

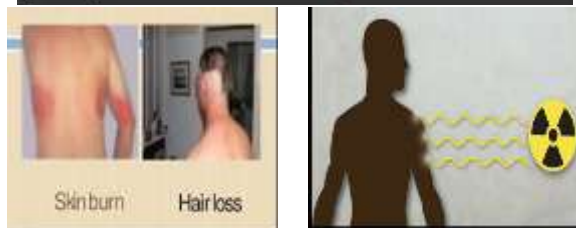
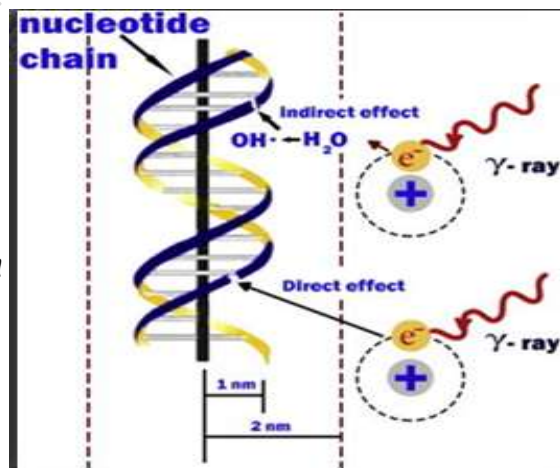


# Radiation Protection

## LECTURE FIVE Biological Effects of Ionizing Radiation

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## LECTURE FIVE : Biological Effect

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### ❖ Introduction

Man has known the harmful effect of radiation since the beginning of its discovery and before he knew the ways to prevent it, and these effects include noticing hair loss and redness of the skin as a result of exposure to X-rays and the infection of the discoverer of these rays with skin cancer. In addition to the high incidence of lung cancer among uranium miners as a result of inhaling them.

### ❖ The biological effect of radiation depends on several factors, including the following:

- Type of radiation.
- The method of exposure to radiation, whether external or internal.
- Type of organ , depending on the following:
  - i) Sensitivity of the organ exposed to radiation.
  - ii) The ability of the organ to store radiation.

### ❖ Types of effects of ionizing radiation (Depending on the method of effect in the body)

#### First: Direct Method

In the direct method, the **bonds between the atoms** that make up the molecules (living matter) are **broken** as a result of ionization, especially the nucleus of the cell, **causing its death or a genetic effect on it.**