License Conditions

CONVENTIONAL Dental X-Ray Equipment (Film)

Following the International and/or Canadian "Radiation Protection in Dentistry Recommended Safety Procedures for Dental E-Ray Equipment (Safety Code 30), the Licensee will comply with the following conditions:

1. The operator shall keep a distance of at least three meters from the x-ray tube during dental radiography.

2. Setting of X-ray tube voltage and irradiation time.
   (a) Radiography shall not be done with an X-Ray tube voltage below 50 kilovolts (peak) and should not be carried out at voltages below 60 kilovolts (peak).
   (b) The maximum pre-settable irradiation time shall not exceed 5 seconds, or the time required to deliver 50 mA-seconds, whichever is shorter.

3. Leakage radiation shall be less than 100 mR in one hour at one meter from the tube.

4. Radiation leakage outside of the shielded room shall not exceed 7.5μA/m²/hr.

5. Manual film processing is not recommended. If used, the darkroom shall be well designed and a timer shall be used. Sight developing shall not be done.

5. The collimating applicator shall be of the open-ended type: pointed or close ended applicators shall not be used. A position-indicating device shall be provided to limit the minimum focal spot to skin distance to not less than 18 cm.

6. The radiation beam shall be collimated to a circle of not more than 7 cm diameter at the skin surface. Collimation to a rectangular area of not more than 38.5 square cm is desirable.

7. The patient shall be provided with a lead-rubber shielding apron.

8. The radiation dose to the patient shall be within the range of the "Dental Exposure Normalization Technique" programme for kilo-voltage used.

9. The tube head and arm shall be stable and shall not float, drift or vibrate. The suspension tube of the head shall be stable in all positions so that motion distortion is minimized.

10. Image quality shall be an acceptable standard.

11. Operator and personnel doses shall fall within the annual recommended dose limits stated in current international regulations.

12. Radiation protection inspection will be done bi-annually to verify that:
   (a) The dental X-ray equipment functions properly.
   (b) Equipment is installed in a safe environment and is used in a way that provides maximum radiation safety for patients and operators.

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