

Radiation protection



Goal

Minimize the harmful effects from ionizing radiation

Principles



Justifiable exposure

- Whether the radiation exposure benefits outweigh the risks



Dose limits

- Exposures should be below the established limits (medical, biologic, etc)



Optimisation

- Radiation exposure must be **ALARA**: As Low As Reasonable Achievable

Categories



Public radiation protection

- Protection of individual members of the public and of population in general



Occupational radiation protection

- Protection of workers when their exposure is directly related to their work



Protection of patients

- Protection of people exposed to radiation as part of their diagnosis or treatment

Did you know?

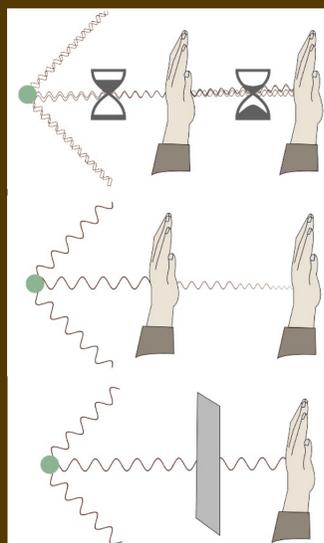


Taking Potassium Iodine (KI) saturates our body (specifically the thyroid gland) with harmless iodine. Thus, our bodies are unable to absorb radioactive iodine (¹³¹I).



Commandments of radioprotection are based on reducing radiation exposure and/or mitigate the radiation effects

Protecting yourself against radiation



Time → Minimize

Distance → Maximize

Shielding → Utilize



Shielding effectiveness depends on the radiation type, energy, and material and thickness of the shield.

UNED, R. Garcia, J. Garcia, J. Sanz

Radiation exposure situations



Existing



Planned



Emergency

Radioactive decay types and radiation penetration

