accident
10. Chemical accident
11. Disasters resulting from municipal facilities

II. Main characteristics of urban disasters

1. Variety
2. Complexity
3. Human factor
4. Enlargement

III. Main rescue troops of Shanghai

The special rescue teams of the municipal civil defense command

The special rescue units of districts

The diving rescue units at the levels of city and district

The building and rescue unit of Shanghai Construction

Group

The municipal rescue work station for nuclear and chemical accidents

The municipal center for disease prevention and control

The municipal monitoring office of environmental protection

The municipal hospital for occupational diseases

The municipal station for chemical hazards protection

The municipal center for gas emergency

The special rescue teams of the armed forces

The municipal emergency telecommunications unit

The emergency telecommunications unit of the municipal civil defense command

The municipal first aid medical center

IV. Organization and procedure of rescue work

Keywords: disaster, disaster response, urban disaster response

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Nuclear Reactor Emergencies: Iodine Prophylaxis. Is Community Pre-Distribution of Stable Iodine Tablets Always the Answer?

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Objective: To evaluate the efficacy of iodine prophylaxis during a nuclear reactor emergency, and debate the role of community pre-distribution of stable iodine tablets.

Method: Literature review and risk analysis of a specific site in Sydney, Australia.

Background: A low-power, medical research (HIFAR)

reactor (10MW) is sited in Sydney's south. The possibility of an emergency at the reactor is a source of significant community concern. Considerable debate has occurred about the need for pre-distribution of stable iodine tablets to the local community. This paper reviews the literature with regards to the need for stable iodine prophylaxis in the event of a nuclear emergency, and specifically reviews the circumstances around the HIFAR reactor in Sydney.

Results: (1) In the event of the release of ionizing radiation containing iodine radionucleotides, early stable iodine administration is important to reduce the risk of thyroid carcinoma, particularly in children and in pregnant women. (2) The efficacy of iodine administration to adults over 40 years of age is not certain. (3) The World Health Organization currently recommends iodine administration at 10mGy for children under 12 years and for pregnant women, and 100mGy for adults. (4) The profile of the HIFAR reactor demonstrates a very low risk of significant radiation release, even in the event of a terrorist attack. (5) Levels of radiation released in a worst-case scenario may require interventions in a small number of children and pregnant women, but the area likely to be affected is small. Adults in the community will not require intervention.

Conclusions: (1) Emergency plans should undertake specific risk assessments in regard to specific sites. (2) Developing emergency plans assuming all reactors are similar to Chernobyl is not appropriate; (3) In regard to the HIFAR reactor at Lucas Heights in Sydney, limited proactive evacuation and iodine administration at an evacuation center would seem more appropriate than pre-distribution and sheltering in place.

Keywords: children; evacuation; iodine, administration; nucleotides; plans; pregnancy; prophylaxis; radiation; reactor, nuclear; risk; terrorist
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Emergency Medical Education and Training Center

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Introduction: In the past several years, there has been an increasing interest in Emergency Medicine (EM) throughout the world. There has been institutional and private support from the United States and Europe to help develop EM throughout the rest of the world. Even though several countries have begun developing their own EM training programs and have had EM become a medical specialty, there have been no discussions on how to develop or partake in developing EM as a specialty. The steps involved in developing EM in China and the development of the Emergency Medical Education and Training Center (EMETC) will be described.

Methods: Officials from the Ministry of Public Health in China, Chaoyang Hospital, and the Center for International Emergency Medicine and Refugee Studies at Johns Hopkins University met in 2000-2001 to develop the EMETC that will be based in Beijing, China. The goal of EMETC is to develop emergency medicine as a specialty, and is the central training site for China. The EMETC

has four components: (1) EM administration training, (2) EM nursing training, (3) an EM one-year physician training course, and (4) a three-year EM residency program.

Results: The EMETC has finished its first year, and has graduated 70 students from its administration course and 65 from its nursing course, and 45 students will be graduating in March 2003 from its one-year physician training.

Conclusions: The development of EM as a specialty is a challenging venture. We propose a structure similar to EMETC that facilitates growth of all aspects of EM.

Keywords: Emergency Medicine; nurses; physicians; specialty; training; worldwide

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Comparison of Pelvic Fracture and Lumbar Spine Fracture Presentations in the Alfred Emergency and Trauma Centre

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Methods: Retrospective study during 12 months of patients with a pelvic fracture (PF) or a lumbar spine fracture (LSF). Patients were classified into one of four groups: Group A Isolated PF – only one fracture in the pelvis and no other significant injury

Group B Major PF – fractures in two or more separate sites in the pelvis or fracture in one site with hip dislocation or PF and injury \geq AIS 2 in other body regions

Group C Isolated LSF – single LSF and no other significant injury

Group D LSF in two or more vertebrae or LSF and injury \geq AIS 2 in other body regions (excluding PF)

Results: There were 39,005 presentations over the 12 months: 146 patients with a PF, with 27 in Group 1 (6M, 21F, mean age = 77 years) and 119 in Group B (78M, 41F, mean age = 43 years). There were 42 patients with a LSF, with 15 in Group C (10M, 5F, mean age = 50 years) and 27 in Group D (19M, 8F, mean age = 40 years).

Group No	CerSF	ThorSF	LSF	PF
A 27	-	-	-	27
B 119	6	4	13	119
C 15	-	-	15	-
D 27	1	5	27	-

Group	Coagulopathy	ISS	LOS	Death
A	0	7 \pm 3	14	3
B	16	20 \pm 12	18	9
C	0	4 \pm 1	11	1
D	0	19 \pm 10	22	1

CerSF = cervical spine fracture; ThorSF = thoracic spine fracture; ISS = injury severity score with the values being mean \pm ST; LOS = mean length of inpatient stay (in days)

The major injury mechanism for each Group was:

Group A Fall from a low level (55%)

Group B Motor vehicle accidents (81%)

Group C Falls (50%)

Group D Motor vehicle accidents (41%) and fall from a height (41%)

Conclusions: PF (either isolated or major) was two to three times more common than LSF. Falls were the most common mechanism in Group A, Group C, and Group D.

The combination of PF and LSF in the same patient was uncommon (13 out of 119 Group B patients). The mortality in major PF was double that seen in major LSF.

Keywords: lumbar spine fracture (LSF); mechanism of injury; mortality; pelvic fracture (PF); thoracic spine fracture

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Disaster and the Neurosurgeon's Role

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Triage for the neurosurgeon is a misnomer. The neurosurgeon's role within a mass casualty situation is one of a subspecialist surgeon instead of a triage officer. Unfortunately, because of the events of 11 September 2001, civilian neurosurgeons and other medical specialists have been questioning their roles in a mass casualty situation or in a situation created by biological, chemical, or nuclear weapons. There is no single triage system used exclusively within the United States. Different systems have differing sensitivities, specificities, and labeling methods. The purpose of this article is to discuss varying aspects of triage for both military personnel and civilians, and to suggest how the neurosurgeon may help shape this process within his or her community. The effect of biological, chemical, and nuclear weapons will be discussed in relation to the triage system.

Keywords: neurosurgeon; role; trauma; triage

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Applying Hospital Deployment for Emergencies in Real Events

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During the last decade, the Tel Aviv Sourasky Medical Center (TASMC) coped with tens of mass casualty events (MCE). These events raised the scope and intensity of disaster planning and preparation and outgoing activities in order to assure optimal and professional, and almost automatic, medical response. The tool that resulted assessed multiple factors such as:

- Expansion of manpower resources and training
- Standing orders and protocols
- Predesignation of admitting sites
- Availability of the staff

These factors were tested and evaluated during the Dolfinarium MC in June 2001. Initial notification activated the necessary activities such as:

- Summoning the professional staff
- Evacuation and preparation of the admitting sites in the ER
- Opening the Information Center
- Opening operating theaters
- Psychiatric services, etc.

These activities enabled efficient and professional medical treatment to the 56 casualties, some of them in a very severe condition, who were admitted in a very short time.

Summary: Unfortunately, each MCE such as the Dolfinarium MCE, provides the opportunity to check in real time, the hospital deployment plan, and to apply the necessary changes for the future.

Keywords: deployment; evaluation; hospital; mass casualty event; notification;