Al-Mustaqbal University College
Department of Medical Physics
The Fourth Stage
First Course

Radiation Protection

LECTURE TEN

Dose limits

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LECTURE TEN: Dose limits

❖ Equivalent dose

is a dose quantity representing the health effects of low levels of ionizing radiation on the human body which represents the probability of radiation-induced cancer and genetic damage. It is dependent on the radiation type and energy. In the SI system of units, the unit of measure is the Sievert (Sv).

❖ Benefits of knowing the equivalent dose

Dose limits help ensure that no person is exposed to an excessive amount of radiation in normal, planned situations. They are the strongest form of restriction on dose to an individual. Exceeding a dose limit is contrary to regulations in most countries .

To achieve protection from ionizing radiation, there are two important things that must be taken into account :-

One : Dose limits

Two : Fundamental principles of justification and optimization.

where, Dose limits alone are not enough to ensure radiation protection. They function in combination with the fundamental principles of justification and optimization. Limits on effective dose, combined with optimization of protection, are designed to avoid a risk of stochastic effects that would be considered intolerable in a planned exposure situation.