

## ACTIONS OF DISASTER EMERGENCY MEDICAL SYSTEM IN HYOGO PREFECTURE BASED ON THE EXPERIENCE OF THE GREAT HANSHIN AWAJI EARTHQUAKE

Hyogo Emergency Medical Center  
Director Shuichi Kozawa M.D, PhD

## LESSONS LEARNED FROM THE GREAT HANSHIN AWAJI EARTHQUAKE (EMERGENCY MEDICINE)

### 1. Command and control

Backup system for disaster did not function properly

### 2. Communication

Communication system damaged caused mixed information.

In result, the patients were not transported to the appropriate hospitals.

### 3. Transportation

Though suffered from major traffic jam, helicopters were not utilized in a proper manner

## EMERGENCY MEDICAL SYSTEM OF HYOGO PREFECTURE

### 1. Communication

A wide area disaster emergency medicine information network

### 2. Command and control

Disaster medical center. A disaster medical coordinator

### 3. Communication. Command and control.

Training Hyogo Emergency Medical Center

## EMERGENCY MEDICAL INFORMATION SYSTEM OF HYOGO PREFECTURE

### 1 Normal mode

Engage in information exchanges about emergency medicine

### 2 Disaster mode (at the time of Disaster)

Applied soon after the disaster

-Requested Information

(For patient transfer and the relief team dispatch)

-Support Information

(For patient acceptance, relief team dispatch)

### 3 Emergency mode (at the time of Emergency)

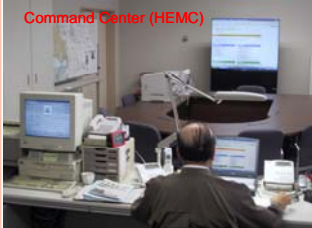
Additionally implemented in April, 2003

The firefighting headquarters put the mode in motion at the time of Emergency.

An alert sounds ring

## DISASTER AND EMERGENCY MEDICAL SERVICES INFORMATION SYSTEM (E-MIS)

Command Center (HEMC)




Every emergency hospital is required to input the number of vacant beds and the available medical services in the network system (E-MIS) twice a day. In case of big disaster, alarm sound will ring.

Lap-top computers were distributed to Emergency Hospitals(264), Fire Departments(30), and Public Health Centers(10) in Hyogo Prefecture

| Information training, action | 2004  | 2005  | 2006  | 2007  | 2008  |
|------------------------------|---|---|---|---|---|
| Disaster mode training       | 1   | 1   | 1   | 1   | 1   |
| Disaster mode action         | 1<br>Chuetsu Earthquake   |   | 1<br>Noto Peninsula Earthquake  | 1<br>Chuetsu offing Earthquake  | 1<br>Miyagi, Iwate inland Earthquake                              |
| Emergency mode training      | 4   | 5   | 10  | 14  | 10  |
| Emergency Mode action        | 4<br>Big traffic accidents (Kobe1 .awaji1)<br>Bad smell -1<br>Typhoon 23 ( Tajima flood disaster) | 4<br>JR Fukuchiyam Line accident<br>Big traffic accident (Chugoku highway)<br>Big traffic accidents (Kobe Line, Sanyo high way) | 4<br>JR Sannomiya bad smell<br>Big traffic accident (Hanshin high way)<br>Fire (Hospital, Takarazuka karaoke room building) | 8<br>Big traffic accidents-3 work-related accidents-2<br>Akashi Channel sea disaster accident<br>Fire (Kobe2) | 5<br>Big traffic accidents-4 (Kobe2, Tajima 2)<br>Food poisoning? |


**DISASTER MEDICAL CENTERS IN HYOGO PREFECTURE**

**Hyogo Emergency Medical Center (HEMC)**



Established in August, 2003

- Expected to play a leading role on disaster management
- To accept many casualties in disaster setting
- To be centers of long distance transfer of emergency patients
- To dispatch relief medical teams
- To stock medical supplies.
- To train medical staff



**HYOGO EMERGENCY MEDICAL CENTER (HEMC)**

**-- Main DMC in Hyogo --**



Dispatch of First-aid Teams to Disaster Sites



Conference Room  
Can be used as temporary ward

**Antiseismic structure**

- Basement: Base Isolation System
- Earthquake Proof Building
- Large Water Storage Tank
- Electrical Power Generators

**International cooperation**

EARTHQUAKE, BAM, IRAN, 2003-4

Tsunami, Sri Lanka, 2004-5

Earthquake, Java Central in May, 2006




Dr. Ukai, Head of Medical Team Of JMTDR



HuMA and HEMC Medical Team



Operation with Netherlands Indonesian Team

**SICHUAN BIG EARTHQUAKE 2008. 5. 20-6. 2**





**TAJIMA AREA FLOOD DISASTER BY TYPHOON 23 (2004. 10. 20-26)**





10 Disaster Medical Centers dispatched relief workers

**THE JR FUKUCHIYAMA LINE TRAIN DERAILED DISASTER NEWS ON THE EVENING PAPER**


April 25, 2005

**JR脱線 37人死亡**



マンション激突  
救出難航 220人以上負傷

尼崎-福知山線  
直前伊丹駅オーバースhoot




**JR FUKUCHIYAMA LINE  
TRAIN DERAILED ACCIDENT  
(April 25, 2005)**

No. Death: 107  
No. Injured: 555

**Performance of HEMC**

- Dispatched doctor attended ambulance
- Performed on-site medical command
- On-site triage and first aid
- Exchanged information with other hospitals
- Asked cooperation of DMCs in Osaka
- Dispatched second team by a helicopter.
- Received 4 severe cases by helicopter
- Dispatched third team in the evening and provided CSM
- Took initiative of surveillance study of the casualties




DMAT (DISASTER MEDICAL ASSISTANT TEAM) TRAINING IS HELD AT TWO MAIN DMCEAST-NATIONAL DMG WEST-HEMG

Staging Care



Long distance transfer by Airplane of Self Defense Force



Confined Space Medical Care

**THE CHUETSU OFFING EARTHQUAKE (2007. 7.16-18)**



Hyogo Emergency Medical Center

Headquarter of disaster medical care (Information control center)



Kariha General Hospital

Headquarter of disaster medical care (DMAT teams from all of the Japan)




**SUMMARY**

1. Emergency Medical Info System (e-mis) was renewed.
2. 15 hospitals are designated as Disaster Medical Centers, and Hyogo Emergency Medical Center (Kobe Red Cross Hospital) was established as the main Disaster Medical Center.
3. Lessons of GHAE were applied at the time of the train derailed disaster in Amagasaki, Hyogo.