Activity Reports of the Radiation Pharmacist Committee, 2021

For The Future of Fukushima

一般社団法人福島県薬剤師会
Fukushima pharmaceutical association

Introduction

The residents of Fukushima Prefecture have been suffering from the effects of a nuclear disaster since 2011. The disaster occurred on the east coast of Fukushima Prefecture. Enormous amounts of radionuclides were released from Tokyo Electric Power Company Fukushima Daiichi (TEPCO-F1) Nuclear Power Station because a hydrogen explosion caused by the tsunami produced by the Great East Japan Earthquake on March 11, 2011, caused the power station's control system to malfunction. A radioactive plume (air containing radionuclides) was dispersed, causing anxiety among the two million residents of Fukushima Prefecture, and hence, many people had to be evacuated. As the radioactive plume contained radionuclides with long half-lives, the effects of the nuclear disaster will persist long into the future.

Now, radiological protection systems, which are designed to help the residents of Fukushima live comfortable and healthy lives, are being run by the Japanese government. Advice regarding protection against radiation has been provided, and large amounts of radiological information has been published. However, many residents have occasionally been unsettled by confusing information and/or misinformation because the dynamics of radionuclides and the effects of low dose-radiation on health are complicated.The residents of Fukushima Prefecture need to improve their information literacy to obtain accurate knowledge about the dispersed radionuclides and the effects of ionizing radiation on health.

We decided to support residents with their daily activities by utilizing the skills of pharmacists living in Fukushima Prefecture. Pharmacists have to acquire fundamental knowledge about the fields of physics, chemistry, biology, and basic medical sciences in order to obtain their license. Therefore, by increasing their knowledge of radiological sciences, pharmacists will be able to support the residents of Fukushima Prefecture. In 2013, we launched the Radiation Pharmacist Project. As part of this initiative, we have developed a training course and prepared textbooks that will help pharmacists to study radiation and understand the latest situation regarding the aftermath of the nuclear disaster in the prefecture. As a result, hundreds of pharmacists have been trained and certified as "Radiation Pharmacists®", and they have been answering questions from residents about radiation. Over 1,100 Q & As have been recorded and classified.

To contribute to the improvement of the health of residents, we will continue these activities in pharmacies and schools in Fukushima Prefecture.

Outline of the Radiation Pharmacist Project

History of the Radiation Pharmacist Project

Mar 2013: The Radiation Pharmacist Committee was organized by the Fukushima Prefectural Pharmaceutical Association. A request to Dr. Hiroshi Ishihara (a specialist in radiological sciences at the National Institute of Radiological Sciences) to support the activities of the Radiation Pharmacist Committee was accepted.

Oct 2014: Training courses for Radiation Pharmacists commenced.

Apr 2015: Consultations with residents started.

Dec 2015: A training session was held with Fukushima School Pharmacist Association.

Oct 2017: A visit to the TEPCO-F1 plant to study the present situation regarding its decommissioning was organized.

Jun 2018: The Education Bureau of the Fukushima Prefecture Government participated in the Radiation BOSAI Forum.

Nov 2019: Radiation Pharmacist® was registered as a trademark.

Record of presentations and explanations of our activities

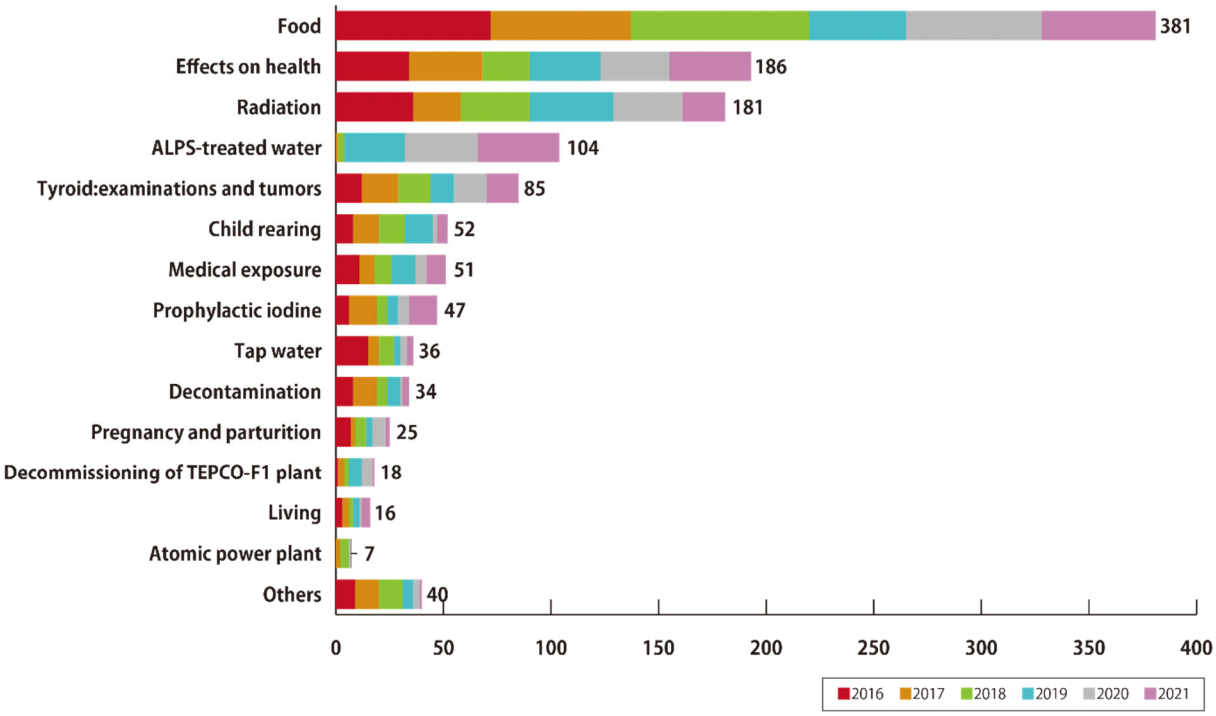
- Explanation provided in a meeting with visitors from France
- Explanation provided to Iwate Prefectural Pharmacist Association
- Explanation provided at a technical training course at the Shiken-kensa Center of the Japan Pharmaceutical Association
- Oral and poster presentations of our research at scientific meetings of the Japan Pharmaceutical Association
- Explanation provided at the Council of the Center for Information of Pharmaceutical Affairs in Hokkaido and the 6 prefectures of Tohoku.
- Explanation provided at a mobile seminar conducted by the Japan Woman's Pharmaceutical Association
- Explanation provided to the Council of Federation of Tohoku School Pharmacists
- Explanation provided to Tohoku Pharmaceutical Federation
- Explanation provided to Kagoshima Prefectural Pharmaceutical Association

Consultations

We have been providing consultation services at pharmacy counters since 2016. Various questions about radiation from the prefecture's residents have been answered.
Every year, we take part in nearly 200 consultations, and the total number of consultations had reached 1,263 by March 31, 2022.

Since 2019, questions about waste water, which still contains tritium despite the removal of most radionuclides by the Advanced Liquid Processing System (ALPS), have been accumulating.

Categorization



Total Q & A records: 1,263 cases (as of Mar 31, 2022)

Examples of Q and A from the consultation services

Q Is all of the rice produced in Fukushima Pref. since 2012 being examined for radioactivity?

A

According to the agricultural authority of Fukushima Pref., all of the rice produced in the 12 areas of the "evacuation zone" (*Tamura-shi, Minami Souma-shi, Hirono-machi, Naraha-machi, Tomioka-machi, Kawauchi-mura, O-kuma-machi, Futaba-machi, Namie-machi, Kuzuo-mura, Iidate-mura,* and *Kawamata-machi*) are still being examined. In the case of rice produced in other areas of Fukushima Pref., examinations of all rice were replaced with monitoring inspections after 2020 because none of this rice was found to exceed the radioactivity limit (100Bq/kg) when it was examined between 2014 and 2019.

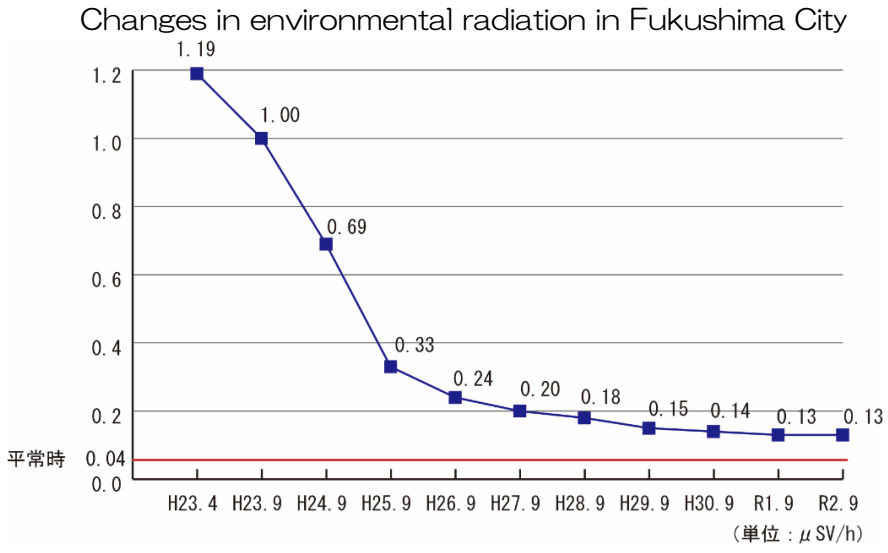
(https://www.pref.fukushima.lg.jp/uploaded/attachment/389159.pdf, 2021/4/19)

Q What is the current air dose of radiation in Fukushima City as compared with that seen in 2011?
The project to decontaminate Fukushima city seems to have finished. Is the city safe?

A

The average air dose of radiation in Fukushima City has been 0.13 μSv/h since 2018, and the changes in the air dose over time are listed in the following publication. ....etc.

(https://www.pref.fukushima.lg.jp/sec/16025d/kako-monitoring.html, 2021/4/16)



Decontamination operations in the city were aborted after April, 2018, because the air doses in most areas had decreased below the desired value of 0.23mSv/h outlined by the Ministry of the Environment. The government plans to perform "follow-up decontamination" if areas with air doses that exceed the desired value are found.

Q Will radiation exposure cause harm for decades after the TEPCO-F1 accident?

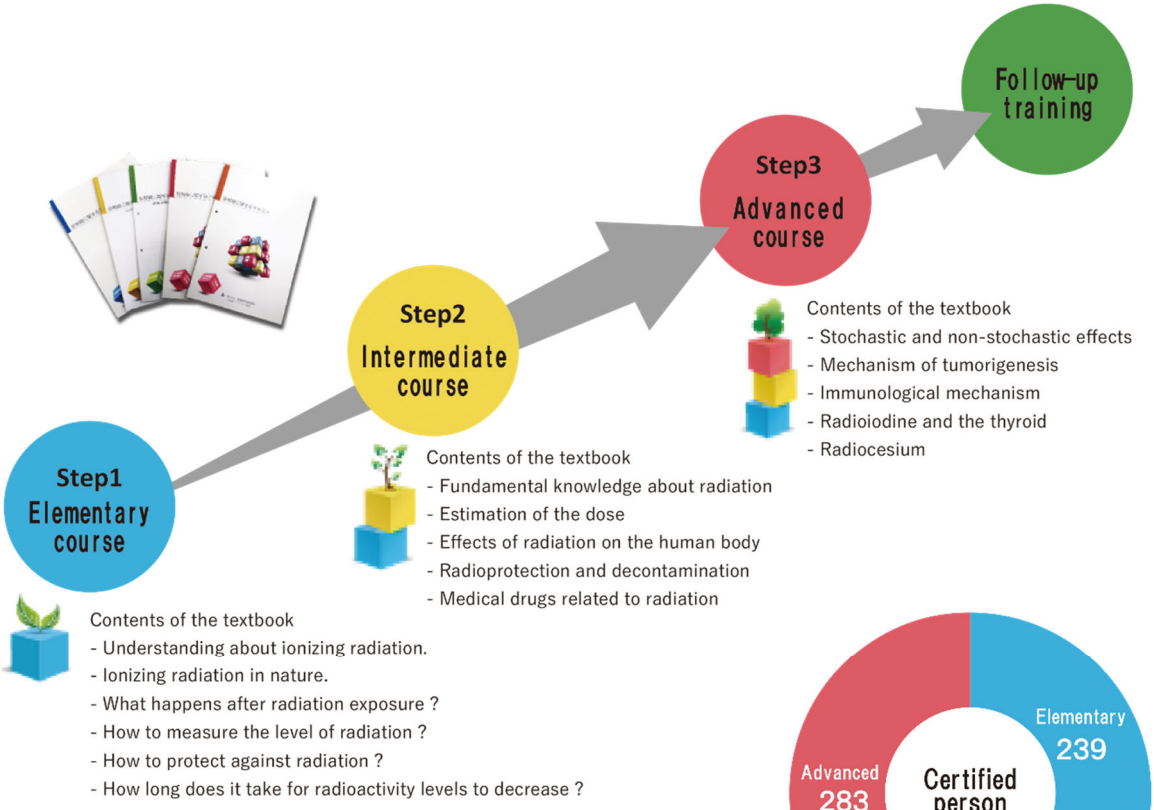
A

According to the "Fukushima Health Management Survey" conducted by Fukushima Pref. and Fukushima Medical Univ., no long-term radiological harm has been found at present. However, the rates of lifestyle diseases are increased among evacuees.....etc....

(http://kenko-kanri.jp/img/report_r1.pdf, 2021/4/17)

Training of Radiation Pharmacist®

Three types of training courses, "elementary", "intermediate", and "advanced" are held every year, and pharmacists chose an appropriate course based on their knowledge level about radiation. Each of the courses involves the use of original textbooks. Pharmacists that successfully complete a course are certified as a Radiation Pharmacist® of the corresponding level. Pharmacists can raise their levels by attending the relevant training course. The advanced Radiation Pharmacist® certificate expires within 3 years. After this period, pharmacists need to re-attend the advanced course, which will use the latest textbooks.

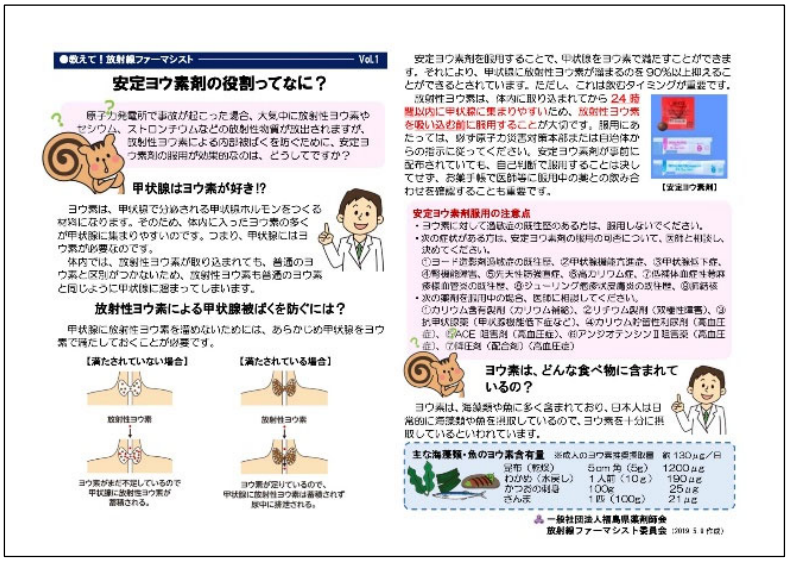


(at 21-Nov-2021)

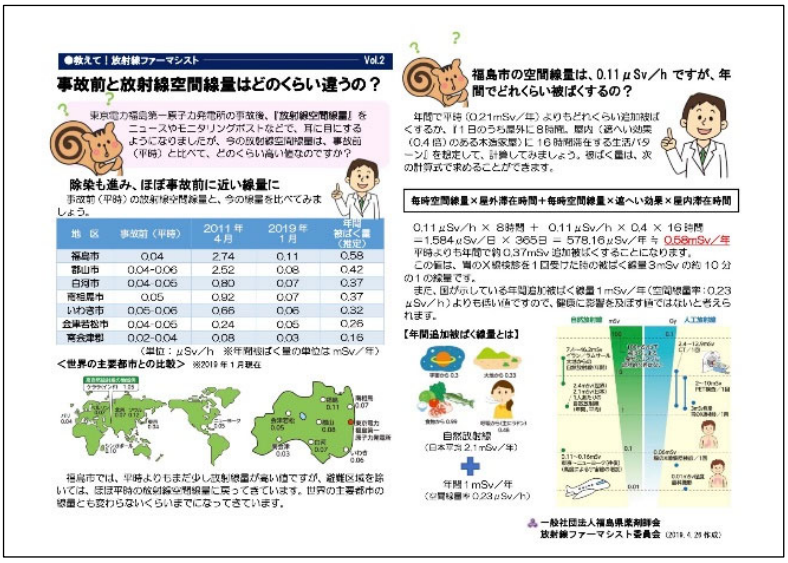
Published Brochures

The leaflet “Tell me, Radiation Pharmacist” aims to provide accurate intelligible information about radiation to the prefecture’s residents. “About the Radiation Pharmacist” introduces the concept of Radiation Pharmacists and the associated training system because Radiation Pharmacists can help residents and schools with activities in Fukushima Prefecture. These leaflets are written in Japanese only.

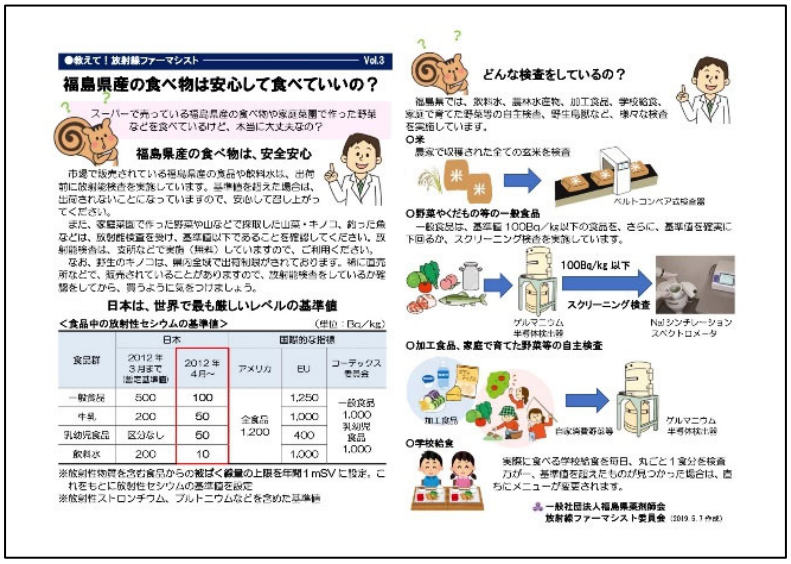
"Tell me, Radiation Pharmacist"



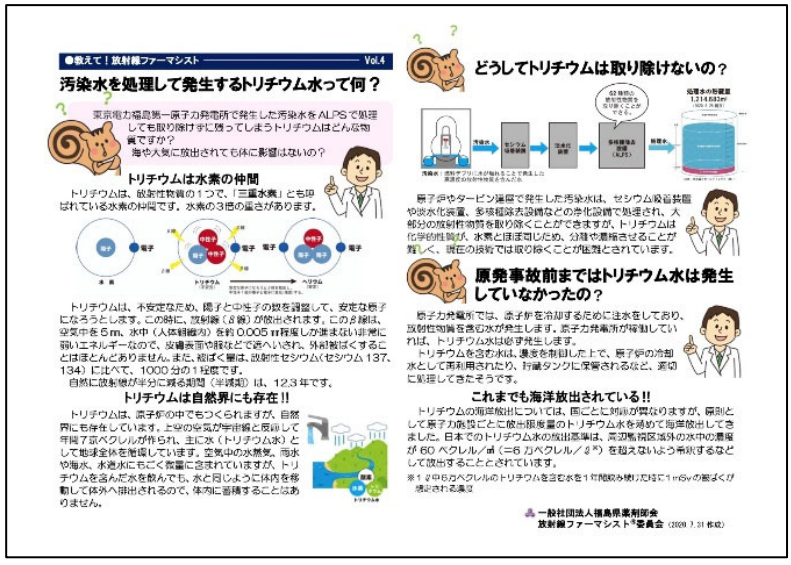
Vol.1　How does prophylactic iodine work?



Vol.2　How has the air dose rate changed since the disaster ?



Vol.3　Can we eat food produced in Fukushima?



Vol.4　What is "tritium water" from the TEPCO-F1 plant ?

About Radiation Pharmacists

Explanation for the public and public offices in Fukushima Pref.

Explanation for schools and their boards in Fukushima Pref.