

# Global Human Resources Development Division

## Overview

We foster internationalism among instructors in the Graduate School of Health Sciences. We encourage the admission of international students to the Graduate School by actively promoting personnel and academic exchanges with domestic and overseas institutions related to radiation emergency medicine (REM). We also strengthen cooperation with neighboring countries in the fields of REM and radiation science.

## Objectives

1. Establishing and developing a system to promote international exchange among young researchers and students
2. Supporting the development of human resources capable of establishing systems for international exchange and cooperation by themselves
3. Developing an educational program to train human resources in REM, open to overseas students
4. Accepting exchange students in the REM course and Radiological Nursing Specialist Education Program

## Major activities

- Hosting the "Educational Symposium on Radiation and Health by Young Scientists" (ESRAH)
- Participating in the Korea Institute of Radiological and Medicine Sciences' (KIRAMS) disaster drills and observation
- Dispatching young researchers to the radiation science training program of Stockholm University
- Supporting travel expenses for graduate students to participate in international conferences and workshops
- Supporting graduate students for English proofreading and article processing charges
- Holding a joint workshop with Chiang Mai University on health science by inviting their staff from the Faculty of Associated Medical Sciences
- Holding a bilateral exchange seminar with young researchers from the University of Yaoundé
- Conducting observation and research at the University of Hawaii Translational Health Science Simulation Center
- Holding lectures on advanced radiological sciences and inviting frontline researchers from overseas



Educational lecture and poster session at ESRAH2023



REM training with KIRAMS

Training of radiation biology at Stockholm University

# Support division of the town of Namie

## Overview

We are working to solve radiation-exposure-related health issues for residents living in the town of Namie, Fukushima Prefecture.

Various support activities provide students with opportunities to learn. In addition, we have a cooperation agreement with the town of Namie.

## Major activities

### Health consultation and health-related risk communication to the office staff of the town of Namie

We provide health consultations and body composition and vascular age measurements for the town office staff.

### Childcare support activities

We provide hand treatments and other activities to relax and refresh mothers with their children at "Childcare Salon: Pokapoka Terrace" hosted by Namie Nijiro Child Care Center.

### Health support activities on the prevention of arteriosclerosis for the residents of the town of Namie

Health support activities focusing on the early detection and prevention of arteriosclerotic diseases during the disaster recovery period

### Risk communication activities for the residents of the town of Namie

In collaboration with the Institute of Radiation Emergency Medicine and the Radiation Emergency Medicine and Cooperation Promotion, we are performing risk communication activities for the recovery of the town and resolution of local issues.

## Graduate School Courses

### Introduction to Radiological Health Science Course · Certified Nurse Specialist Program in Radiological Nursing

At the Graduate School of Health Sciences, we established a Radiological Emergency Medicine (REM) program in Master and Doctoral course in order to develop future REM specialists and produced many great individuals with a sophisticated knowledge of radiation emergency medicine.

#### Radiological Health Science Course (Master course)

Aims of the Program:

To cultivate REM specialists and leaders who can prepare for radiation emergency accidents, and to nurture educators/researchers who can contribute to the development of this field of study.

#### Radiological Health Science Course (Doctoral Course)

Aims of the Program:

To cultivate high-level educators or researchers in radiation emergency medicine, and to nurture individuals who can contribute to the development of this field of study.

\* Those who have completed this course will be granted the title of "Radiological Health Scientist" in the Master Course, and "Senior Radiological Health Scientist" in the Doctoral Course.

#### Certified Nurse Specialist Program in Radiological Nursing

Aims of the Program:

This program aims to develop Radiological Nursing Specialists (RNS) who have specialized knowledge of and skills in radiation and radiological nursing.

We offer two subspecialties of radiation nursing: "nursing in radiation medicine" and "nursing associated with the use of medical radiation," and such professionals should not only be engaged in radiological protection, but also conduct advanced nursing practices for individuals, families, and communities with complicated health issues related to radiation exposure.

\* Those who have completed this program, will be granted the title of "Radiological Nursing Specialist."



# Radiation Emergency Medicine Human Resources Development Project

## Overview

The Hiroasaki University Graduate School of Health Science has been developing educational programs in cooperation with related domestic and international organizations centered on these objectives: "highly specialized human resources for radiation emergency medicine" and "enhancing basic radiation education and expanding the base."

Specifically, we have formed a hub for cultivating human resources in training advanced radiological nursing specialists, in compliance with the international standards and/or certified by the Japanese Nursing Association. Recently, we have built more advanced practical programs in postgraduate education for radiological nursing.

In addition, we educate about radiation risk communication to current schoolteachers and undergraduate students (in teaching courses) to expand the fundamentals and enhance education of those involved in dealing with radiation and its exposure. Furthermore, long-term health management may be required in radiation emergency medicine. Therefore, we conduct environmental and biological impact surveys as well as research in radioactivity-affected areas. The results obtained will be returned to education department, and reports will be made and provided to the local residents when necessary.

### Radiation Emergency Medicine Education and Training Division

We offer a short-term educational program to promote the training of current medical professionals to develop more REM professionals. The program, including prior e-learning, consists of lectures on the REM perspective and exercises on the ways of handling irradiated and/or contaminated patients.

### Support division of the town of Namie

The Graduate School of Health Sciences is working to solve radiation-exposure-related health issues for residents living in the town of Namie, Fukushima Prefecture. In addition, we have a cooperation agreement with the town of Namie.

### Radiological Nursing Education Division

We provide an advanced nursing education program in radiological nursing, which is a Master's level program. We have established the "Radiological Nursing Educational Support Center," which offers seminars and advice on radiological nursing for professionals.

### The Education of Radiation Risk Communication Division

This division provides opportunities for future human resource development, such as recurrent education for professionals and students involved in radiation risk communication as well as educational activities for the general public.

### Global Human Resources Development Division

We foster internationalism among instructors in the Graduate School of Health Sciences and promote the admission of international students to the Graduate School by actively promoting personnel and academic exchanges with institutions involved in REM in Japan and around the world. Furthermore, we strengthen collaborations with neighboring countries in terms of radiation emergency medicine.

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# Radiation Emergency Medicine Education and Training Division

## Overview

Since 2010, we have been offering a short-term educational program to train current nurses and radiological technologists in the basic knowledge and techniques of radiation emergency medicine (REM). This training course offers lectures to enhance each specialty from the perspective of REM, as well as exercises on the ways of handling radiation exposed and/or contaminated patients. In recent years, we have also been incorporating an online training program, considering the perspective of preventing COVID-19 infections.

## Radiation Emergency Medicine Training Program

### 《Educational Objectives》

This program aims to impart required REM knowledge to nurses and radiological technologists and develop medical professionals who can cooperate, respond appropriately, and safely manage medical situations.

### 《Number of Participants Recruited》

Approximately 20 participants were recruited.

### 《Educational Program》

(FY2022—Training Program Conducted Online)

- Lectures
  1. Care for mental well-being in nuclear disasters
  2. Nuclear disasters and radiation accidents
  3. The path to recovery and current status after a radiation disaster

- Drills
  1. Handling of Geiger-Muller (GM) survey meters (VR training)
  2. Decontamination of contaminated skin
  3. Method for donning and doffing protective clothing
  4. Zoning
  5. Management of patients with contamination and radiation exposure

\*All program participants will be awarded a certificate upon completion.

### 《Number of Participants》

Fiscal year	2019	2020	2021	2022
Participants awarded a certificate	14	—*	31	26

\*Postponed because of the COVID-19 pandemic.

### 《Features》

- In the e-learning, participants learn fundamental knowledge about radiation, principles of emergency radiation medicine, techniques such as donning and doffing protective clothing, as well as decontamination of wounds. Feedback from participants includes comments such as "It was beneficial to be able to review the content through repeatable video materials."
- The practical exercise on "Method for donning and doffing protective clothing" is conducted in a format where all participants actively engage. Additionally, in sessions such as "Decontamination of contaminated skin" and "Handling of GM survey meters" participants have the opportunity to experience and acquire these skills.
- Lectures on the current situation in Fukushima are also provided. These cover postaccident response, food contamination, health issues, and mental healthcare, allowing participants to deepen their understanding of the current conditions and challenges.

### 《Views of the Drill》



Drill: Preparation for taking care of patients with contamination and radiation exposure. The participants will establish a system in preparation for receiving patients with contamination and radiation exposure. Based on information from accident scenarios, there will be discussions regarding the team composition for radiation emergency medical care individual roles and procedures for patient reception.



Drill: Practices for taking care of an injured victim with contamination and radiation exposure. Simulation of the entire process from the transfer of victims with contamination to movement into general hospital rooms.

# Radiological Nursing Education Division

## Overview

Our goal is to develop Certified Nurse Specialists in Radiological Nursing through a dedicated Master's program. Additionally, we offer educational initiatives, such as radiological nursing seminars, to support ongoing radiation emergency training for practicing nurses. Since its founding in 2017, the Radiological Nursing Education Support Center has actively worked to establish and advance the field of radiological nursing.

## Major activities

### Establishing a support system for radiological nursing education

The division seeks to develop expertise in Radiological Nursing by educating and graduating "Certified Nurse Specialist in Radiological Nursing." In addition to offering specialized conferences on radiological nursing for nurses in clinical practice and educators, the division supports the establishment of radiological nursing programs at other institutions.

#### ① Practical Education for the "Certified Nurse Specialist Program in Radiological Nursing (Master's Course)"

In February 2017, our Radiation Nursing Major Education Program for Professional Nurses was accredited by the Japanese Council of Nursing Colleges. Hirosaki University Graduate School of Health Sciences established a master's course in Radiological Nursing, which the Japan Association of Nursing Programs in Universities recognized as a certified nurse specialist program field in June 2016. This program, launched in 2015, is designed to develop nurses with advanced practice skills in radiological nursing, including subspecialties in "Nursing for Radiation Emergency Medicine" and "Nursing for Medical Radiation."

In February 2022, the Japan Nurses Association officially recognized "Radiation Nursing" as a specialized field, with certification examinations for this specialty beginning in April 2022.

#### "Nursing for Radiation Emergency Medicine"

This field is expected to develop specialists capable of playing a central role in radiation emergency preparedness during radiation accidents. It also aims to cultivate professionals with advanced knowledge of radiation exposure and protection, who can contribute to public health management and effectively engage in radiation risk communication as experts in the field.

#### "Nursing for Medical Radiation"

This subspecialty aims to equip professionals with the expertise needed to protect the safety and well-being of patients undergoing radiological procedures and their families. Drawing on specialized knowledge of radiation, it focuses on reducing medical, public, and occupational radiation exposure and providing high-quality, advanced nursing care to patients experiencing physical effects of radiation as well as to individuals concerned about radiation exposure.

#### ② Holding of workshops and seminars

Since 2013, we have held radiological nursing seminars and workshop for nurses and nursing teachers.

As one of only a limited number of educational centers for radiological nursing, we will continue to provide educational support to people concerned by radiological nursing and its education.



Exercise to measure radiation dose from X-ray irradiation



Exercise to learn radiation shielding using high-density metals

# The Education of Radiation Risk Communication Division

## Overview and Objectives

Risk communication refers to mutual communication about risks by exchanging information and opinions between individuals or groups. Therefore, risk communication has a role in facilitating decision-making. Risk communication requires several skills, including scientific knowledge about risk events, listening skills, and communication skills using verbal expressions.

Therefore, what about radiation?

Although radiation brings us several benefits, it also poses the risk of negative effects. However, the training of radiation risk communicators has not yet been established.

This division provides opportunities for future human resource development, such as recurrent education for professionals and students involved in radiation risk communication as well as educational activities for the general public.

## Major activities

### Providing opportunities aimed at human resource development

- Liberal arts education: Understanding Radiation Risk Communication (FY2016-present)
- Undergraduate education: Public Health Nursing Exercise I (FY2014- present)
- Undergraduate cross-border teaching subjects: Education Method Exercises (FY2013-)
- Graduate school education subject: Special Lecture on Radiation Nursing (FY2015-)
- Workshops: First-time Radiation Risk Communication (FY2022-)
- The Education of Radiation Risk Communication Division Lecture (FY2013-)

### Educational program development

- "Radiation Characteristics Experiment" using radiation experimental equipment
- "Yes or No Card Game" to understand the diversity of perceptions
- "Virtual Family Role Play"—group exercises on family cases
- "Daily Life with Risk MAP" exercise to devise daily life based on risk reduction while measuring air dose

### Educational participation in projects that the university has a partnership agreement with:

- Participation in the Namie Town reconstruction support "Visit Consultation Desk"
- Cooperation in "Salon Namieppuru," an educational program for fostering radiation literacy
- Participation in "Health Promotion Support" for the Namie Town Elderly Club
- "Mental Health Seminar" for reconstruction support workers
- "Health Consultation" for local government employees



Group exercise "Virtual Family Role Play"



Namie Town reconstruction support "Visit Consultation Desk"