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Occupational Cumulative Effective Doses of Radiation Workers in Hamad Medical Corporation in Qatar

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Abstract : The number of radiological examinations has increased steadily in recent years. As a result, the risk of possible radiation-induced consequential damage also increases through continuous, lifelong, and increasing exposure to ionizing radiation. Therefore, radiation dose monitoring in medicine became an essential element of medical practice. In this study, the occupational cumulative doses for radiation workers in Hamad medical corporation in Qatar have been assessed for a period of five years. The number of monitored workers selected for this study was 555 (out of a total of 1250 monitored workers) who have been working continuously -with no interruption- with ionizing radiation over the past five years from 2015 to 2019. The aim of this work is to examine the occupational groups and the activities where the higher radiation exposure occurred and in what order of magnitude. The most exposed group was the nuclear medicine technologist staff, with an average cumulative dose of 8.4 mSv. The highest individual cumulative dose was 9.8 mSv recorded for the PET-CT technologist category.

Keywords : cumulative dose, effective dose, monitoring, occupational exposure, dosimetry
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