

Radiation Protection

1. True or false. There is a consensus on a system of radiological protection under the auspices of the International Commission on Radiological Protection (ICRP).
 - a. True
 - b. False
2. Radiation exposure with reasonably predictable magnitudes is referred to as _____ exposures.
 - a. Normal
 - b. Average
 - c. Expected
 - d. Predetermined
3. What category does the ICRP place the exposure to individuals?
 - a. Occupational exposure
 - b. Public exposure
 - c. Medical exposure
 - d. All the above
4. What type of exposure is defined by the ICRP as radiation exposures incurred by workers as a result of their work?
 - a. Public exposure
 - b. Occupational exposure
 - c. Medical exposure
 - d. Planned exposure
5. What type of exposure would include exposure to persons who may happen to be close to, or within, the facility and potentially subject to radiation penetrating the walls of an x-ray room?
 - a. Planned exposure
 - b. Medical exposure
 - c. Public exposure
 - d. Occupational exposure
6. What type of radiation exposure is an intentional exposure for the diagnostic or therapeutic benefit of the patient?
 - a. Medical exposure
 - b. Public exposure
 - c. Occupational exposure
 - d. Planned exposure
7. What modality is by far the greatest contributor in the significant rise of medical exposure?
 - a. PET
 - b. Nuclear Medicine
 - c. CT
 - d. Radiography
8. In the ENSCEAR report, CT accounted for 7.9% in the increase of examinations, but _____ of the rise in dose.
 - a. 30%
 - b. 38%
 - c. 42%
 - d. 47%

For questions 9 through 13 choose the acceptable dose limit for the body part listed.

9. Occupational mSv limit for the lens of the eye
 - a. 15
 - b. 50
 - c. 20
 - d. 500
10. Public mSv limit for skin
 - a. 50
 - b. 20
 - c. 15
 - d. 500
11. Public mSv limit for the lens of the eye
 - a. 15
 - b. 20
 - c. 50
 - d. 500
12. Occupational mSv limit for hands and feet
 - a. 15
 - b. 20
 - c. 50
 - d. 500
13. Occupational mSv limit for skin
 - a. 15
 - b. 20
 - c. 50
 - d. 500
14. True or false. Radiation protection in a hospital must not be seen as something imposed from the 'outside' and separate from the real business of providing medical services and patient care.
 - a. True
 - b. False
15. Which of the following have key roles and responsibilities in implementing radiation protection in the radiology facility?
 - a. Medical physicist
 - b. Medical radiology technologist
 - c. Radiation protection officer
 - d. All the above
16. Who is responsible for ensuring the optimization of protection during the radiology exam?
 - a. Radiological medical practitioner
 - b. Medical physicist
 - c. Medical radiologic technologist
 - d. Radiation protection officer
17. The _____ provides specialist expertise concerning radiation protection of patients.
 - a. Radiological medical practitioner
 - b. Medical physicist
 - c. Medical radiologic technologist
 - d. Radiation protection officer

18. Within a radiology facility, who has the responsibility to oversee and implement radiation protection in the facility?
 - a. Radiological medical practitioner
 - b. Medical physicist
 - c. Radiation protection officer
 - d. Medical radiologic technologist
19. What underpins much of the practice of radiation protection?
 - a. Education
 - b. Practice
 - c. Training
 - d. A & C
20. What are dose levels for typical examination of groups of standard-sized patients called?
 - a. Diagnostic reference levels (DLRs)
 - b. Patient dose levels
 - c. Procedure dose levels
 - d. Practice dose levels
21. CT examination of the pelvic region with and without contrast can lead to a fetal absorbed dose of about _____.
 - a. 25 mGy
 - b. 35 mGy
 - c. 50 mGy
 - d. 60 mGy
22. True or false. As a basic rule, it is recommended that radiological procedures for women who are likely to be pregnant should be avoided unless there are strong clinical indications to the contrary.
 - a. True
 - b. False
23. The recommended effective dose for people 16-18 years old is _____ in a year.
 - a. 4 mSv
 - b. 6 mSv
 - c. 8 mSv
 - d. 10 mSv
24. Pregnant workers must be monitored and the dose to the embryo should not exceed _____.
 - a. 1 mSv
 - b. 2 mSv
 - c. 3 mSv
 - d. 4 mSv
25. Which of the following is a basic principle to reduce occupational exposure?
 - a. Restrict the time a person is exposed to radiation as much as possible
 - b. Ensure the distance between a person and the x-ray source is kept as large as practical
 - c. Employ appropriate measures to ensure the person is shielded from the source of radiation
 - d. All the above
26. Wearing protective eyewear, especially with side protection, can reduce the dose to the eye by what percentage?
 - a. 50 – 60%
 - b. 65 – 75%
 - c. 80 – 90%
 - d. > 90%

27. Unauthorized access by the public to functioning X-ray rooms must be _____.
a. Monitored
b. Restricted
c. Protected
d. Prohibited
28. The design of radiation shielding for diagnostic installations are based on _____ common approaches used internationally.
a. Two
b. Three
c. Four
d. five
29. When determining shielding, the occupancy factor is the fraction of an _____ day a particular area may be occupied must be taken into consideration.
a. 8-hour
b. 10-hour
c. 12- hour
d. 16-hour