

**Summary**  
**JRCS Second Nuclear Disaster Response Basic Training Session (FY 2015)**  
**(English translation)**

1. Date and time: Friday, November 6, 2015; 11:00 – 17:00
2. Venue: Meeting Room 201 and other rooms at the JRCS Headquarters (JRCS HQ)
3. Number of participants: 57  
Detail: 13 physicians, 13 nurses, 17 radiological technologists, and 14 administrative staff members
4. Content:
  - Lecture 1: JRCS efforts for response to nuclear disasters
  - Lecture 2: Basic knowledge about radiation protection during nuclear disaster relief activities
  - Lecture 3: Relief team activities and collaboration between the teams and radiation emergency medical care advisors during a nuclear disaster
  - Workshop 1: For securing safety while engaging in relief activities during a nuclear disaster
    - How to use a digital personal dosimeter and put on/take off protective gear-
  - Workshop 2: How to use/maintain a survey meter and a personal dosimeter
  - Group work: Case studies
5. Instructors
  - (1) Physicians
    - Yoshikazu Maruyama  
(Disaster Medicine, Director, Japanese Red Cross Medical Center)
    - Masafumi Sato (Vice President, Date Red Cross Hospital)
    - Kiyoshi Endo (Director of Department of Neurosurgery, Mito Red Cross Hospital)
    - Takeshi Tanabe (Director of First Anesthesia Department; Director of First Emergency Department, Fukui Red Cross Hospital)
    - Tomoaki Nakamura (Director of Medical Social Work Department; Director of Emergency Department, Japanese Red Cross Nagahama Hospital)
    - Sumitomo Kato (Vice President, Japanese Red Cross Maizuru Hospital)
    - Nobuo Morioka (Director of Radiology Department, Matsue Red Cross Hospital)
    - Shunichi Kaseda (Vice President, Hiroshima Red Cross Hospital & Atomic-bomb Survivors Hospital)

- Tomoaki Fujisaki (Director of First Internal Medicine Department, Matsuyama Red Cross Hospital)

## (2) Radiological technologists

- Shiuji Yamauchi (Manager of Radiological Technology Section, Department of Radiology, Date Red Cross Hospital)
- Koichi Nisugi (Radiological Technologist, Japanese Red Cross Ishinomaki Hospital)
- Takanori Kaito (Radiological Technologist, Fukushima Red Cross Hospital)
- Masato Kitazawa (Chief of First Radiography Section, Department of Radiology, Mito Red Cross Hospital)
- Yoshihiro Nishikoori (Manager of Image Information Section, Department of Radiology, Fukui Red Cross Hospital)
- Kazuhiro Komai (Chief Radiological Technologist, Radiology Department; International Medical Relief Department, Japanese Red Cross Nagoya Daini Hospital) (Board member of the Japanese Red Cross Association of Radiological Technologists)
- Hisao Matsui (Chief Radiologist, Department of Radiology, Japanese Red Cross Nagahama Hospital)

## (3) Secretariat

JRCS Disaster Preparedness Planning Task Force; Red Cross Nuclear Disaster Resource Center

## 6. Summary of the training session

### Relief activities during a nuclear disaster:

(1) JRCS safety standard of 1mSv (each relief team member's cumulative radiation dose limit)

The JRCS safety standard for each relief team member during his/her activity period is that the cumulative radiation dose shall not exceed 1mSv. If the member's dose has exceeded the safety standard value, the JRCS shall not engage him/her in relief activities during a nuclear disaster for the rest of the fiscal year.

The value of 1mSv was decided through the JRCS internal process by referring to the concept of the International Commission on Radiological Protection (ICRP) and the International Committee of the Red Cross. Therefore, we would like you to start to think about leaving your activity place if your cumulative dose is likely to exceed 1mSv.

However, we do not expect the cumulative dose to exceed 1mSv. The reasons for that are because evacuation centers will less likely be set up in areas with high air radiation level and the activity period of a JRCS relief team will be one week at the

longest.

## (2) Health effect from radiation

Internally-exposed radiation dose cannot be measured by a personal dosimeter. There will be a possibility of internal exposure if relief teams engage in relief activities in nuclear accident-affected areas with high air radiation level or a “hot spot”. In these areas, a radioactive plume (a phenomenon of radioactive particles scattered due to the nuclear accident drifting with the air like smoke) increases the radiation level locally even far away from the affected area. However, JRCS relief teams conduct relief activities outside restricted areas where it will be unlikely expected to suffer health effects from inhalation of radioactive materials. There are no clear-cut answers to questions about the level of air radiation or the length of activity period that could lead to a possibility of internal exposure after the onset of the nuclear accident.

The relief team members need to be careful not to eat or drink anything which might be contaminated or not to take radioactive materials exposed to the clothing indoors with them.

However, if a body contamination screening detects a value of 100,000cpm on a survivor’s body and a relief team member responds to the survivor at 10cm to him/her for one hour, it is generally said that the possible value for secondary exposure is just about 1 $\mu$ Sv. For this reason, we think that there is no need to excessively worry about responding to contaminated survivors.

Based on this information, it is estimated that JRCS relief activities following the JRCS’s safety standards will bring no health effect. It is also said that data shows no difference in health effects from radiation between adult men and women. However, you can take various personal circumstances into consideration to select appropriate relief team members for deployment to nuclear disaster-affected areas.

## (3) Wearing of protective gear

When JRCS relief team members engage in relief activities during a nuclear disaster, they are not expected to wear protective gear. However, the members shall take protective gear with them to affected areas. This is because there could be an abrupt increase in air dose rate due to an explosion of a nuclear reactor building or wind’s shift toward the area where the JRCS relief teams are conducting activities. The purpose of taking protective gear with them is to protect themselves in the event of such cases.

We would like them to put on or take off protective gear, if the radiation emergency medical care advisors give the instruction to do so.

## (4) Chain of command

If a nuclear disaster has occurred or is likely to occur, the JRCS will dispatch its

radiation emergency medical care advisors to the headquarters of disaster control (HDC) set up at the JRCS HQ and a chapter in the affected area. The advisors will give the HDCs advice for necessary relief activities and safety management of JRCS relief team members. There are no specific internal procedures for communication from the advisors to the relief team members. We would like you to understand the fact that the JRCS established the arrangements based on the challenges that the JRCS faced after the onset of the Fukushima Daiichi accident so that the JRCS can make decisions on deployment or leaving of its relief teams.