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PAPER TITLE Thyroid dose reconstruction for the evacuees from Pripjat

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ABSTRACT (See instructions overleaf)

Thyroids of many Ukrainian people were highly exposed due to the Chernobyl accident. Because of this the problem of dose reconstruction is very important for different groups of population and especially for evacuated people.

49,360 inhabitants of Pripjat were evacuated shortly after the Chernobyl accident (most of them within 35-37 hours after the accident). During the evacuation they often passed through highly contaminated territories. According to the results of wide scale public survey (more than 10,000 questionnaire data about behaviour after the accident), only about 50% of evacuees left contaminated areas within 5 days and 30% of them stayed there for more than 30 days. Thyroid doses were estimated for the group of evacuees who were measured on the ¹³¹I content in thyroid. Their individual intake functions were derived from the information about route of evacuation. The collective doses and radiation risks for thyroid cancer were assessed for different age groups on the base of these estimations.

The method for the individual thyroid dose assessment was also developed for the group of evacuees from Pripjat who were not measured. For this purpose the empirical equation was used to describe the correlation between calculated doses and behaviour parameters (place of residence in Pripjat, consumption of stable iodine and the age at the time of the accident).