thyroid cancer treatment with $^{131}$I. It is understandable that we are requested to pay special attention to patients' excreta. However, too strict regulation on the ventilation makes us practically impossible to do the treatment.

Assuming that 200 mCi of $^{131}$I is given to a patient in the isolated room having 45.2 m$^3$ air volume, it is now calculated that the ventilation of 750 times every an hour is necessary if the concentration value of 2.5 times is applied, which is larger than that of the table of Notification. On the other hand, if whole air in the controlled area for radioiodine treatment is used to meet the regulation for exhaustion, ventilation of 310 times every hour is necessary even with the help of a filter having the filtration efficiency of 90%. These facts apparently make us difficult to do radioiodine treatment to the patients with thyroid cancer in Japan.

Finally, I must stress that repeated discussions between the officials in charge of radioisotope regulation, and us the users, are necessary to solve the above-mentioned many problems.

**Short-life Radioisotopes and Their Safety in Clinical Use**

Kikuo MACHIDA, M. D. F.J.C.R.

*Department of Radiology, Faculty of Medicine, University of Tokyo*

With their remarkable advantages, the amount of shortlife radioisotopes, especially $^{99m}$Tc or its labelled compounds has been increasing day by day in clinical medicine. It is estimated about 600,000 mCi of $^{99m}$Tc was used clinically in 1975, meanwhile 104,400 mCi of $^{99m}$Tc was used in 1971. Although clinically useful and indispensable data are available through it, the doctor and other medical employees have to be careful in order not to receive unnecessary radiation when they are using $^{99m}$Tc. For example, a syringe should be covered with a protector, because radiation dose is reduced to one two hundredth with a 2 mm thick lead-syringe cover.

Recently in Japan cyclotron has begun to produce medical radioisotopes routinely and new radioisotopes become available. But in spite of these new and better radioisotopes, they have not been approved to use clinically by the Japanese Health Insurance. In view of the point that we have to offer the better medicine to the people, this situation must be changed as soon as possible.

Finally it should be pointed out that $^{99m}$Tc is a very safe radioisotope as far as it is used correctly and properly and there is possibility of reducing the disposal contaminated with $^{99m}$Tc by changing the law.