CONTINUING EDUCATION TEST: Ethical Issues in Radioisotope Shortages: Rationing and Priority Setting

1. How many nuclear reactors are currently commissioned to produce medical isotopes?
   A. 1.
   B. 3.
   C. 5.
   D. 7.

2. How many U.S. reactors produce medical isotopes?
   A. 0.
   B. 1.
   C. 3.
   D. 5.

3. The reactor located in ________________ provides 50% of the medical isotopes used in North America.
   A. Chalk River, Canada.
   B. Petten, The Netherlands.
   C. Mol, Belgium.
   D. Pelindaba, South Africa.

4. The MAPLE reactor is scheduled to be operational…
   A. Within 1 y, pending AECL approval.
   B. Within 5 y, pending completion of safety inspections.
   C. Within 10 y, pending acquisition of required funding.
   D. Unknown timeline; project has been shut down.

5. What is the average age of nuclear reactors currently producing medical isotopes?
   A. 10 y.
   B. 25 y.
   C. 35 y.
   D. 40 y.
6. How many nuclear medicine procedures depend on steady supplies of $^{99}$Mo?
A. About 10%.
B. 25%.
C. 50%.
D. 80%—90%.

7. How many nuclear medicine studies were imperiled by a 2009 reactor shutdown?
A. Less than 1 million.
B. 2.5 million.
C. 8 million.
D. 15 million.

8. During periods of scarcity, with what are medical isotopes that have short half-lives most often compared?
A. Solid organs for transplantation.
B. Vaccines and drugs.
C. Clinical trial agents.
D. All of the above.

9. Historical review of rationing criteria for patient selection has been criticized for all of the following reasons except…
A. Unexplained criteria for selection process.
B. Subjective criteria based on emotional appeals or political influence.
C. Criteria determined by a multidisciplinary committee without regard to social worth or normative judgments.
D. Criteria based on timing and benefit using a first-come, first-served, selection process.

10. The “God Committee” was made up of…
A. Jewish and Christian professionals and laypeople.
B. Caucasians, with the same religious, cultural, and racial backgrounds.
C. Christian Black and Hispanic laypeople and Caucasian professionals.
D. Diverse, multidisciplinary professionals from a range of cultural backgrounds.
11. Why was the Child–Turcotte–Pugh system for prioritization criticized?
A. It was based not on clinical parameters but on social worth criteria.
B. It produced a conflict between the principle of fairness and the problem of urgency.
C. It was based on unproven research.
D. It was relevant only for universal health-care systems.

12. What is the operative ethical framework for the allocation of scarce resources?
A. Autonomy.
B. Beneficence.
C. Nonmaleficence.
D. Justice.

13. In times of critical shortages, criteria for prioritizing nuclear medicine procedures would include all of the following except…
A. Available alternate diagnostic tests or treatments.
B. Benefit of test or treatment versus life expectancy.
C. Medical insurance.
D. Patient compliance.