Supporting Fukushima’s Recovery from the Disaster through Medical Services

Fukushima Global Medical Science Center (FGMSC)

By developing Fukushima’s experiences in science, we wish to create a desirable future that can be shared by the world.

Koichi Tanigawa, M.D., Director of FGMSC

Positioned as an integral part of the Fukushima Recovery Plan, our center (FGMSC) is a major pillar in supporting Fukushima to recover from the great disaster of 2011. FGMSC is tasked with the important missions of revitalizing our local community through providing medical services and disseminating the status of the recovery process to the world. FGMSC is comprised of five sub-centers—the Radiation Medical Science Center for the Fukushima Health Management Survey; the Advanced Clinical Research Center; the Medical-Industrial Translational Research Center; the Thyroid & Endocrinology Center; and the Health Promotion Center—and two divisions: the Education & Human Resource Development Division; and the Advanced Clinical Division. FGMSC aims to prevent diseases, promote health and extend the life span for the people of Fukushima through activities such as monitoring their health condition over a long period after the nuclear power plant accident, detecting diseases and providing highly advanced treatment at the earliest stage using state-of-the-art technologies, and developing the latest diagnostic and clinical agents to foster the local medical industry so that it will contribute to the revitalization of local communities.

We feel obliged to securely hand down to the next generation what we have learned from the earthquake and nuclear power plant disasters. Fukushima Medical University is responsible for transplanting Fukushima’s experiences into scientific knowledge to help nurture young medical professionals who will shoulder burdens in the future. We at FGMSC are determined to work as the driving force to perform these missions.
Radiation Medical Science Center for the Fukushima Health Management Survey

Fukushima Health Management Survey
Target: All people of Fukushima

Grasping radiation levels (basic data)

- **Basic survey**
  - **Target**: Residents in Fukushima as of March 11, 2011
  - **Method**: Self-administered questionnaire
  - **Content**: Experience record on and after March 11 (Estimation of radiation exposure levels)

Grasping health conditions

- **Specific survey**
  - **Thyroid test**
    - **Target**: All residents in Fukushima at age 18 or under at the time of the earthquake disaster
    - **Content**: Thyroid ultra-sonographic test

Ongoing health management

- **Fukushima Health Management File**
  - Individuals record and keep the results of their health surveys and medical checkups.
  - Used to spread knowledge of radiation.

- **Database**
  - Used for people’s health management and medical treatment over a long period of time.
  - For effective use of knowledge obtained through health management for the sake of the next generation

- **Whole body counter**
- **Personal dosimeter**

Implementing “medical checkups for Fukushima residents who are not covered by existing checkup systems”

- **Survey on mental health and lifestyle habits**
  - (questionnaire targeting residents from exclusion zones)

- **Survey on expectant and nursing mothers**
  - (questionnaire targeting holders of a maternity passbook)

Devoting ourselves to the wellbeing of Fukushima’s people, we gather wisdom in the service of our prefecture’s revitalization.

Kenji Kamiya, M.D.,
Director of Radiation Medical Science Center for the Fukushima Health Management Survey

The Fukushima Health Management Survey was launched in the aftermath of the Fukushima Daiichi Nuclear Power Plant accident with the aim to monitor the physical and mental health of the residents of Fukushima, and to improve their future health by promoting disease prevention, early diagnosis, and early treatment. This survey is carried out by FMU under the consignment contract with Fukushima Prefecture, with the cooperation of domestic and foreign organizations.

After the nuclear power plant accident, worries about the health effects of radiation—especially its impact on children’s thyroid glands—affected Fukushima’s population, along with other changes to fundamental elements of healthy living, such as physical fitness, diet, and sleep. Mental health became a growing concern. Through the survey, we are gaining a detailed understanding of people’s health status in order to provide thoughtful care and further promote wellbeing for all.

It is also our duty to disseminate survey results domestically and internationally as an intellectual legacy to mankind. This ongoing effort is intended for the betterment of current and future generations.

In the course of our survey, we collaborate with prefectural and municipal authorities, whose service to residents is indispensable. Together, we have an unshakeable resolve to rebuild and revitalize Fukushima through benevolent service to the people, with help from professionals inside and outside Fukushima who join us with wishes for recovery in their hearts.
Advanced Clinical Research Center

We’d like to contribute to early treatment and new drug development by making the most of cyclotron and PET/MRI.

Our center, which went into full operation in June 2016, is armed with state-of-the-art medical facilities capable of early diagnosis of cancers, brain and heart diseases using diagnostic imaging. Our center also became Japan’s first medical institution to be equipped with a medium-size cyclotron that enables us to create new drugs necessary for advanced treatment. Furthermore, we have created one of Japan’s best environments that clears international standards for safety and quality control of pharmaceuticals. By collaborating with pharmaceutical companies, we are expected to contribute to the creation of innovative drugs. Our PET/MRI, introduced for the first time in Japan, is highly effective for early detection of diseases due to images so clear that it can accurately identify the affected part and can also investigate body functions.

Now complete with an integrated environment capable of pharmaceutical production through to clinical studies and trials, in addition to medical treatment, we are highly motivated to promote research and development of innovative drugs. We’d like to foster human resources competent enough for these tasks.

Diagnostic equipment of the highest precision has been introduced. Our state-of-the-art medical capabilities enable early treatment.

Advanced Clinical Research Center conducts diagnostic imaging using state-of-the-art facilities and makes early diagnosis of various diseases, thereby ensuring the people of Fukushima can live safely and free of worry.

Ensuring people’s long-term safety and freedom from worry by establishing and operating bases of early detection backed by the most advanced medical equipment.

Early detection is made possible by cutting-edge technologies

Introduction of positron emission tomography (PET) and magnetic resonance imaging (MRI) equipment of the highest specifications for the first time in Japan.

Development of a therapeutic radioactive pharmaceutical

The first 30MeV cyclotron introduced in medical facilities.

Advanced Clinical Division

The division establishes bases of medical treatment complete with state-of-the-art medical facilities and competent organization to protect people’s health on a medium- and long-term basis.

A nine-bed ward for internal radiotherapy (RI therapy) is provided on the 4th floor of the building of the Medical Center for Fukushima “Life and Future”. This facility allows a level of 3.7–37 GBq internal radiotherapy. Should people be exposed to radiation due to nuclear power-related accidents, the patients will be treated at the RI ward.

– A recommendation at the March 31, 2014, meeting of the Science Council of Japan states that bases of internal radiotherapy, capable of radiation emergency medicine, be established.

Medical Center for Fukushima “Life & Future” Building (Mirai Bldg)
As an unsung hero behind endeavors for the enhancement of healthcare quality, we’d like to uncover businesses’ needs.

Shinya Watanabe, M.D., Director of Medical-Industrial Translational Research Center

The predecessor of our center’s activities is a project initiated in 1999 by the Ministry of Economy, Trade and Industry. Inheriting the analysis method of the project, our center comprises six divisions in support of pharmaceutical and related development, and three project support teams. Their foremost objective is to create new industries and employment opportunities by bridging medical and industrial circles and promoting collaboration between them.

Currently, we aim to establish our center as an industry by providing (for a fee) businesses with our original data and research results or using our proprietary technologies and know-how to accept research projects outsourced from businesses. For this purpose, it is important for us to be able to create offerings that are attractive enough for potential customers. No matter how superb our offerings may be, it is meaningless if we fail to provide them to those who really need them. If we succeed in establishing our intellectual properties as a brand by flexibly answering needs from businesses, it will become a great power for us. We have the ability to supply the highest possible materials needed for drug discovery.

In the years ahead, we would like to establish a setup that allows businesses to make good use of our products and services, which will lead to the enhancement of medical care quality.

TR Center was established to promote the “Support Base Promotional Project for Pharmaceutical-Related Industries in Fukushima” which is one of the projects initiated by Fukushima Medical University for the recovery of Fukushima. By bridging medical and industrial circles, the TR Center will provide multi-faceted support for the development of new remedies, diagnostic and test agents for cancer and other diseases. Through this initiative, the center will diagnose and promote the health of the people in Fukushima while contributing to the creation of new industries, invitation of existing businesses to operate here and the creation of employment, which will support Fukushima’s recovery from the disaster of 2011.
Health Promotion Center

We wish to contribute to extending health life expectancy and reducing health disparities.

Hiromasa Ohira, M.D., Director of the Health Promotion Center

Our center is expected to serve as a think-tank, playing the roles for preventive medicine and health promotion in line with Fukushima Prefecture’s motto “Let’s make the people and communities of Fukushima come alive with smiles” as advocated in its “Health Fukushima 21 (the second term)”. Specifically, our activities are as follows. First, we scientifically analyze and evaluate the data of medical expense, health-checkup, and long-term care, and facilitate registration of cardiovascular disease events in order to prevent lifestyle related diseases. Second, based on analysis results and evaluation and analysis, we plan effective health promotion activities and support related projects carried out by municipalities. Third, we support human resources development programs. We implement workshops to benefit those who are on the front-line of health promotion such as public health nurses. At the same time, we work closely with the prefecture to retain public health and social medicine physicians and support to build their professional capacity. Through all these activities, we would like to prevent life threatening diseases and extend healthy life-expectancy for residents.

Joint implementation of health promotion projects

Fukushima Prefecture Social Health and Welfare Department

The second term of Fukushima Pref. Health Promotion Movement in the twenty first century (Health Fukushima 21 (the second term))
Fukushima Health and Longevity Promotion Project

Collaboration

Municipalities and related organizations in Fukushima

Commission

Fukushima Medical University

Think-tank roles for disease prevention and health promotion
1. Evidence-based analysis and evaluation
2. Support of effective health promotion and disease prevention measures
3. Support of human resources development

Departments Hospital Radiation Medical Science Center

Cooperation and personnel exchange

The Health Promotion Center

Analyses results and evaluation
Propose measures of health promotion

Thyroid and Endocrinology Center

Serving as the contact point for the four clinical departments, we would like to provide patients with optimal medical treatment.

Susumu Yokoya, M.D., Director of Thyroid and Endocrinology Center

At our hospital up until recently, diagnosis and treatment of endocrinical diseases have been handled separately by internal medicine, surgery, urology, and neurosurgery departments. Now, however, our center serves as a one-stop contact point representing the four departments. This interdisciplinary system enables us to provide patients with general medical care. With professionals gathering from various departments, the most suitable treatment for a particular patient can be identified. We can also accept patients who have undergone a prefecture-sponsored thyroid ultrasound examinations and have been judged as being in need of treatment. Having access to the latest equipment installed in the Advanced Clinical Research Center, our staff can offer the exact treatment needed.
Advanced Clinical Division

Our division offers advanced medical care as a medical stronghold protecting the health of the people of Fukushima.

Our division works for early detection and cure of diseases taking advantage of our most advanced medical technologies and facilities. Our organization rests on three pillars that enable us to offer state-of-the-art medical care, as follows:

1. The creation of an environment for protecting mothers and children – one in which mothers can give birth to and raise children free of worry.
   - Development of Maternal and Perinatal Center
   - Establishment of Children’s Medical Center
   - Setting up of pediatric intensive care units (PICUs)

2. Establishment of emergency and critical care center that can effectively deal with nuclear accidents and other disasters.
   In addition to the strengthening of functions as a key disaster medical care center, we intend to establish a core facility to be known as a Disaster Medicine/Emergency and Critical Care Center which will also be armed with advanced radiation medical support functions to deal with radiation accidents and disasters.

3. The development of RI therapy and medical environments.
   - One of Japan’s largest bases for internal radiotherapy (RI therapy)
   - Enhancement of the Hematology Ward, Clinical Cancer Center, Ambulatory Chemotherapy Center and Radiology Department
   - Setting up of a ward for female patients

By fulfilling new missions (addressing damage by natural and nuclear disasters) and becoming a trusted base of medical care, education and research, we aim to realize a society that the people of Fukushima will find more livable and free of worry.

Education and Human Resource Development Division

We will foster human resources dedicated to supporting the lifelong health of the people in Fukushima.

In order to sustain our activities over a long period of time, our division will foster competent human resources to continue the work of our center, and next-generation medical professionals who can contribute to community-level medical care as well as those for natural disasters and emergency radiation exposure.

Clinical chairs
- Radiation Health Management (Opened on Oct. 1, 2011)
- Thyroid Endocrinology (Opened on Mar. 1, 2013)
- Medicine for Disaster-Induced Mental Problems (Opened on Oct. 1, 2013)
- Radiation Oncology (Opened on Aug. 1, 2014)
- Medical Oncology (Opened on Sep. 1, 2014)
- Radiation-Related Disaster Medicine (Opened on Oct. 1, 2014)

Social medicine chairs
- Epidemiology (Opened on Aug. 1, 2013)
- Health Risk-Related Communication (Opened on Jan. 1, 2015)

Basic medical science chairs
- Radiation-Related Life Sciences (Opened on Nov. 1, 2011)
- Radiology (Opened on Aug. 1, 2013)

To foster and secure human resources to support the lifelong health of the people of Fukushima

Medical support for Futaba area

This project aims to protect the health of local residents who have returned to the Futaba area after a period of evacuation, and of nuclear plant workers and workers engaging in restoration projects, as well as to encourage more people to return to this area by eliminating their uncertainties regarding medical care. To be more specific, it aims to secure secondary emergency medical care and promotes effective, sustainable initiatives for integrated medical support for Futaba wide area. Also, this project will greatly help to build up a medical support system that allows the residents in this area to live in their dear home-town free of worry, thereby ensuring residents’ safety and peace of mind.
Fukushima Global Medical Science Center Floor Arrangement

Disaster Medicine/Medical Industry Bldg. ★8-story/1 basement structure
- Medical-Industrial Translational Research Center (TR Center)
- Education & Human Resource Development Division
- Advanced Clinical Research Center

Medical Center for Fukushima “Life & Future” Bldg. (Mirai Bldg.) ★7-story/1 basement structure
- Advanced Clinical Division (No. of beds: approx. 250)
- Radiation Medical Science Center for the Fukushima Health Management Survey

Advanced Clinical Research Center Bldg. ★3-story/1 basement structure
- Advanced Clinical Research Center

Environmental Dynamic Analysis Center Bldg. ★2-story structure
- Advanced Clinical Research Center

Environmental Dynamic Survey Division

Environmental Dynamic Analysis Center Bldg.

Advanced Clinical Research Center Bldg.

Environmental Dynamic Survey Division

By Car: Approx. 13 min. after exiting the Tohoku Expressway at Fukushima-nishi I.C., or approx. 8 min. from the Fukushima-Matsukawa Smart I.C.

By Bus: Get on a bus at No. 5 or No. 6 stands in front of the JR Fukushima Sta. (East Exit), and get off at the “Idai-byoin” or “Ikadaigaku-mae” stop. Approx. 36 min. required.

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