

Nuclear Medical Waste Process in Hospitals in Kingdom of Saudi Arabia

The total number of newly diagnosed cancers between January 1 and December 31, 2020, reported cases to the Saudi Cancer Registry. The SCR was 17631. Radiotherapy is becoming one of the primary diagnosis methods to discover cancer in different human body parts. Within the process of producing it, there are radioactive side products. Since the therapy has different levels of waste, such as Low (LLW) and High (HLW), If not taken care of following the correct regulations, these products would eventually lead to a destructive impact on the environment. Saudi Arabia's Crown Prince Mohammed Bin Salman has announced that by 2030, the country's population will be around 50-60 million compared to now, where the population is around 30 million. The current activities are estimated to increase cancer incidence by 75% worldwide, which would urge the need to treat people immediately to save their lives. Cancer cases will increase as the population increases more than the previous numbers. Therefore, the Ministry of Health plans to open and establish new cancer treatment facilities for updated cases. Currently, the country needs proper facilities to store or dispose of radioactive isotope waste with a long half-life to decay used in the patient's treatment due to its disposal cost. The case study was a visit to King Fahd Specialist Hospital (KFSH), where an informative details about the waste disposal methods and protocols followed as in all the specialist hospitals in the Kingdom, where they follow the regulations of the Food and Drugs Administration (FDA) and European Medicine Administration (EMA) regarding the whole process of isotope production.

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