

Study about Decontamination of an effective radioactive material

Hiroki Ohtani, Kazuki Kitayama, Shun Imai, Norika Tabei

Teikyo University

Introduction: The understanding of contamination by medical radioactivity or environmental radioactivity is not obtained, and the useful decontamination method is not known, either. The uneasiness of the irradiation by the experiment of decontamination is a problem of radiation education. Therefore, radiation educational teaching materials with little irradiation are needed. It must also be solved that there is no easy experiment of the effective decontamination method. The purpose is to study an effective method, in order to remove radioactive contamination to student.

Methodology: The lecture and training which devise the educational method and can study it happily are performed. It is understood that anyone can do decontamination by this using a familiar material. The material containing many potassium, such as salt and baking powder, was used for education out of a control area for radiation. It was considered as the method of decontamination of the wiping-off method. The crayon for decontamination training was used as non-dissociative contamination. Decontamination was performed using the cleansing cream oil for a makeup. The decontamination effect was estimated by the counting rate measurement which used the GM counter. In removal of dissociative contamination, the wet sheet had the highest decontamination effect. It was shown by removal of non-dissociative contamination that decompose a fat ingredient by using cleansing cream oil, and the decontamination effect increases.

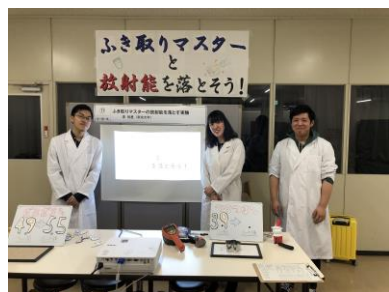


Photo.1 The situation of the wipe study

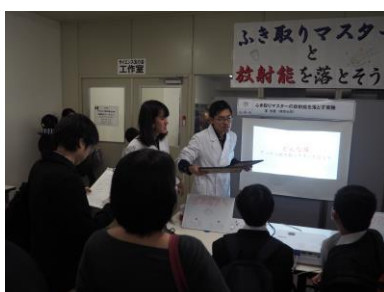


Photo.2 Several kinds of wipe material

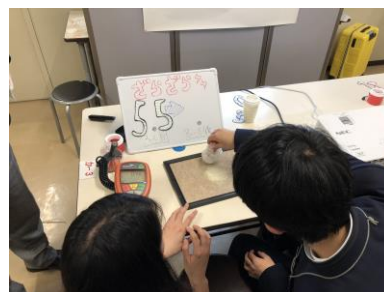


Photo.3 Measurement using GM counter

Results and Discussion: It became clear that there are contamination which comes off easily, and contamination which cannot come off easily, and the method effective in each was mastered. To greasy contamination, the principle using the cleansing cream material containing oil was understood. And the usefulness which uses salt and baking powder was shown and the hot spring ingredient was the most efficient in decontamination education.

Conclusion : The decontamination experiment was conducted to the student and the difference in an effect was understood. It was possible to have learned happily oneself by the experiment using a familiar material.