RADIATION SAFETY PROCEDURES

1. The radiation exposure to the patient shall be the minimum exposure required to produce images of good diagnostic quality.

   The speed of film or film-screen combinations shall be the fastest speed consistent with the diagnostic objectives of the radioactive examination.

3. During a radiographic examination, the x-ray field shall be collimated to dimensions no greater than those of the x-ray film.

4. When a patient or film must be provided with auxiliary support during a radiation exposure:

   a. Mechanical holding devices shall be used when the technique permits Individuals may be used to hold a patient only when absolutely necessary, and no individual shall be used routinely for this purpose to the exclusion of others that might share the task.
   b. If a human holder is required, the holder shall be positioned such that no part of the body will be struck by the primary x-ray beam unless protected by at least 0.5 millimeter lead equivalent, and shall be protected from the direct scatter radiation by a protective apron of not less than 0.25 millimeter lead equivalent.

5. Gonadal shielding of not less than 0.25 millimeter lead equivalent shall be used for patients who have not passed the reproductive age during radiographic procedures in which the gonads are in the primary x-ray beam, except for cases in which the shield would interfere with the diagnostic procedure.

6. Individuals under the age of 18 years are restricted to an occupational dose of 500 millirem per year.

7. Personnel monitoring devices will be issued to any individual who is likely to receive more than 25% of the permissible dose limit set forth in the Virginia Rules and Regulations for restricted areas.

8. When protective clothing or devices are worn on portions of the body and a monitoring device is required, at least one such monitoring device shall be utilized as follows:

   a. When an apron is worn and only one monitoring device is in use, the device shall be worn at the collar outside the apron.
   b. The dose to the whole body or the maximum dose attributed to the most critical organ shall be recorded. If more than one device is used, each dose shall be recorded and identified with the area where the device was worn on the body.
   c. The position on the body at which a particular monitoring device is worn and used **SHALL NOT** be changed during any calendar quarter.

9. Exposing of personnel monitoring device to deceptively indicate a dose delivered to an individual is prohibited.

10. If an x-ray badge is lost or damaged during a monitoring period, the individual's exposure over the last three months should be averaged and that average added to the annual dose for the missing period.

11. Individuals shall not be exposed to the primary x-ray beam except for healing art purposes, and such exposure shall be authorized by a licensed practitioner of the healing arts. This specifically prohibits deliberate exposure of an individual for training, demonstration or other non-healing arts purposes.

12. The doors of the x-ray room should be closed before making an x-ray exposure.

13. The x-ray beam should not be directed towards doors, windows, x-ray controls or towards the darkroom walls unless no other geometry is possible

14. No patient should wait or change in the x-ray room while another patient is being radio-graphed.

15. Except for patients who cannot be moved out of the room, only staff and necessary personnel required for the medical procedure shall be in the room during the radiographic exposure. Other than the patient being examined:

    a. All individuals shall be positioned such that no part of the body will be struck by the useful beam unless protected by at least 0.5 millimeter lead equivalent.
    b. Staff and ancillary personnel shall be protected from the direct scatter radiation by protective aprons or whole body protective barriers of not less than 0.25 millimeter lead equivalent.
    c. Patients who cannot be removed from the room shall be protected from the direct scatter radiation by protective barriers of not less than 0.25 millimeter lead equivalent or shall be so positioned that the nearest portion of the body is at least 2 meters from both the tube head and the nearest edge of the image receptor.

16. Standard operating procedure is for the operator of the x-ray unit to remain in the corridor, outside of the x-ray room, for the duration of the x-ray exposure.

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