

Protection of Patients and Staff in External Beam Radiotherapy Using Linac in Kenya

Authors : Calvince Okome Odeny

Abstract : There is a current action to increase radiotherapy services in Kenya. The National government of Kenya, in collaboration with the county governments, has embarked on building radiotherapy centers in all 47 regions of the country. As these new centers are established in Kenya, it has to be ensured that minimum radiation safety standards are in place prior to operation. For full implementation of this, it is imperative that more Research and training for regulators are done on radiation protection, and safety and national regulatory infrastructure is geared towards ensuring radiation protection and safety in all aspects of the use of external radiotherapy practices. The present work aims at reviewing the level of protection and safety for patients and staff during external beam radiotherapy using Linac in Kenya and provides relevant guidance to improve protection and safety. A retrospective evaluation was done to verify whether those occupationally exposed workers and patients are adequately protected from the harmful effect of radiation exposure during the treatment procedures using Linac. The project was experimental Research, also including an analysis of resource documents obtained from the literature and international organizations. The critical findings of the work revealed that the key elements of protection of occupationally exposed workers and patients include a comprehensive quality Management system governing all planned activities from siting, safety, and design of the Facility, construction, acceptance testing, commissioning, operation, and decommissioning of the Facility; Government empowering the Regulatory Authority to license Medical Linear facilities and to enforce the applicable regulations to ensure adequate protection; A comprehensive Radiation Protection and Safety program must be established to ensure adequate safety and protection of workers and patients during treatment planning and treatment delivery of patients and categories of staff associated with the Facility must be well educated and trained to perform professionally with a commitment to sound safety culture. Relevant recommendations from the findings are shared with the Medical Linear Accelerator facilities and the regulatory authority to provide guidance and continuous improvement of protection and safety to improve regulatory oversight.

Keywords : oncology, radiotherapy, protection, staff

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