

PET/CT Imaging

1. True or false. Clinical imaging exists for the noninvasive study of disease in the body.
 - a. True
 - b. False
2. PET is used to study which of the following processes?
 - a. Blood flow
 - b. Tissue perfusion
 - c. Neurological function
 - d. All the above
3. After a positron and electron self-annihilation, the energy is released as _____ 511 keV photons.
 - a. One
 - b. Two
 - c. Three
 - d. Four
4. According to the text, the port diameter size of a typical gantry is _____.
 - a. 40 – 50 cm
 - b. 50 – 60 cm
 - c. 60 – 70 cm
 - d. 70 – 80 cm
5. Which of the following **is not** a physical effect that can corrupt PET acquisition data?
 - a. Photon attenuation
 - b. Field of view
 - c. Random registration
 - d. Gantry geometry
6. The random coincidence rate is related to the _____ of the timing window, and the singles rate on the detectors.
 - a. Slope
 - b. Length
 - c. Size
 - d. Position
7. In addition to the noise in the prompt counts, PET data is also degraded by other effects including _____.
 - a. Contrast
 - b. Attenuation
 - c. Windowing
 - d. Emission activity
8. What year did Dr. Ron Nutt and Dr. David Townsend build the first PET/CT scanner?
 - a. 1996
 - b. 1997
 - c. 1998
 - d. 1999
9. In a 3D PET exam _____ of the data may be from scattered photon events.
 - a. 10 – 20%
 - b. 25 – 35%
 - c. 30 – 45%
 - d. 40 – 60%

10. The first PET scans were conducted in the _____ at Washington University by Michael Phelps.
- a. 60s
 - b. 70s
 - c. 80s
 - d. 90s
11. At the time this text was written, the five-year survival rate for oral cavity and pharynx cancer remained relatively dismal at _____.
- a. 20%
 - b. 30%
 - c. 40%
 - d. 50%