

country haunted by earthquakes. It is very difficult to avoid casualties once the earthquake has taken place, and prevention of earthquake still is in the research stage. Earthquake disaster events can be classified as original disaster, direct disaster, secondary disaster, and induced disaster.

1. Characteristics of earthquake casualties: Injuries in earthquakes are related to: (1) time; (2) season; (3) population density; (4) the structure of the buildings; and (5) the geological environment. Earthquake events have the following characteristics:

1.1 Result in massive numbers of casualties

1.2 Block of rescue

1.3 Produce massive secondary disasters

2. Rescue:

2.1 On-the-spot rescue — on-the-spot rescue should be carried out as soon as possible after the earthquake, though it is dangerous and extremely difficult. The principal task of on-the-spot rescue is to extricate trapped persons.

2.2 Medical treatment — disaster medical stations are formed to provide primary treatment and triage of victims for priority transport for further medical care. Medical stations also perform necessarily emergent treatment and surgeries for disaster victims. The medical station can be divided into several professional groups.

2.3 Hospitals — manage incoming disaster victims after triage at the medical station.

Keywords: China; disaster; disaster response; earthquake
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Maritime Radio-Medical Services: The Singapore General Hospital Experience

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Medical care for the sick and injured at sea involves unique logistical problems, including scarce resources, distance, isolation, communications, and weather. In 1980, the Department of Emergency Medicine at Singapore General Hospital took over the responsibility of radio-medical advice from the Port Health Authority. This paper analyzes 2,409 calls received over a period of 22 years (January 1980 to December 2001). It highlights the common consultations, modes of communications, treatment and management prescribed, and training requirements, as well as the challenges for the future.

Keywords: radio-medical advice; sea; Singapore
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Red Cross International Medical Relief for Earthquake Victims in Afghanistan (2002)

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On 05 May 2002, a basic healthcare Emergency Response Unit (ERU) was established at Naharin in the Baglan province of Afghanistan. Mission goals included:

1. Establish a temporary clinic
 - a. Follow-up and rehabilitation of patients who suffered earthquake-related injuries

- b. Treatment of new injuries caused by secondary event
- c. Treatment of patients with chronic diseases, i.e., respiratory infections
- d. Examination of female patients by midwives.

2. Reinforcement of the ARCS mobile teams with training

3. Surveillance for contagious diseases

4. Treatment of patients with the post-traumatic stress disorder (PTSD) patients

5. Disaster preparedness

Results: From 05 to 26 May, 1,357 patients were treated: 351 surgical, 875 internal medicine, and 131 gynecological and obstetric patients. Of the 351 surgical patients: (1) 187 (54%) were new patients; (2) 145 (42%) were earthquake-related; and (3) 19 (5%) were war-related. Surgical pathology included: (1) Fractures, 19 (6%); (2) Burns, 25 (7%); (3) Acute injuries, 122 (36%); (4) Infected wounds, 153 (45%); and (5) Others, 32 (9%). Surgical interventions included: (1) Incision and drainage of pus, 23 (45%); (2) Suturing, 13 (25%); (3) Atheroma extirpation, 8 (16%); (4) Cast and its removal, 6 (11%); and (5) Above-knee amputations, 1 (2%).

Summary: Conventional customs and mass destruction of the infrastructure forced the victims to live with poorer hygiene, which resulted in easy access to infection. Proper medication or simple operations under local anesthesia generally gave them a cure within one week.

Keywords: Afghanistan; anaesthesia; clinic; disaster; earthquake; healthcare emergency response team; infection; infrastructure; Japan; post-traumatic distress disorder (PTSD); preparedness; Red Cross

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Serious Disasters of Seacoast Provinces in China

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Statistics of the China Reduced Disaster Committee showed that the seacoast provinces of China from north to south consist of Heilongjiang, Liaoning, Hebei Shangong, Jiangsu, Zhejiang, Guangdong, Guangxi, and Heinan. The economic development of these seacoast provinces is of great importance to China. In recent years, National Financial Statistics showed that the output value of coastal provinces was about 1,581 hundred millions of dollars (55.9% of total national output value). But, calamities in this area also are very serious. Recent statistics show that the economic loss caused by calamities is about 18,800 dollars per square meter of coastal area. The main events that occur along this coast include:

1. **Earthquakes:** The geography of the coastal area is part of the seismic zone of the Pacific Rim. Statistics indicate that during last 40 years, there were 22 earthquakes. In 1976, the magnitude of the Tang Shan earthquake was 7.8 (Richter scale) and resulted in 242,000 persons killed and an economic loss of about 1,900 millions of dollars.

2. **Floods:** Rain storms have caused serious floods in low-lying parts of coastal area. According to the records of the Yangtze River from the Han Dynasty (206 BC–AD 2200) to recent time, floods occurred more than 2,000 times.