

## TEST: PET RADIOPHARMACEUTICALS

1. PET stands for:

- a. Positive Effective Therapy
- b. Post Endocardial Therapy
- c. Positron Effective Tomography
- d. Proton Emission Tomography
- e. None of the above

2. Which ONE of the following statements is False?

- a. PET is better at determining organ function and CT is better at anatomy
- b. PET can identify a functional change in an internal organ before other modalities can determine a structural change
- c. PET can localize primary tumors but has no value in identifying metastatic disease
- d. PET can differentiate between malignancy and radiation necrosis

3. Which one of the following isotopes can NOT be used for coincidence imaging?

- a. O-15
- b. Co-57
- c. N-13
- d. C-11

4. The half-life of F-18 is

- a. 18 min
- b. 118 min
- c. 110 min
- d. 2.05 min

5. Which ONE of the following statements is False?

- a. Injection of PET radiopharmaceuticals generally produces only mild side-effects.
- b. Radiation exposure from a PET imaging procedure is comparable to other commonly performed procedures.
- c. The PET pharmaceutical must not alter the process that it is trying to image.
- d. PET pharmaceuticals are usually chemically analogous to naturally occurring compounds.

6. The most commonly used PET radiopharmaceutical worldwide is

- a. F-18 Na fluoride
- b. C-11 labeled CO<sub>2</sub>
- c. O-15 H<sub>2</sub>O
- d. N-13 ammonia
- e. None of the above

7. Which ONE of the following is true?

- a. The chemical structural formulas for FDG and glucose both have a closed ring structure
- b. The only F-18 compound ever synthesized is FDG
- c. There are significant reimbursement issues associated with clinical use of F-18 FDG
- d. FDG imaging is not valuable for avoiding unnecessary surgeries

8. Which ONE of the following statements is true?

- a. Since the energy of the photons emitted by F-18 is 511 keV, radiation-shielding requirements are almost identical to those associated with Tc-99m.
- b. The mechanism of localization of FDG in malignant tumors is called "receptor binding";
- c. The metabolic rate of most tumors is higher than that of normal tissue
- d. The FDG taken up by tumors is metabolized almost as rapidly as it is taken up

9. Which of the following series contains ONLY positron emitters?

- a. Rb-82, F-18, Co-57
- b. C-11, N-13, Rb-82
- c. N-13, F-18, Co-57
- d. I-123, I-125, I-131

10. Which ONE of the following oncologic indications has NOT been approved by Medicare for reimbursement?

- a. Lymphoma
- b. Ovarian Carcinoma
- c. Melanoma
- d. Colorectal Cancer
- e. Non-small cell lung cancer