

General Principles of Radiation Protection in Fields of Diagnostic Medical Exposure

UPDATE 1

21st January 2022

Radiation doses from medical exposure are presently the most common type of man-made radiation exposure, because to fast development of medical equipment such as CT or PET-CT. Justification, optimization, and dosage limit are three important phrases that sum up the general concepts of radiation protection from the dangers of ionising radiation. Diagnostic reference levels are commonly utilised as a reference value instead of dosage limits since medical radiation exposure has special implications. Controlling medical radiation exposure necessitates regulation. Physicians and radiologists must be aware of the hazards and advantages of medical radiation, as well as comprehend and apply radiation protection protocols for patients. It's also crucial to educate referring doctors and radiologists. Medical radiation has been widely used and is essential for diagnosis and treatment of patients since Wilhelm Conrad Roentgen's discovery of X-ray. The globe shuddered in dread of radiation after the March 2011 nuclear disaster in Japan. As a result, there was a rise in awareness of medical radiation exposure and interest in radiation protection. The International Commission on Radiation Protection (ICRP) proposed three fundamental phrases to describe broad concepts of radiation protection: rationale, optimization, and dosage limit. Dosage limits or dose limitations are not acceptable since medical exposure of patients has special concerns. Dose limitations are irrelevant since ionising radiation, when utilised at the proper dose for the specific medical purpose, is a vital instrument that will do more good than damage. As a result, medical radiation has no dosage restrictions, and the diagnostic reference level (DRL) is commonly employed as a reference value.