

## Medical Radiation Safety Officer

Protection from Radiation

## The Holy Trinity of Radiation Protection

- TIME
- DISTANCE
- SHIELDING

## TIME

- Radiation Dose = Dose Rate x TIME

## Distance

- If you double the distance from the radiation source --- you reduce the dose rate by  $\frac{1}{4}$
- If you double the distance again --- you reduce the dose rate by  $\frac{1}{16}$
- Dose Rate = (Dose Rate @ 1 foot )÷  $D^2$

## Shielding

- Placing a Barrier Between a Person and the Radiation Source Reduces the Dose Rate
  - Heavy Materials such as Pb (lead) or Concrete
  - Plastics for Beta Emitters