



Policy for the School of Dentistry Use of Handheld Dental X-Ray Units

[Rev1. Adopted Oct. 6, 2022, UMKC Radiation Safety Committee]

References:

1. Missouri Department of Health and Senior Services, Bureau of Diagnostic Services – Missouri Radiation Control Program: <https://health.mo.gov/safety/radprotection/>
2. NCRP Report 177 Radiation Protection in Dentistry and Oral &Maxillofacial Imaging, December 19, 2019

1. Most handheld dental x-ray units are not in compliance with MRP 19 CSR 20-10.150(3): Special Requirements for Dental Radiographic Installations -- "The exposure control switch shall be provided with a cord sufficiently long so that the operator can stand at least six (6') feet from the tube housing for all exposures and well away from the useful beam."

2. Unless a specific Missouri waiver is applied for and APPROVED, handheld dental units are NOT approved for use without the installation and use of additional equipment that will allow them to be energized from a minimum distance of six feet from the tube:

- Tripod/wall-mount; and
 - Remote exposure switches capable of being used at least six feet from the unit.
3. Only the manufacturer/representatives for certain units have been granted a waiver of this rule for use as fully handheld units in the state of Missouri.

Approved and not approved units are listed at:

<https://health.mo.gov/safety/radprotection/pdf/usage-of-hand-held-xray-units.pdf>.

This list is periodically updated.

The following must also be adhered to:

1. Handheld dental x-ray units(s) shall only be purchased from vendors or manufacturers on the state of Missouri approval list.
2. New units must be registered with the state of Missouri within 30 days after receipt.
3. New units can be used up to 90 days after receipt before the Qualified Expert (QE) inspection.
4. The individual operating the equipment shall complete the training provided or approved by the SOD.

5. The manufacturer's maintenance and calibration procedures as specified in the owner's manual shall be followed. The unit shall be evaluated by a QE every 72 months.
6. During operating hours when not in use, the handheld dental x-ray unit shall be secured in "lock mode" as described in the operator or user's manual to prevent exposure by a non-authorized user. The operator will not unlock the unit until they are ready to take an exposure.
7. If the portable handheld device requires charging during operating hours the charging station shall be in an "employee only access area" under lock and key. The x-ray unit shall be kept in this secure area when not in actual use.
8. Operators shall wear dosimetry when using the handheld dental x-ray unit.
9. The backscatter shield, provided by the manufacturer, which is not less than 0.25 mm lead equivalent must be permanently always affixed in place. If the shield becomes broken or dislodged, the unit shall not be used.
10. The handheld dental x-ray unit shall be held without motion during the patient exam. If the operator is unable to hold the device without motion, a tripod or tube stand to immobilize the unit shall be used.
11. The handheld dental x-ray unit shall only be used in treatment areas and shall not be used for patient examinations in hallways and waiting rooms. There shall be no bystanders within a radius of at least 6 feet from the patient during operation.
12. The UMKC Radiation Safety Officer shall be notified in writing prior to selling or disposing of the portable handheld dental x-ray unit.
13. The approved handheld dental x-ray unit shall only be used under the auspices of the SOD teaching program.