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Exposed Occupationally Worker Dosimetry at Interventionism Techniques

Very soon is going to work in Cardiological Center of Villa Clara, Cuba, a new brand of X ray Device, (that is X Ray in C Arm), that includes electrophysiology functions, in which the irradiation time might be longer in comparison with Hemodynamic Machines and interventionist cardiology, where take place several procedures of less duration such as angiographies and angioplasties. It is shown the experience results of dose to the doctors of interventionist cardiology, using TLD and RPL detectors, in different parts of the body that demand the radiologic protection. Measurements are mainly made at crystalline, limbs and the whole body. It is taken into account the fact that at the time to perform recordings, the dose to apply must be higher, that is the irradiation of gamma rays is higher at this time. It was used in addition the dosimeter RDS30 and the DCM 3000 in measurements of different regimes of professional work performed with patients. The recorded dose to the interventionist doctors show the great need to keep a permanent and effective surveillance, they are controlled regarding with the kind of procedure, pathologic indication, fluoroscopy time and machine, generating estimation of the patient dose. The doses to the limb of the cardiologic specialist were measured using TLD.

The dose at the crystalline are recorded placing TLD, a Little bigger with its three cells, that it is proposed to improve through an IAEA project. It is also placed a second witness out of the protection media, that is the glasses with lead protection 5 mm equivalent, besides it is informed the dose of thyroids and limbs of the cardiology specialist. The other report of dose is at the heart level of the Doctor under the protection and without protection. In each procedure it is reported the accumulative dose of the performed intervention. It is also reported the average time in minutes of each procedure. Both C Arm devices record a useful information level to the redundant estimates of the likely dose to be received by the doctors and the surveyed patients. It is confirmed the need of the irreplaceable systematic practice in the preparation in items of radiological protection for all the personal that works at cardiovascular interventionism.

Keywords: TL Dosimeter, Interventionism, Equivalent Dose, Specialist Doctors, Radiological Protection.

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