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Strengthening Radiation Protection of Workers –Twenty Years of Progress
and the Way Forward**

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Appraising Occupational Radiation Protection in Medicine and the Nigerian Radiation Safety in Nuclear Medicine Regulation 2006

With the advancement of cutting-edge technology, radiation-based applications continue to gain more ground in modern medicine. Occupational radiation exposure in the medical field occurs via two broad routes: diagnostic radiation and therapeutic radiation. National regulatory agencies and medical facilities are aware of the potential risks of ionizing radiation and the need to ensure that exposure is avoided or minimized. Ionizing radiation safety is essential for the health and wellbeing of health workers, hence the need for law and regulations regarding the recognition of the occurrence and the need for the control of occupational health hazards associated with ionizing radiation. Satisfactory radiological protection is based on three core principles: (i) the principle of justification for exposure (ii) the principle of optimization of protection, and (iii) the principle of application of dose limits.³ Nigeria like other countries provide safety regulations for health workers exposed to nuclear radiation in the health sector in line with the guiding principles of the International Commission on Radiological Protection (ICRP).⁴ The law is made to protect patients, workers and the general public from the risks associated with exposure to ionizing radiation in the course of nuclear medicine practice in Nigeria, and to assist licensees in meeting radiation safety and protection requirements in nuclear medicine practice for the attainment of adequate radiation protection and safety of patients. These regulations are applicable to all established uses of ionizing radiation sources employed in the practice of nuclear medicine, to the facilities where the sources are located and to the individuals involved.⁵ These regulations cover occupational, public, medical, potential and emergency exposure situations.

This paper will examine the extent to which the regulation governing radiation safety in nuclear medicine protects the health professionals whose work involves radiation exposure. The enabling law for the Nigerian Safety and Nuclear Medicine Regulation 2006 is the Nuclear Safety and Radiation Protection Act, No. 19 of 1995.⁶ Section 47 of the Act provides that: the Authority may, with the approval of the President make regulations, prescribing anything required to be prescribed under the Act, hence the adoption of the Nigerian Safety and Nuclear Medicine Regulation to provide for what the principal Act did not cover as it related to safety and the practice of nuclear medicine in Nigeria.

This paper will further appraise the administrative requirements and authorization of practice for nuclear medicine practitioners, renewal of authorization, personal accreditation, authorization of other activities related to nuclear medicine, inspection by relevant authorities, the issue of non-compliance and suspension or withdrawal of authorization. Other foci of this paper include radiation safety and protection requirements for nuclear medicine practitioners in Nigeria, quality assurance indicators measured against international standards, and implications of the regulation on radiation protection education and training. This paper will conclude by identifying the gaps in the Nigerian Regulation and make necessary recommendations for the promotion of safer use of nuclear radiation in the health sector of Nigeria in line with international best practices.

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