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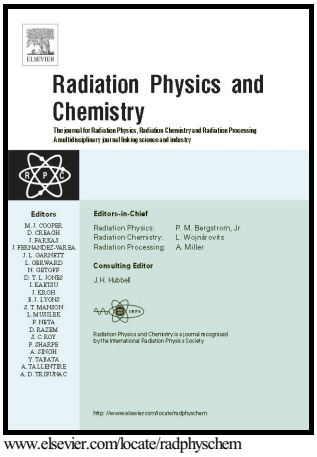

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Occupational Radiation Exposure in a Nuclear Medicine Department in Kuwait

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Abstract

Ionizing radiation exposure is associated with eye lens opacities and cataracts. Radiation workers with heavy workloads and poor protection measures are at risk for vison impairment or cataracts if suitable protection measures are not implemented. The aim of this study was to measure and evaluate the occupational radiation exposure in a nuclear medicine (NM) department. The annual average effective doses (Hp[10] and Hp[0.07]) were measured using calibrated thermos-luminescent dosimeters (TLDs; MCP-N [LiF:Mg,Cu,P]). Five categories of staff (hot lab staff, PET physicians, NM physicians, technologists, and nurses) were included. The average annual eye dose (Hp[3]) for NM staff, based on measurements for a typical yearly workload of > 7000 patients, was 4.5 mSv. The annual whole body radiation (Hp[10]) and skin doses (Hp[0.07]) were 4.0 and 120 mSv, respectively . The measured Hp(3), Hp(10), and Hp(0.07) doses for all NM staff categories were below the dose limits described in ICRP 2014 in light of the current