

### The Effects of the Taiwan Earthquake on the Urban Emergency Health Care System

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**Introduction:** The Taiwan earthquake measuring 7.3 on the Richter scale, struck Taipei, the capital city of Taiwan, 200 kilometers from the epicenter at 01:47 hours on 21 September, 1999. Taipei sustained only one collapsed building (12-story), but had the highest death toll among all collapsed structures in the quake.

**Methods:** To characterize the responsiveness of the rescue and prehospital EMS system and the hospital Emergency Departments in Taipei city, we retrieved and reviewed EMS run sheets and hospital records of all 214 injured persons from the collapsed building, to determine the utilization of our urban emergency care services and the epidemiology of the injuries.

**Results:** 76 victims were found dead upon extrication, the majority extricated more than 6 hours after the earthquake. 74% (102/138) of the 138 survived patients were transported by ambulance, among those only 65% (66/102) had prehospital records, and 61% (40/66) of these records were incomplete. 86% of the patients extricated alive arrived at hospitals within 3 hours after the quake. 18% of Emergency Department records did not contain the triage level and initial vital signs. Trauma and inhalation accounted for 89% and 27% of all patients. The leading injuries included lacerations (65%), contusion/abrasion (53%), and head injuries (35%). Fractures and burn constituted >5% of the injuries. 31% of the patients were admitted and only 2% patients needed intensive care. Two patients died in the hospital.

**Conclusion:** EMS records and Emergency Department triage were under-utilized during the disaster. Most patients sustained mild injuries and freed themselves. The small rescue team Taiwan possesses is incapable of dealing with victims buried under collapsed structures. Most patients extricated later than 6 hours after the earthquake were dead. Further improvement of the EMS system and implementation of heavy search and rescue capabilities is needed.

**Keywords:** collapsed structure; confined space medicine; earthquake; emergency care, epidemiology; injuries; rescue; search; urban

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### The "1. Schnelleinsatzgruppe (SEG) Sanität Erlangen Stadt, Bavarian Red Cross, Germany" as an Example for Modern Disaster Planning.

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The "Schnelleinsatzgruppe, SEG" (fast operation group) is a modern form for disaster planning. Small groups that are ready for action in a few minutes, are flexible and are not only brought into action in case of disaster, but also to support the regular rescue service in periods when it is sparsely filled. In case of disaster, the different groups cooperate.

The organization, financing, and personnel structure are quite different for the various groups. A typical example is to be portrayed.

The "1. Schnelleinsatzgruppe Sanität Erlangen Stadt" is organized completely using an honorary capacity. Personnel structure and organization financing, equipment, and fleet, alert, and range of action will be presented.

**Keywords:** Bavarian; disaster; Red Cross; response; Schnelleinsatzgruppe Sanität Erlangen Stadt