

**International Conference on Occupational Radiation Protection:  
Strengthening Radiation Protection of Workers –Twenty Years of Progress  
and the Way Forward**

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## **Occupational radiation protection in paediatric interventional cardiology in Latin America and Caribbean countries: the OPRIPALC project.**

**Introduction:** The project “Optimization of Protection in Pediatric Interventional Radiology in Latin America and the Caribbean”(OPRIPALC) started in 2018 as a joint response of the Pan American Health Organization and the World Health Organization, in cooperation with the International Atomic Energy Agency, to collaborate with its member states in ensuring that radiation exposures are optimized in paediatric interventional radiology<sup>1</sup>. Medical staff (physicians, nurses, radiographers, etc.) in cardiac intervention laboratories may receive relatively high radiation doses if radiological protection tools are misused or good operational measures are not applied. Radiation injuries of the lens of the eyes may occur after several years of work if a proper radiation protection program is not applied (2-4). **Objectives:** This work presents the results of a survey conducted in the context of the OPRIPALC project to assess the knowledge and attitudes of medical staff concerning individual dosimetry and radiation safety personal protective equipment, as well as the availability of radiation safety devices for use at the workplace. **Materials and methods:** The survey was produced using on-line forms and validated by the OPRIPALC coordinating group. Invitations were sent to the 21 OPRIPALC participating centers (corresponding 10 countries). 35 responses were received (15 physicians, 3 nurses, 14 radiographers, 1 medical physicist, and 2 others). **Results and Discussion:** The responses indicate that 91% of the professionals regularly use their personal dosimeter but only 53 % of them know the values of their occupational doses. 69% know how to interpret their dosimetric reports in terms of the units and quantities included. Finally, only 17% of the workers have electronic dosimetry available. Concerning the use of commonly available devices for personal radiation safety, the results show that lead apron and thyroid protectors are used by 87 % of the professionals. 66 % used radiation-attenuating sterile surgical gloves and a sterile lead-equivalent patient-mounted drape. This is mainly due to lack of availability (66 %). Opinions about whether the various devices were considered “essential safety device” varied. The three mainstays of individual protections, the lead or lead-equivalent apron, the thyroid shield and the lead eye glasses, were considered by most (97%, 94% and 89%, respectively) to be an essential safety device. When asked to rate the organs at the greatest risk for radiation-induced health problems, the thyroid gland were considered to be at the “greatest risk”(69%), followed by the eyes (54%) and gonads (51%). **Conclusions:** Medical staff should have access to their personal dosimetry and be trained for interpreting the results. This should be integrated into radiation protection education and training activities in workplaces where fluoroscopy-guided interventions are performed.

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