

Dental X-ray Operating and Safety Procedures

These guidelines were prepared by the Division of Radiation Control and Emergency Management Programs, Arkansas Department of Health and are provided to you as a guide for compliance with Part N, Arkansas Rules and Regulations for Control of Sources of Ionizing Radiation. The intent of these instructions is to minimize radiation exposure of X-ray personnel and patients. They are not intended to limit or restrict more detailed instructions and procedures which may be necessary at each facility.

1. A controlled area is to be maintained by the operator.
2. The operator of the x-ray system should select the appropriate exposure factors for the examination, which will yield the best quality image at the lowest possible patient exposure.
3. If equipped with a manual line voltage compensator, the incoming line voltage should be adjusted to the proper value before each exposure. This is usually done by adjusting the line voltage to mark or a specific voltage range on an x-ray control meter face.
4. Operators should be familiar with quality control; such as determining the best film speed, developer temperature and replenishment frequency, in order to minimize retakes and to produce optimum quality radiographs. The film manufacturer's recommendations should be followed during film processing.
5. Employees shall never hold patients, film or the tube head during x-ray exposures. Alternative measures such as the use of holding devices should be employed to perform this function. The use of relatives or friends of the patient should be considered if the use of mechanical holding devices is not feasible. In no case should a pregnant female hold films for patients.
6. Handheld units will be used in accordance with the manufacture's specifications, if a hand held or back scatter shield is provided by the manufacturer, one will be used.
7. Personnel should utilize protective shielding barriers, lead gloves and aprons to the fullest extent possible. Personnel should always stand at least six (6) feet from the dental tube head during x-ray exposures. When possible, persons should stand behind a protective barrier (i.e., wall).
8. The user should be aware of all recent statements of position regarding the use of protective devices such as leaded aprons and x-raying fertile

- females. Protective thyroid shields should be used on all patients. Gonadal shields or a lap type apron of at least 0.25 mm lead equivalent should be used on all children and adults of the child bearing age.
9. All x-ray examinations shall be ordered by an individual authorized and licensed to practice dentistry by the State of Arkansas.
 10. Operators of x-ray machines should be familiar with applicable parts of Arkansas Rules and Regulations for Control of Sources of Ionizing Radiation. A copy should be made available to personnel upon request at the website of for the Arkansas Department of Health, Radiation Control, Rules and Regulations.
 11. Only individuals required for the radiographic procedure shall be in the room during exposures.
 12. The primary beam shall only be directed towards a primary barrier.
 13. The x-ray equipment in this facility was installed following the manufacturer's specifications and is equipped with appropriate collimation; which is used properly will limit the size of the useful beam to the area of clinical interest. In addition, the tube has an aluminum or equivalent filtration which will reduce unnecessary low-energy radiation from the x-ray beam and shall not be removed or altered.
 14. The legal occupational radiation exposure limits must not exceed. All personnel should make every effort to keep their radiation exposure as low as reasonably achievable. No adult employee shall be allowed to receive radiation exposure in excess of 5 rem per calendar year. No employee under the age of 18 shall be allowed to receive radiation exposure in excess of .05 rem per calendar year, 10% of adult dose.

Other Procedures (If Applicable)

For operating room, Cephalometric, Panoramic, hand held and/or other special Procedures. The registrant shall provide additional operating and safety procedures if required.

For Information Call:

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