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Radiation Protection training in a PET centre: working the way towards Safety Culture

The Uruguayan Centre for Molecular Imaging (CUDIM) is the only provider of PET diagnostic assistance and therapy with Lutetium-177 in Uruguay. It is also a regional reference centre in research and development of new positron-emitting radiopharmaceuticals with potential use in oncological, neurodegenerative and infectious diseases through the training of undergraduate and postgraduate students in collaboration with leading institutions in the country. All these activities are framed in the development of the safety culture in the institution, with particular emphasis on the training of all its workers in radiological protection (RP). The aim of this work is to present the curricula and evolution of the education in RP through twelve years of operation. The training courses encompass different levels of responsibility including both the personnel who handle radioactive material and the administrative and managerial staff. The courses, time duration, number of trainees and basic curricula are described below.

• Basic induction course (3 hours): aimed at all personnel who have just joined CUDIM to provide service and maintenance tasks. The curriculum includes concepts of radioactivity and operating procedures linked to their specific tasks. Ten workers are averagely trained per year.

• Basic course in radiological protection (12 hours): Aimed at cyclotron maintenance personnel. The curriculum includes: Basic concepts of nucleus and decay, Interaction of radiation with matter, Chemical and biological effects of radiation, Basic safety standards, fundamental, dosimetric and operational magnitudes, dose limits, Transport, reception and storage of radioactive material, Final disposal of waste. This course has mandatory evaluation and two workers are averagely trained per year.

• Refresher course in radiological protection (4 hours): Dictated for all occupationally exposed personnel every 2 years. The curriculum varies depending on the needs detected in the period, for example, review of the centre's RP manual, surface contamination measurement methods, dosimetric and operational magnitudes, calculations for disposal of waste and national regulations, among others. This course has mandatory evaluation and twenty-six workers are averagely trained per year.

• Training for personnel with management tasks in the administration of the CUDIM (4.5 hours): Aimed at the centre's administrative and managerial personnel. The curriculum includes Introductory Concepts to the Safety Culture, Basic Principles of Radiological Safety, Quality Management, Current National Regulations, Radioprotection and Emergency Manual. This course has mandatory evaluation and five workers are averagely trained per year.

All courses are evaluated in agreement with the Radiochemistry Department of the Faculty of Chemistry (University of the Republic) and they are accepted by the National Radioprotection Regulatory Authority to obtain working licences with radioactive material.

Although this training program does not constitute, by itself, a guarantee of safe behaviour typical of a solid Safety Culture, it is a fundamental step for its construction and it is the only initiative currently developed in the country. The work carried out to date is a fundamental pillar for the establishment of a safety culture in the institution and that it creates a valuable precedent in training in radiation protection at the region.

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