POCT is useful for disaster relief activity.

~ Experience from the laboratory medicine support after the Great East Japan Earthquake ~

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Kobe Luminarie

- Great Hanshin Earthquake occurred on January 17, 1995 at 5:46 AM
- Kobe Luminarie held in Kobe, Japan, every December since 1995 to commemorate the Great Hanshin earthquake as light festival.
Disaster will come when we forget.

Disaster comes before we forget with different pattern.
Different damage in different disasters

• Great Hanshin Earthquake.
  January 17, 1995
  – Epicentral-type earthquake
  – Directly damaged

• Great East Japan Earthquake.
  March 11, 2011
  – Trench-type earthquake
  – Damaged by the tsunami
## Recent Great Earthquakes in Japan

<table>
<thead>
<tr>
<th></th>
<th>Great Hanshin Earthquake</th>
<th>Great East Japan Earthquake</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td>January 17, 1995</td>
<td>March 11, 2011</td>
</tr>
<tr>
<td><strong>Magnitude</strong></td>
<td>7.3</td>
<td>9.0</td>
</tr>
<tr>
<td><strong>Death</strong></td>
<td>6,374</td>
<td>15,893</td>
</tr>
<tr>
<td><strong>Missing</strong></td>
<td>3</td>
<td>2,577</td>
</tr>
<tr>
<td><strong>Estimated Damage</strong></td>
<td>$125 billion</td>
<td>$140 billion</td>
</tr>
</tbody>
</table>

As of October 17, 2015
Different damage in different disaster

- Great East Japan Earthquake
  - Epicenter was 80 miles from coast
  - Tsunami caused severe damage

- Great Hanshin Earthquake
  - Epicenter was surface and close to center of Kobe
  - Collapse of many buildings and massive fire
Great Hanshin Earthquake
Needs of Lab tests at the disaster area

- Low demand right after the disaster.
- Increase lab test demands a few days later.

Depend on disaster scale

- In case of limited area damage.
  - It will be available from near by hospitals or commercial lab services.
- In case of huge area damage.
  - Have to do at the damaged area.
  - No transportation and no commercial lab services.
Different damage in different disaster

Great East Japan Earthquake
- Epicenter was 80 miles from coast (Trench-type earthquake)
- Tsunami caused severe damage

Great Hanshin Earthquake
- Epicenter was surface and close to center of Kobe
- Collapse of many buildings and massive fire
Great East Japan Earthquake

Miyagi

Iwate

Fukushima

Nuclear Power Stations
Given from Takata Hospital
Given from Takata Hospital
Great East Japan Earthquake

14:46 PM March 11, 2011
Tsunami came about 40 minutes later
Given from Takata Hospital
Given from Takata Hospital
Given from Takata Hospital
Given from Takata Hospital
Post disaster actions

• March 12 (Day 1 post disaster)
  – Japanese Red Cross medical support team arrived.
  – Many DMAT (Disaster Medical Assistance Team) arrived.

• March 13 (Day 2)
  – Temporary clinic opened at the public hall.
  – US rescue team arrived to Japan.
  – Operation Tomodachi started.
Message from disaster area’s physician

Patients seem to rush, when a medical team arrives at the shelter or temporary medical office.

But we are not able to do lab. There is limited electricity and supply including reagents and washing solution.

POCT seems important. Because of water is unnecessary.
Initiation of lab support activity

• March 14 (Day 3)
  – Some volunteers started the gathering of relief supplies for lab services.
  – Support activity spreads led by POC mailing list.

- 2011/3/14 17:33  Hideo Sakamoto
- 2011/3/15 20:15  hkikuchi
- 2011/3/15 20:51  Kushibiki
- 2011/3/15 23:30  A Fukuda
- 2011/3/16 6:39  Watanabe
- 2011/3/16 9:23  Naoto Shimetani
- 2011/3/16 9:38  Yamada
- 2011/3/16 10:20  Kanbayashi, Mikito
- 2011/3/16 10:47  Okumura
- 2011/3/16 21:01  Higashino
Launched the volunteer support team for the Laboratory Medicine

- March 15 (Day 4)
  - Volunteers from Member of POC committee, Japan Society for Clinical Laboratory Automation, JSCLA launched volunteer support team.
  - Corroborate with Japan Association of Clinical Reagents Industries, JACRI.
  - Discussed the best way of support from the laboratory medicine side.
Japanese Society of Laboratory Medicine, JSLM

- Launched the ad hoc Committee to support Laboratory Medicine affairs at the affected area.

- JSLM formally announced to company and medical staff to gather information of IVD reagents, instruments and staff for support Laboratory Medicine affairs at the affected area.
JSLM formally announced
Problems at the disaster area

- Limited Medical Facilities
- Limited transportation
- No electricity
- No water supply

- People stay at the shelter
  - Low guarantee of stay at the same place
Our support procedure

• POC devices would be useful at the damaged area and evacuation centers.
• Prepare the list of support available laboratory medicine devices and IVD reagents.
• Confirmation
  – Demand of needs at the damaged area.
  – Contact person.
  – Experience of operation.