



Revised June 2014

GOVERNMENT OF BERMUDA

Ministry of Health

Department of Health

License Conditions

INTRA-ORAL DENTAL X-Ray Equipment (Digital)

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

1. The operator **shall** keep a distance of at least 3 meters from the x-ray tube during radiography. Exposure should be possible only from a safe place, or safe place shall be labelled.
2. 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).
3. Leakage radiation **shall** be less than 100 mR in one hour at one metre from the tube.
4. Radiation leakage outside of the shielded room **shall** exceed $7.5\mu\text{AV/hr}$.
5. Manual film processing is not recommended. If used, the darkroom **shall** be well designed and a timer shall be used. **Sight development shall not be done.**
6. The collimating applicator **shall** be of the open-ended type: pointed or close-ended applicators shall not be used.
7. 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 cm^2 is desirable.
8. The patient **shall** be provided with a lead-rubber shielding apron.
9. The radiation dose to the patient **shall** be within the range of the "Dental Exposure Normalization Technique" program for the kilo-voltage used.
10. The tube head and arm **shall** be stable and shall not float, drift or vibrate. The suspension of the tube head shall be stable in all positions so that motion distortion is minimized.
11. Operation parameters **shall** be chosen to produce a useful image.
12. Operator and personnel doses **shall** fall within the annual recommended dose limits.
13. Radiation protection inspection will be done bi-annually to verify that:
 - (a) The dental x-ray equipment functions properly, and
 - (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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