Japanese Red Cross Musashino Hospital
Disaster Medical Care Response

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Chief of Disaster Prevention & Widespread Disaster Management Committee
Japanese Red Cross Musashino Hospital
Contents

• The role of Musashino Hospital in regional medical care
• Disaster response
• Medical aid activities after the Great East Japan Earthquake
• Issues relating to individuals who require early medical care in an emergency (vulnerable people)
Japanese Red Cross (JRC) Musashino Hospital

General hospital located in central Tokyo handling acute-phase treatment

Total number of beds: 611

Number of emergency center beds: 30
### Key facts and figures

#### Results, and number of patients and personnel in past three years (FY2011)

<table>
<thead>
<tr>
<th>Item</th>
<th>FY2009</th>
<th>FY2010 (leap year)</th>
<th>FY2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of outpatients</td>
<td>358,938</td>
<td>337,691</td>
<td>334,464</td>
</tr>
<tr>
<td>Number of outpatients (daily average)</td>
<td>1,489</td>
<td>1,390</td>
<td>1,371</td>
</tr>
<tr>
<td>Number of inpatients</td>
<td>210,263</td>
<td>207,200</td>
<td>207,974</td>
</tr>
<tr>
<td>Bed occupancy rate</td>
<td>94.3%</td>
<td>92.9%</td>
<td>93.0%</td>
</tr>
<tr>
<td>Average length of hospitalization (days)</td>
<td>11.8</td>
<td>11.7</td>
<td>11.9</td>
</tr>
<tr>
<td>Referral rate (regional support hospital)</td>
<td>71.4%</td>
<td>73.2%</td>
<td>74.4%</td>
</tr>
<tr>
<td>Number of operations (surgery center)</td>
<td>8,137</td>
<td>8,252</td>
<td>8,749</td>
</tr>
<tr>
<td>Number of delivery</td>
<td>1,267</td>
<td>1,274</td>
<td>1,135</td>
</tr>
</tbody>
</table>
## Key facts and figures

### Results, and number of patients and personnel in past three years (FY2011)

<table>
<thead>
<tr>
<th>Emergency center</th>
<th>Number of patients</th>
<th>FY2009</th>
<th>FY2010 (leap year)</th>
<th>FY2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>38,245</td>
<td>31,879</td>
<td>30,820</td>
<td></td>
</tr>
<tr>
<td>Number of tertiary emergency patients</td>
<td>1,443</td>
<td>1,357</td>
<td>1,247</td>
<td></td>
</tr>
<tr>
<td>Number of ambulances</td>
<td>6,595</td>
<td>6,549</td>
<td>7,203</td>
<td></td>
</tr>
<tr>
<td>Number of ambulances (daily average)</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of personnel</th>
<th>Total</th>
<th>Doctors</th>
<th>Nurses</th>
<th>Medical technologists, etc.</th>
<th>Clerical workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2009</td>
<td>1,296.0</td>
<td>193.0</td>
<td>703.9</td>
<td>287.3</td>
<td>111.8</td>
</tr>
<tr>
<td>FY2010 (leap year)</td>
<td>1,295.7</td>
<td>199.6</td>
<td>685.4</td>
<td>291.3</td>
<td>1119.4</td>
</tr>
<tr>
<td>FY2011</td>
<td>1,345.0</td>
<td>213.5</td>
<td>706.9</td>
<td>294.4</td>
<td>130.2</td>
</tr>
</tbody>
</table>
Emergency Patients

- walk in
- Ambulance

Emergency Care System at JRC Musashino Hospital

Hospital

- Mild patients
- Moderate patients (Require hospitalization)
- Severe patients

Emergency and Critical Care Center
- Emergency Center General Medicine
- Emergency and Critical Care Center
- Emergency Medicine Specialist
Classification of Emergency Medical Facilities

- Tertiary Emergency Medical Facilities (handling highest level emergency medical care)
  - Emergency and Critical Care Centers

- Secondary Emergency Medical Facilities (handling comprehensive emergency medical care)
  - Emergency Hospitals
  - Specialized acute care hospitals and clinics
    (stroke, acute myocardial infarction, etc.)

- Initial Emergency Medical Facilities (handling initial emergency medical care)
  - Holiday/after-hours emergency centers & clinics, etc.
• Establishment of Information Section
• Disaster Management Headquarter Office
• Disaster Management System
Criteria of the establishment of Information Section

Disasters outside the hospital
1) Within the Tokyo Metropolis, an earthquake at JMA Seismic Intensity Scale 5 or greater occurs
2) In another region, an earthquake at JMA Seismic Intensity Scale 6 or greater occurs
3) Tsunami Warning (for a large tsunami) is issued
4) Tokai Earthquake Advisory is issued
5) A large scale rail or air accident occurs
6) A large scale disaster occurs in the Kanto region

Disasters inside of the hospital
- (Large) shaking is felt in the hospital ward.
- Fire (including when the fire alarm is set off)
- Lifelines are judged to get damaged by water leaks, power outages, or other incidents.

Respond with the “All hazards approach”
Where the intelligence unit is established will be determined according to the situation. Emergency center (1F), General affairs division (8F), Social division, sub-Disaster Prevention & Response Center, etc.
Primary activities at the JRC Musashino when a disaster occurs

- Damage and/or casualties within the hospital
- Dispatch of disaster relief team
- Acceptance of large number of injury patients
- Or a high possibility of any of these measures
Preliminary action towards the establishment of a Disaster Management HQ

Determine who is in charge in each area and establish a command hierarchy (Preliminary move towards the establishment of a disaster management HQ)
Plan for Receiving Injured Individuals During Disasters
Framework of Acceptance according to the disaster level

<table>
<thead>
<tr>
<th>Level</th>
<th>Scale of the disaster</th>
<th>Venues for the response</th>
<th>Staff on duties for acceptance</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>Local disaster Accident (up to 30 persons)</td>
<td>Emergency Center</td>
<td>Staff already at the hospital (Emergency department and support)</td>
<td>Emergency response</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Call in staff if on a weekend or at night</td>
<td></td>
</tr>
<tr>
<td>Level II</td>
<td>Local natural disaster</td>
<td>Emergency Center and</td>
<td>Staff that are able to support (Emergency department and support from each department)</td>
<td>Extended response</td>
</tr>
<tr>
<td></td>
<td>Large scale manmade disaster</td>
<td>Atrium</td>
<td>Call in staff if on a weekend or at night</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infrastructure intact (30 – 100 persons)</td>
<td></td>
<td>Senior staff to come in</td>
<td></td>
</tr>
<tr>
<td>Level III</td>
<td>Natural disaster that damaged the infrastructure</td>
<td>Emergency Center, Atrium</td>
<td>All staff to be called in Request assistance to the branches</td>
<td>State of emergency (maximum)</td>
</tr>
<tr>
<td></td>
<td>(over 100 persons)</td>
<td>and Outpatient wing</td>
<td>response</td>
<td></td>
</tr>
</tbody>
</table>

Adopt a different response framework according to the number of injured patients (expected) to arrive
Expansion according to the disaster level

Shifting of the triage post at each level

- Level I location
- Level II and III location

Line of ambulance movements

Line of patient movements

Line of ambulance movements

Used in Response level I, II and III

Used in Response level II and III

Used in Response level III

Outpatient wing

Atrium

Emergency Center

Transport
Great East Japan Earthquake
Quake intensity registered at 5-lower in Musashino City
Felt the severe shock of the earthquake on the 8th floor of our hospital

March 11, 2011
Information Gathering Section

↓

Establishment of Disaster Management HQ
Key Factors for Systematic Response for Large-Scale Accidents and Disasters

<table>
<thead>
<tr>
<th>C: Command &amp; Control</th>
<th>指揮と統制</th>
<th>Medical Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>S: Safety</td>
<td>安全</td>
<td>（医療管理）</td>
</tr>
<tr>
<td>C: Communication</td>
<td>情報伝達</td>
<td>Forming Organization</td>
</tr>
<tr>
<td>A: Assessment</td>
<td>評価</td>
<td></td>
</tr>
</tbody>
</table>

Establish CSCA to start TTT

<table>
<thead>
<tr>
<th>T: Triage</th>
<th>トリアージ</th>
<th>Medical Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: Treatment</td>
<td>治療</td>
<td>（医療支援）</td>
</tr>
<tr>
<td>T: Transport</td>
<td>搬送</td>
<td></td>
</tr>
</tbody>
</table>

Source: United Kingdom MIMMS®  Major Incident Medical Management and Support
A. KATSUMI  Musashino Red Cross Hospital
Preparation for mobilization to disaster sites    March 11, 2011

A. kATSUMI   Musashino Red Cross Hospital
Mobilization to disaster sites, Seeing the staff off in front of the hospital, “Take care!”
March 11, 2011, 6:00 PM
A. KATSUMI  Musashino Red Cross Hospital
JRC Musashino Hospital Disaster Relief Team
At the Great East Japan Earthquake

A total of 17 teams were dispatched between March 11 and July 4, 2011

- Ofunato, Iwate
- Kamaishi, Iwate
- Ishinomaki, Miyagi
- Iwanuma, Miyagi
- Minami-Soma, Fukushima
- Fukushima, Fukushima
Disaster Relief Medical Care Stations
Medical care Stations (MCS) installed in the areas that have no such facilities.

- Disaster Relief Medical Care Stations (MCS) at evacuation centers
  disaster sites
  hospitals
- Core Disaster Relief MCS within disaster sites (Kamaishi, Rikuzen-Takata, etc.)
Disaster Relief Medical Care Stations in front of a hospital

March 15, JRC Ishinomaki Hospital

A. KATSUMI  Musashino Red Cross Hospital
Disaster Relief MCS

In front of Miyagi Prefectural Office  dERU

Suzuko Park in Kamaishi City

Disaster Relief MCS at evacuation centers

Core Disaster Relief MCS

Early installation of MCS is an important strategy for mid- and long-term medical care activities
Figures indicate the composition ratios (100%) setting the male-to-female ratio at 100.

Number of deaths in the Great East Japan Earthquake is the total in three prefectures in Tohoku Region (Iwate, Miyagi, Fukushima) created by the Cabinet Office based on the data released from the National Policy Agency. Data is acquired after autopsy (excluding the individuals whose sex and age are unknown) (as of April 11, 2011). Demographic composition in the coastal areas in three prefectures in Tohoku Region is acquired from 2010 Census.

Mortality of individuals 60 years of age or older 64.4%

Mortality by age/ by population
- Individuals in their 80s 3.3 times
- Individuals in their 70s 2.3 times
- Individuals in their 60s 1.4 times
Many people were waiting for us anxiously

March 16, 2011

A. KATSUMI  Musashino Red Cross Hospital
Contact with children gave us energy. (March 16, 2011)
Help people invigorated us.

A. KATSUMI  Musashino Red Cross Hospital
It is important to promptly provide assistance to individuals in need, not only in terms of medical care, but also for other matters at disaster sites where the provision of medical care is difficult in the long run.

A. KATSUMI Musashino Red Cross Hospital
vulnerable people during disaster

vulnerable people during disaster (those who fall into (1) to (4) below.)

When danger is close at hand,
(1) Those who cannot sense it, or have difficulty in sensing it;
(2) Those who cannot take or have difficulty in taking appropriate action even if they can sense it;
(3) Those who cannot receive or have difficulty in receiving information on risk;
and
(4) Those who receive information on risk, but cannot take or have difficulty in taking appropriate action.

1991 White Paper on Disaster Management
vulnerable people and disaster

Injured individuals ← Providing medical care
Individuals with disabilities
Elderly individuals
Infants & children
Individuals from abroad
Pregnant women
Travelers
vulnerable people requiring prompt medical care

Individuals with pre-existing conditions whose life would be at risk if medical care were interrupted include the following:

- Those who use artificial respirators at home;
- Those who use oxygen tanks at home; and
Difficulties for individuals requiring assistance in large cities

Individual hospitals, clinics, home-visit-care or nursing-care facilities maintain patient information.
No information sharing under normal circumstances. → Causing difficulty in prompt role-sharing during disaster.
What is essential for a local base hospital

• Improvement of emergency medical care facilities during normal times is necessary to prepare for the prompt switch to disaster medical care.

• Education for practical team medicine during disaster in preparation for prompt and long-term disaster medical care.

• Cooperation with administrations, health centers, and medical associations for the sharing of information to respond to individuals requiring assistance during disaster.