

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

ALMANHAL ACADEMY OF  
SCIENCE

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DEPARTMENT OF  
COMMUNITY MEDICINE

GROUP NO (2)

IONIZING RADIATION

# IONIZING RADIATION



# WHAT IS IONIZING ?RADIATION

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- IONIZING RADIATION IS A TYPE OF ENERGY RELEASED BY ATOMS THAT TRAVELS IN THE FORM OF ELECTROMAGNETIC WAVE (GAMMA OR X-RAYS OR PARTICLES (NEUTRONS BETA OR ALPHA)).

# RADIATION SOURCES



- NATURAL RADIATION SOURCES:
- RADIOACTIVE MATERIALS FOUND IN 60 NATURALLY SOURCES LIKE, SOIL, WATER, AIR AND RADON.
- HUMAN MADE RADIATION SOURCES :
- FOUND IN NUCLEAR POWER GENERATION, MEDICAL USES OF RADIATION INCLUDING X-RAY MACHINES.

# EXPOSURE TO IONIZING RADIATION

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- ❑ INTERNAL EXPOSURE:
  - ❑ IT ENTERS IN TO THE BLOODSTREAM BY INJUCTION OR THROUGH WOUNDS AND IT STOP WHEN THE RADIONUCLIDE IS ELIMINATED FROM THE BODY AS RESULT OF A TREATMENT.
- ❑ EXTERNAL EXPOSURE:
  - ❑ PLANNED EXPOSURE
  - ❑ EXISTING EXPOSURE
  - ❑ EMERGENCY EXPOSURE

# HEALTH EFFECTS OF IONIZING RADIATION



RADIATION DAMAGE TO TISSUE OR ORGANS DEPENDS ON THE DOSE OF RADIATION RECEIVED OR THE ABSORBED DOSE .

□ DOSE OF RADIATION RECEIVED :

THE DAMAGE DEFRES WITH AMOUNT OF RADIATION FROM HIGH TO LOW.

□ ABSORBED DOSE :

THE ABSORBED DOSE DEPENDS ON THE TYPE OF RADIATION AND THE SENSITIVITY OF DIFFERENT TISSUES AND ORGANS.

