

Workplace monitoring at the Nuclear Medicine Department of IPOFG-CROL, SA

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Abstract

The aim of this work is to demonstrate there are presently good radiation protection conditions at our Department. Eight detectors were installed in the most important areas of our department. The system give us the dose rate average. The results show that the dose rate limits established by law for this type of installations (0,4 mSv.week-1 for professionally exposed workers and 0,02 mSv.week-1 for the general public) are not exceeded.

1. Introduction

The Nuclear Medicine Department of the Portuguese Institute of Oncology in Lisboa (IPOFG-CROL, SA) has recently acquired a new type of equipment for workplace monitoring: TAM radiation meter system (Tema Sinergy, Italy). It consists of a Geiger-Müller detector with a dose rate range between 0,1 µSv.h-1 to 0,02 Sv.h-1 and sensitive to energies between 50 keV to 1 MeV.

2. Material and Method

Eight detectors were installed in the most important areas of our department, namely, radiopharmacy, waiting room for accompanying persons, waiting room of injected patients (at two points), room of injected patients, PET radiopharmacy, PET commands room, and waiting room of PET injected patients. The dose rate measured by the equipment is collected on a computer on a 24-hour basis. The system allows an online visualization of the measurements as well as the storage on a database for evaluation. In this work the data collected with this equipment is analysed. The system give us the dose rate average, for example, in the PET commands room (0,186 µSv.h-1) and in the PET radiopharmacy (0,240 µSv.h-1).

3. Results

The results show that the dose rate limits established by law for this type of installations (0,4 mSv.week-1 for professionally exposed workers and 0,02 mSv.week-1 for the general public) are not exceeded.

4. Conclusion

With this work we can demonstrate that there are presently good radiation protection conditions at our Department.

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