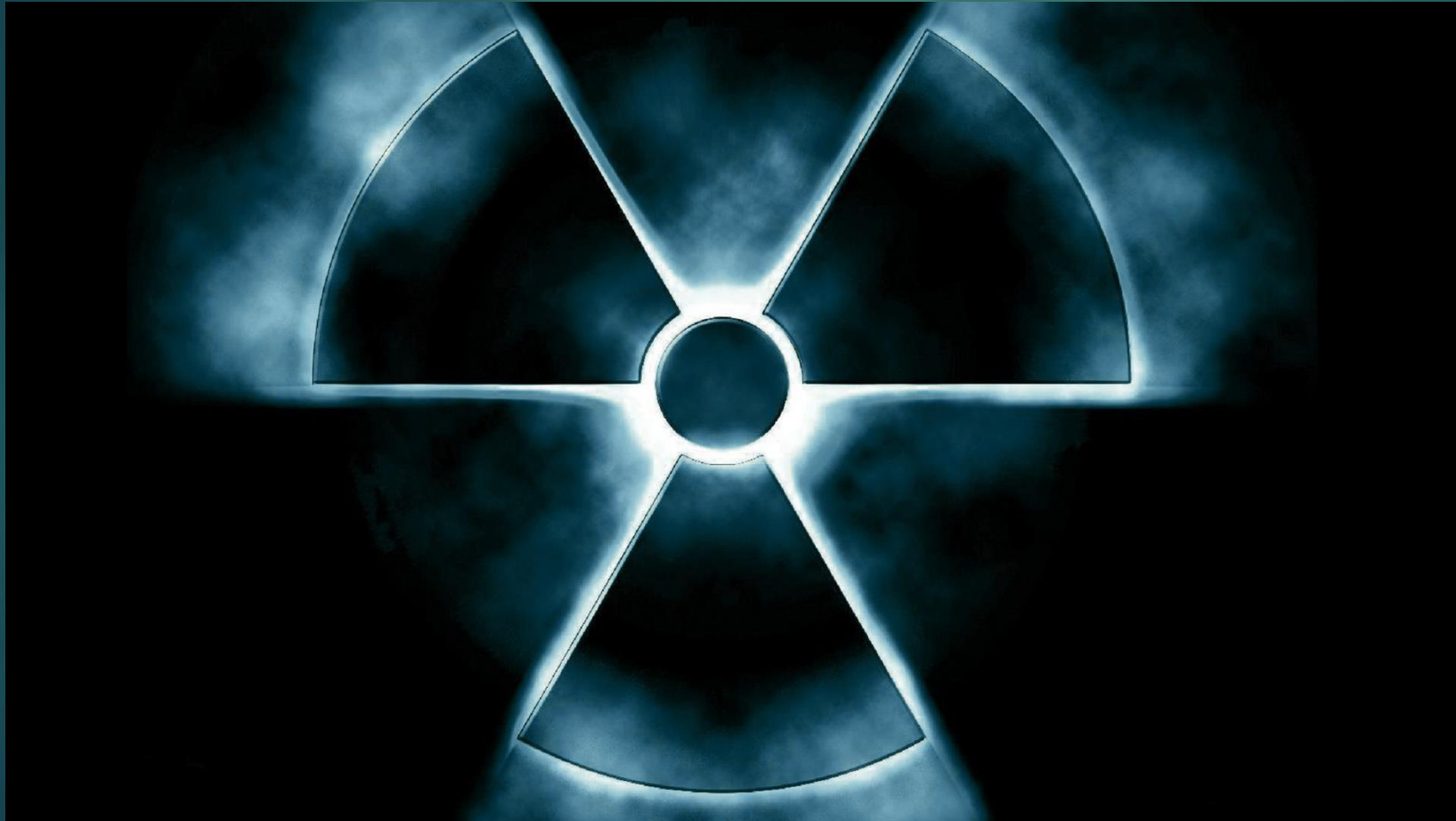


Radiation Effects



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Introduction to Radiation

- ▶ Radiation is the emission of energy as electromagnetic waves, or as moving subatomic particles.
- ▶ Natural radiation can be found all around us, such as in soils, air, and water.
- ▶ In medicine, radiation is used to diagnose and treat patients.
 - ▶ X-rays: uses ionizing radiation to produce an image on x-ray film to diagnose diseases
 - ▶ Radiotherapy: treatment to destroy cancer cells with radiation
- ▶ Radiation is considered to be a teratogen, which is an agent or factor that causes malformation of an embryo.



Radiation Effects on Pregnancy

- ▶ Direct exposure to high levels of radiation can act as an environmental teratogen during the embryonic period.
- ▶ Radiation may injure embryonic cells, resulting in cell death, chromosome injury, and delay of mental and physical growth.
- ▶ The severity of the damage is associated with the absorbed dose, the dose rate, and the state of embryonic development at the time of exposure.



Radiation Effects on Pregnancy

- ▶ Serious cleft in the face or palatal region can result from radiation exposure while pregnant.
- ▶ Anodontia can result from exposure to excess radiation, such as cancer treatment.
- ▶ Radiation can affect a patient dentally by altering the structure of the patient's oral cavity, and could result in permanent tooth loss.



Radiation Effects on Pregnancy

- ▶ Radiation can affect a patient dentally by altering the structure of the patient's oral cavity, and could result in permanent tooth loss.
- ▶ Dental settings have very low radiation exposure, but pregnant women should not be treated unless it is an emergency.

Role of the Dental Team

- ▶ Inform patients about radiation and how it affects pregnancy.
- ▶ Provide patients with protection against radiation.
- ▶ Review patient's medical and dental history.
- ▶ Check patient for any intra and extra oral lesions before procedure.

