

# Radiation protection





## Goal

Minimize the harmful effects from ionizing radiation

## **Principles**



### Justifiable exposure

• Wheter 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

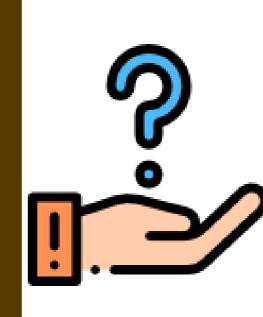
 Protection of workers when their exposure is directly related to their work



#### **Protection of patiens**

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

## Did you know?

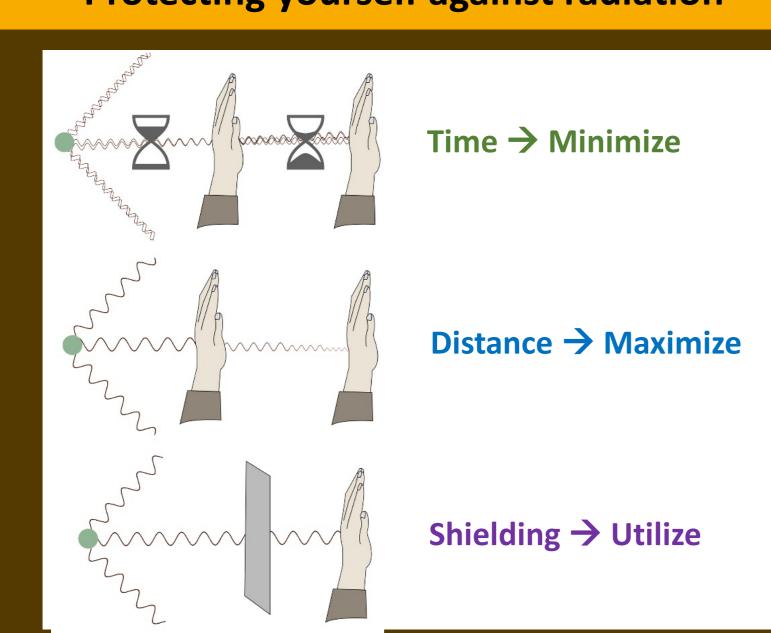


Taking Potassium Iodine (KI) saturates our body (specifically the thyroid gland) with harmless iodine. Thus, our bodies are unable to absorb radioactive *iodine* (131*I*).



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

## **Protecting yourself against radiation**



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

## **Radiation exposure situations**



Existing



**Planned** 

High Energy



## Radioactive decay types and radiation penetration

Nucleus of

