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Periodic monitoring and radiation safety in nuclear medicine: compliance with ionizing radiation safety standard

Zeliha Muço¹, Gerti Xhixha²

¹*University Hospital Centre "Mother Theresa"*

²*Department of Physics, Faculty of Natural Sciences, University of Tirana*

E-mail: zelamuco@gmail.com

Abstract

This study focuses on the periodic monitoring of nuclear medicine environments to assess levels of ionizing radiation and manage potential risks associated with the use of radioactive isotopes. These radiation levels must comply with the requirements set by Law No. 8025, dated 9.11.1995, which outlines the conditions for protection against ionizing radiation for all activities involving radioactive materials and radiation-emitting devices. The purpose is to safeguard professionally exposed workers, the general population, and the environment from the possible dangers of radiation exposure.

The data from these radiation measurements are systematically recorded in a registry, enabling the classification of areas with increased radiation risk. An integral part of this monitoring process includes the preparation of an annual dose report to evaluate exposure levels and implement necessary safety measures. The monitoring activities are aligned with the annual inspections conducted by the national regulatory body to ensure compliance with regulatory standards.

Furthermore, this study adheres to the requirements set forth by Decision No. 801 of the Council of Ministers, dated 11.12.2019, which approves regulations concerning the protection of the public and professionally exposed workers from ionizing radiation, as well as ensuring safety from medical exposures involving radiation sources. This decision is critical in ensuring that both regulatory compliance and safety protocols are upheld in nuclear medicine practices. The findings and recommendations from this research aim to contribute to the ongoing development and improvement of radiation protection measures, ensuring both legal and safety standards are met in nuclear medicine environment.

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- Department of Physics
Faculty of Natural Sciences
Bulevardi "Zog I", Tirana
 - National Institute of Physics (IKF)
Academy of Sciences of Albania
Sheshi "Fan Noli", Tirana

sekretaria.fizika@fshn.edu.al

info@ikf-akad.al