WAC 246-225-020 General requirements—Administrative controls. (1) No person shall make, sell, lease, transfer, lend, or install X-ray equipment or the accessories used in connection with such equipment unless such accessories and equipment, when properly placed in operation and properly used, shall meet the requirements of this chapter.

(2) The registrant in control of the X-ray machines shall be responsible for directing the operation of the X-ray machines. The registrant or registrant's agent shall assure the following provisions are met in the operation of the X-ray machine or machines:

(a) The registrant shall not operate an X-ray machine for diagnostic or therapeutic purposes when the X-ray machine:

(i) Does not meet the provisions of this chapter; or

(ii) Is malfunctioning and threatens the health or safety of the patient, operator, or general public.

(b) X-ray machine operator requirements.

(i) Individuals operating the X-ray equipment shall be adequately instructed in safe operating procedures and shall be able to demonstrate competence, upon request from the department, in the correct use of the equipment. Required areas of competence are listed in Appendix II. The department may determine compliance with subsection (2)(b) of this section by observation, interview, or testing;

(ii) A medical X-ray machine operator shall be licensed, certified or registered by the department as either:

(A) A health care practitioner, licensed under Title 18 RCW; or

(B) A diagnostic or therapeutic radiologic technologist certified in accordance with chapter 18.84 RCW; or

(C) An X-ray technician registered in accordance with chapter 18.84 RCW.

(c) At each X-ray system's control panel, a chart shall be provided which specifies for the examinations performed by that system the following information:

(i) Patient's anatomical size versus technique factors utilized;

(ii) Source to image receptor distance used;

(iii) Type and placement of patient shielding used, for example, gonad, thyroid, lap apron;

(iv) If applicable, settings for automatic exposure devices; and

(v) Type and size of film or screen-film combination to be used.

(d) When required by the department, a registrant shall create and provide to operators of the X-ray system, radiation safety procedures which address patient and occupationally exposed personnel safety. These procedures shall define restrictions of the operating technique required for safe operation of the particular X-ray system;

(e) Except for patients who cannot be moved out of the room and the patient being examined, only the staff and ancillary personnel required for the medical procedure or training shall be present in the room during the radiographic exposure. Other than the patient being examined:

(i) All individuals shall be positioned such that no part of the body including the extremities not protected by 0.5 mm lead equivalent will be struck by the useful beam;

(ii) The X-ray operator, other 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 mm lead equivalent;

(iii) Patients who cannot be removed from the room shall be:

(A) Protected from the direct scatter radiation by whole body protective barriers of not less than 0.25 mm lead equivalent; or

(B) Positioned so the nearest portion of the body is at least 2 meters from both the tube head and the nearest edge of the image receptor.

(iv) The department may require additional protective devices when a portion of the body of staff or ancillary personnel is potentially subjected to stray radiation which may result in that individual receiving one quarter of the maximum permissible dose defined under WAC 246-221-010.

(f) Gonad shielding of not less than 0.5 mm lead equivalent shall be used for patients of reproductive age during radiographic procedures in which the gonads are in the direct (useful) beam, except for cases when gonad shielding may interfere with the diagnostic procedure;

(g) Persons shall not be exposed to the useful beam except for healing arts purposes. Only a licensed practitioner of the healing arts shall authorize an exposure to the useful beam. This requirement prohibits deliberate exposure for the following purposes:

(i) Exposure of an individual for training, demonstration, or other purposes unless there are also healing arts requirements and proper prescription is provided;

(ii) Except for mammography performed by registered facilities on self-referred patients, the exposure of an individual for the purpose of healing arts screening without prior written approval of the state health officer; and

(iii) Exposure of an individual for the sole purpose of satisfying a third party's prerequisite for reimbursement under any health care plan, except for exposure required under medicare provisions.

(h) When a patient or film must be provided with auxiliary support during a radiation exposure:

(i) Mechanical holding devices shall be used when the technique permits. The safety rules, when required under subdivision (d) of this subsection, shall list individual projections where holding devices cannot be utilized;

(ii) Written safety procedures, when required under subdivision (d) of this subsection, shall indicate the requirements for selecting a human holder and the procedure the holder shall follow;

(iii) The human holder shall be protected as required under subdivision (e)(i) of this subsection;

(iv) No person shall be used routinely to hold film or patients;

(v) When the patient must hold the film, the portion of the body other than the area of clinical interest struck by the useful beam shall be protected by not less than 0.5 mm lead equivalent material;

(vi) Holding the film or the patient shall be permitted only in very unusual and rare situations.

(i) Personnel dosimetry. All persons associated with the operation of an X-ray system are subject to both the occupational exposure limits and the requirements for the determination of the doses stated under WAC 246-221-020. In addition, when protective clothing or devices are worn on portions of the body and a dosimeter is required, at least one such dosimeter shall be utilized as follows:

(i) When an apron is worn, the monitoring device shall be worn at the collar outside of the apron; and

(ii) The dose to the whole body based on the maximum dose attributed to the most critical organ shall be recorded on the reports required under WAC 246-221-230. If more than one device is used or a re-

cord is made of the data, each dose shall be identified with the area where the device was worn on the body.

(iii) Personnel monitoring of an operator shall be required where:

(A) Exposure switch cords are utilized that allow the operator to stand in an unprotected area during exposures; and

(B) Measurements by the department show ten percent of the exposure limits as specified under WAC 246-221-010 may be exceeded.

(iv) All persons involved in the operation of a fluoroscope and working within the fluoroscopy room during its operation shall wear a personnel dosimeter required under WAC 246-221-090 and subsection (2)(i)(i) of this section. If extremities are in or near the primary beam, extremity dosimeters are also required;

(j) Healing arts screening utilizing radiation. Any person proposing to conduct a healing arts screening program, with the exception of a mammography program, shall not initiate such a program without prior approval of the state health officer. When requesting such approval, that person shall submit the information outlined under Appendix III of this part. If information submitted becomes invalid or outdated, the state health officer shall be notified immediately;

(k) When using scatter suppressing grids, the grids shall be:

(i) Clearly labelled with the focal distance for which they are designed to be used; and

(ii) Of the proper focal distance for the source-to-image distances used.

(l) Procedures and auxiliary equipment designed to minimize patient and personnel exposure commensurate with the needed diagnostic information shall be utilized.

(i) Film cassettes without intensifying screens shall not be used for any routine diagnostic radiological imaging.

(ii) Portable or mobile X-ray equipment shall be used only for examinations where it is impractical to transfer the patient(s) to a stationary X-ray installation.

(m) Patient log. A medical X-ray facility (chiropractors, allopathic and osteopathic physicians and hospitals only) shall record for each X-ray diagnosis or treatment the patient's name, type of X-ray procedures performed, and the date. A separate log is not necessary if the required information is retrievable by reference to other records.

[Statutory Authority: RCW 70.98.050. WSR 94-06-017, § 246-225-020, filed 2/22/94, effective 3/25/94. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-083 (Order 183), § 246-225-020, filed 7/23/91, effective 8/23/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-225-020, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-28-031, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-28-031, filed 9/16/83. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-28-031, filed 12/8/80; Order 1084, § 402-28-031, filed 1/14/76. Formerly WAC 402-28-030 (part).]